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N. B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 13th instant. Season reports should be sent direct to the Printers, Messrs. HIGGINBOTHAM & Co.

Please note the change of address.

North Mysore. *Jan. 3rd*, 1899—*Weather.* Most unseasonable, hot and cloudy. A few light showers in places—*Crops.* Promise to be very good. Estimates are all being raised. Outturns from vats, as a rule, good; on the coast not so good as usual—*Plant Disease.* Leaf disease in a mild form on most places. Considering the crop trees look very well and promise well for next season.

South Mysore. MUDIGERE, 31*st Dec.* 1898.—This is a bad time for travelling or correspondence, so I cannot give much more than my own experiences; whether my neighbours find things the same I cannot say. *Weather* is seasonable even to the usual X'mas clouds and threatening of rain. We are still uncertain whether it will fall or not, so far I have only seen a drizzle of two minutes' duration. *Crop* would be coming in fast but for the fact that labour is very short with those who depend in any measure on local coolies. Paddy cutting takes up all their time, and double pay won't bring them in. From what little I have heard, outturns vary from normal to good, but your correspondent "Kartary" is a better man than we get in this district if his coolies will pick him enough to give nearly a bushel of parchment for the day's pay. We have many coolies who, in a good crop, can pick two bushels, but I don't think more than a bushel is ever demanded for a woman's pay, and most of us find that 2 bushels of good fruit give very little over a bushel of parchment, using the same bushel for both. Of *Diseases* little can be seen, many of my trees are very shuck from the amount of crop combined with a touch of leaf-disease earlier, but, as a rule, coffee looks unusually well; bud for next year is rather too far forward in places. A shower of rain would bring out quite a large blossom now. *Health* is good, *Labour Supply* bad. Grains are dearer, only because people are too much occupied with their work to bring grains to Sante. I wish you and your supporters the best of good times in the New Year.

COFFEE AND CO-OPERATIVE AGENCY.

REFERENCE was made in our last issue to a suggestion of the Shevaroy Planters' Association on the subject of co-operation. Having remarked on the vagueness of this suggestion, we had intended to await comments from District Planting Associations or members thereof before touching further upon the subject. The Chairman of the Shevaroy Planters' Association has, however, now sent the *Madras Mail* a rough sketch of a plan of co-operation. In giving this on another page, we are but doing justice to Mr. GOMPERTZ and his Association. In passing a few remarks on the scheme, we are but fair to ourselves, and heedful of what appear to us to be the true interests of coffee-planters in India. It is in no unfriendly spirit that we ask for further elucidation of what is at present a very crude statement. We are only opposed to the Shevaroy scheme because it appears to us to be only *part* of a scheme, and not enough to be useful or efficacious. A great deal might be said on various aspects of the question that has been raised, but we still hesitate to go fully into the matter, feeling that Mr. GOMPERTZ and others have yet a great deal to explain before his scheme can be considered seriously as a basis for discussion. For instance, in point No. 6, he alludes to "the limit of a holding as say, 20 shares (of Rs.100 each)." Does this mean that no planter would be allowed to take up shares to a larger extent than this? Whatever the reply to this may be, some particulars should be given to show how it is estimated that 1½ to 2 lakhs of rupees could be raised among Indian coffee-planters alone. Then, again, the Co-operative scheme, which is to take effect *in England*, is apparently to be managed by a Board of Directors *in India*. The constitution of that Board would be of vital importance to the success of the enterprise, yet the suggestion has been thrown out that the first Board should be selected in quite a haphazard fashion, and be formed, in fact, of the gentlemen who happen to constitute the Committee of the U. P. A. S. I. The weak point here is that a fair proportion of these gentlemen are Tea-planters who have no interest in coffee, and no experience of the coffee industry or trade. Besides this, it remains to be seen whether every member of the Committee would be willing to become a shareholder in the proposed concern.

Then as to the English side of the business. It would be well to know if Mr. GOMPERTZ has, or else that he has not, any special London firm in view, competent and willing to undertake the agency of the proposed "Pure Coffee Supply Association." In the former event—which appears a somewhat improbable one—a few words as to the experience the firm has had would be very welcome to all interested in the success of the project. In the latter event, some idea might be given of the inducements it is proposed to offer to an experienced firm, which would probably have to abandon established connections in order to undertake the new agency. Mercantile firms are not like the dog on the bridge in Æsop's fables. They do not relinquish the substance to plunge after the shadow; and it is a little difficult to see how, without incurring great initial expense, the proposed Association could make it worth the while of really competent people to throw ordinary trade aside and go heart and soul with Indian planters in the work of pushing Indian coffee on co-operative lines. Again, what precautions would be taken with a view to excluding fine coffee other than Indian—for instance, Costa Rica, Honduras, Guatemala, New Granada, Jamaica sorts, &c.,—from the scope of operations? The title suggested would not clearly show the public that *Indian* Coffee, and that alone, was to be supplied. If that is the intention, it should be shown from the outset, and measures should be taken to prevent Costa Rica *et alia* from reaping the harvest that springs from the good seed of Indian co-operation. Then, again it might be well to give at once some idea of the number of small retail shops it is proposed to start in London, and of the cost of opening them and carrying them on. Also the expenses to be incurred in respect to travellers. It appears to us that if these charges would fall on the Agents, very handsome terms would have to be offered; if on the Association, they would have to be provided for in some way. Then, at starting, the Association would have to be prepared to keep its shops going at a loss at first. For our own part, we doubt if shops restricted to the sale of coffee alone could *ever* pay, but that is a point that need not be dwelt upon here. Our present aim is merely to mention various matters in regard to which information should be afforded, or estimates—however rough—made, before the new project can be considered with any hope that a satisfactory scheme may be arrived at.

There is yet a third section that must not be overlooked. The management in India and the management in England must both be efficient, or any scheme of co-operation must fail under a practical trial. It is also essential, however, that the relations between the London management and the Indian management should be established on a sound business basis. The first point that suggests itself in this connection is that of finance. No doubt, as Mr. GOMPERTZ assumes, drafts might be negotiated at time of shipment, and planters thus placed in funds with no more delay than is incurred when shipments are made, as at present, though a curing firm or a Coast Agent. It remains to be said, who would settle the amount of the advance? That difficulty got over, who would assess the market value of each shipment of coffee sent home for sale? It does not appear to be proposed that the Association should *buy* in India. It is to sell in England, and to sell retail. Different coffees are worth different prices. Different shipments could not be kept separate and retailed separately. Even were this possible, few planters would care to await sale of the last pound before having a settlement in full. This is a matter that would need a good deal of thought before any workable system could be put forward. If Mr. GOMPERTZ would kindly give it his attention, and elaborate his rough sketch a little, he would probably find his fellow-planters ready to discuss his scheme. It certainly appears to us that the more the question of Co-operation is considered the more certain will be the conclusion that to be really successful a scheme must be bold and comprehensive, and that if a small scheme be started at all by coffee-planters in India, it must deal with some other branch of the business than the retailing of supplies in England.

THE LEVEL OF TEA PRICES.

The Ceylon Observer seems to fear that artifice is interfering with the balance of demand and supply as well as with Exchange, and that this has something to do with the low

level of prices of Tea in Great Britain. Our contemporary remarks that the statistical position was seldom if ever more favourable. "Fine plucking" has been the rule in Ceylon, new markets have been opened up and shipments to London have been kept below those of the previous year—and yet prices have not risen or even been maintained. The question are then asked:—"How is this? Can there be some truth in reiterated allegations respecting the adverse influence of the large tea buying and packet-distributing houses that have, of late years, come into existence? We know what "corners" and "trusts" have done with certain branches of trade in America. Is there something of the same kind to be realised in the United Kingdom?" It is to be hoped not, and we see no reason to fear the contrary. Perhaps "fine plucking" has had an effect just the reverse of that which was anticipated. Indian and Ceylon teas have acquired reputations in respect to certain qualities. Any change of system of cultivation, plucking or manufacture, that is likely to have a marked effect on the quality of the teas, may not be at once appreciated by the consumer, even though the change effected be for the better. There appears to be a widespread belief that Indian and Ceylon teas have not *improved* in quality of late years. The opinion of the expert on this point is worth more than that of the public. Yet both are liable to be affected by the fall in price and to regard this as the effect of a fall in quality. Then, too, the public taste varies: what pleased last year may not please this, and so on. We take it planters would at least do well to continue their effects to improve the quality of their teas so long as they can do this without very materially increasing the cost of production. In the long run, probably, it is cheapness that will tell.

RAILWAY SCHEME FOR THE COORG DISTRICT AND WEST COAST.

AN article from "*Railway*" copied into the *Madras Mail* of 22nd December deals with alterations and extensions of the Madras Railway system towards the West Coast, and as reference is made to the proposed line from Mysore through Coorg to that Coast, in which the Coorg planters are interested, a few remarks regarding it will, no doubt, be acceptable. It would be well also if a discussion by Planters and others acquainted with the country to be traversed were to follow.

The forming of a line from the Capital of Mysore to Coorg and thence to ports on the West Coast seems now to be within measurable distance of accomplishment, for it is understood that General Cole, at one time an estate proprietor and Commissioner in Coorg, has organized a syndicate to take up the work. It is to be hoped that the unfortunate fact of his having been struck down by a paralytic seizure will not greatly delay matters.

His scheme, so far as I have been able to ascertain particulars, is the making of a line from the town of Mysore westward *viâ* Hunsur into Coorg, where it is to bifurcate—one branch going north-westward to Mangalore, the other in a south-westerly direction to the port of Tellicherry, the whole to be on a 2′—6″ gauge.

The project, with one or two exceptions, should commend itself to the planters of Coorg. The most notable exception is the gauge. It would, I think, be a grave mistake to introduce a gauge differing from the metre-gauge lines with which it must be linked, namely, the Southern Mahratta which runs into the town of Mysore, and the line to be formed between Erode and the Nunjangad extension of the present Mysore system. This will connect Mysore directly with the South Indian Railway as also with the Madras Railway. Moreover, the Madras Railway extension from Calicut to Tellicherry is to be on the metre-gauge. It stands to reason too that a line running from the interior of the country and from the heart of such a thriving province as Mysore linked with two extensive systems, such as the Southern Mahratta and South Indian systems, will be called on to carry a large and ever increasing traffic.

Another part of the scheme which appears to be of very doubtful expediency, as involving expense incommensurate with the profit likely to accrue, is the carrying of a branch from Coorg to the port of Mangalore. To take a line from, say, Ammati or Veerajapett to that place, it would have to make a long and tedious descent down the Ghaut, and after reaching the low country would have to cover 60 or 70 miles before it got to Mangalore; and that across a country cut up by innumerable streams and watercourses and a country not particularly prolific in produce that would supply a railway with traffic. A long line exposed to the heavy and protracted south-west monsoon of the Malabar Coast is no joke. Its up-keep must be costly. To add to these drawbacks, its terminus would be a harbour which is closed to shipping for full four months of the year with the addition of one or two months when the unsettled state of the weather makes landing and shipping intermittent, unsatisfactory and often dangerous. This is surely not the sort of port that should be chosen for the terminus of a railway to serve a large and productive area of the interior. These conditions exist in the case of Tellicherry on a much more modified scale, while the port, I believe, is capable of such improvement as would make shipping and landing practicable all the year round.

The ports of the west coast where the conditions are at all favourable are the natural outlets for produce from South India, being on the European side of the continent, so that from its outset produce is directly on its way to Europe, while goods from Europe are saved unnecessary sea carriage. For these reasons I am disposed to place a high estimate on the ultimate traffic which the line would attract from the large area eastward over which its operation would extend.

The planters, too, would be brought within easy and rapid reach of the ample supplies of labour with which Tellicherry and its neighbourhood teem, and the connection with the South Indian system would render available a supply of Tamil coolies while the localities in the Mysore country where Canarese labour is abundant would be more accessible.

While General Cole's syndicate may have some claim to have the execution of the project placed in their hands, I am inclined to think it would be best carried out by the Madras Railway Company, as the public would have every confidence that, if undertaken by them, it would be carried out and worked in a thoroughly satisfactory manner. In adopting the broad gauge, they have in some parts of their system been at a disadvantage, and this is to be rectified by converting that portion between Pothanur and Calicut to a metre-gauge. I am inclined to think it would be better if they started the conversion from Erode, where the new line to Nanjangad takes off. Traffic to the Nilgiris and other stations west of Erode from South India and Mysore as well as from the Southern Mahratta system would be carried through without a break. I understand the Madras Rail-

way was built to provide for a double line in case required. It might, therefore, be possible to have a narrow-gauge line running side by side with the broad-gauge from Erode to Pothanur, and so meet all requirements. No doubt the whole business will be well considered before the Government agree to all details.

STEAM.

PRIZE ESSAYS.

ONLY one planter has entered the lists up to date. We trust that he is not to be left to strut round them alone vainly awaiting another bold enough to take up the gage thrown down. [The P. D. asks us if this should not be spelt "gauge," as there appears to be a reference to "the battle of the gauges!"]. We repeat our statement of rules concerning our first prize essay competition, the subject of which is

THE LABOUR QUESTION.

THE PAST, PRESENT AND FUTURE SUPPLY OF LABOUR IN THE . . . . . DISTRICT.

FOR the best essay on this subject from any planting district in Southern India, we offer a prize of Rupees one hundred.

RULES.

1. Write on one side of the paper only.
2. Sign your name in full, and state address (not for publication, except in the case of the winner).
3. Be as brief and concise as possible.
4. Cite your authorities when possible.
5. Mark your M.S., "Prize Essay Competition."
6. Submit not later than 14th January, 1899 (in Madras).

IT should be clearly noted that all essays sent in will be the absolute property of *Planting Opinion*, and that the proprietors will have the right to publish them, in full or abridged or revised, in *Planting Opinion* or elsewhere, and to republish in pamphlet or book form. No limit of length is fixed, but conciseness will count when "points" are reckoned up. Rupees one hundred will be remitted to the winner immediately after publication of the prize essay.

BOARD OF TRADE RETURNS.

Statistics are often puzzling and sometimes misleading. It is a little difficult to know what to make of the following, which are from the Board of Trade's Return for the eleven months ending 30th November 1898. The tables shew the Imports, Consumption, and Exports of the undermentioned articles for the eleven months ending 30th November in the present and two previous years, compiled from the Board of Trade Returns, with stock in U. K. on 30th November :—

COFFEE—	1896.	1897.	1898.
Import ..... cwts.	682,606	720,599	900,857
Home Consumption ,,	229,621	229,234	233,767
Export ..... ,,	425,495	421,806	520,513
Stock ..... ,,	157,000	211,000	355,000

COCOA—Raw.	1896.	1897.	1898.
Imported ..... lbs.	35,279,209	32,810,258	39,976,477
Home Consumption ... ,,	22,936,901	26,632,650	29,306,400
Export ..... ,,	11,187,207	13,860,923	9,258,715
Stock ..... ,,	24,788,000	16,695,000	17,350,000

COCOA—Prepared.	1896.	1897.	1898.
Imported ..... lbs.	3,420,090	8,115,241	7,372,436
Home Consumption .... ,,	2,935,106	7,316,844	5,957,742
Export ..... ,,	421,592	520,951	631,831
Stock ..... ,,	117,000	361,000	1,735,000

TEA—	1896.	1897.	1898.
Import ..... lbs.	237,480,829	237,164,653	242,256,981
Home Consumption ... ,,	208,633,618	213,518,611	206,373,440
Export ..... ,,	29,966,527	33,488,414	33,454,872
Stock ..... ,,	98,005,000	91,095,000	92,970,000

The rapid growth of demand for Raw Cocoa is very marked, and it is pleasant to see that foreign *prepared* cocoas have lost some of the tremendous advantage they gained in 1897. On the other hand, the sharp fall in the demand for tea for home consumption is discouraging, while the increased home consumption of coffee is not of sufficient importance to make the hearts of planters rejoice. True, the export demand has improved ; but the statistical position of stocks has grown rapidly worse since 1896. Tea is fairly strong in this respect ; Cocoa is generally regarded as in an excellent position. Perhaps, however, the simplest way to show the comparison is as follows :—

STOCKS MEASURED BY NUMBERS OF MONTHS AVERAGE HOME CONSUMPTION AND EXPORT THEY REPRESENT.

		Months
Tea	nearly	5
Cocoa, raw	over	5
Coffee	nearly	6

From this point of view there does not seem to be sufficient difference to warrant any great jubilance on the part of Cocoa-planters, or depression on the part of Tea and Coffee planters.

THE U. P. A. S. I. SECTION.

[UNDER THE CONTROL OF THE SECRETARY, U. P. A. S. I.]

The following remarks by Mr. E. E. Green, Honry. Entomologist to the Ceylon Government, will be read with considerable interest :—

Allow me to thank you for your useful and interesting Circular just received—containing a *précis* of answers to your inquiries on the 'Ladybird' question.

I take the liberty of offering a few remarks upon some of the points raised.

On p. 2 of your circular it is suggested that Ceylon is the natural home of *Lecanium viride*. I believe this to be quite a mistaken idea. This green bug first attracted attention in 1882, before which year it was unknown in Ceylon. From the rapid way in which it became dominant and spread through all the coffee districts there is a strong presumption that it was an introduced insect. I am personally inclined to the belief that the pest was introduced with Liberian coffee plants from W. Africa. This supposition gains strength from the fact that the same species has recently been recorded from Lagos, W. Africa

With reference to fungal diseases (see p. 5 of Circular). We have in Ceylon a fungus that helps greatly to keep the pest in check. At certain seasons it is difficult to find a living insect on the trees, the whole brood being *apparently* exterminated by this gray fungal growth. But the pest invariably reappears after an interval

A year or more ago I sent to Mr. Newport examples of this fungus for experiment. But his endeavours to induce the disease locally were unsuccessful. If you have any cryptogamist who would undertake the work, I would gladly supply him with material from which he might be able to make a pure culture of the disease which might possibly produce better results.

You will be interested to learn that I have now a small but flourishing brood of ladybird larvæ, resulting from the few survivors of the consignment of *Exochomus nigromaculatus* received from

the Cape of Good Hope, some of which are now completing their transformations. Fresh larvae continue to appear in the breeding jars. I am bringing up these larvae entirely upon *Lecanium viride*. I am strongly of opinion that quick transport of the living insects by letter post will prove to be the most satisfactory method of introducing the ladybirds. A constant succession of *small* consignments would probably produce better results than one or more large consignments. If I am able to properly establish this Cape Ladybird in Ceylon, I shall be glad to forward a supply to your Association for experiment.

With respect to the concluding paragraph of your Circular (p. 6). Although the study of the indigenous enemies of *Lecanium viride* will be an important step and productive of considerable scientific interest, it must not be expected that *indigenous* enemies can successfully cope with an *imported* pest. It would be necessary to first eliminate the natural enemies of those predacious insects. By introducing a natural enemy from another country it starts with the same advantages as those which enabled the introduced pest to become dominant, viz.:—the absence of its own natural checks.

We have several indigenous ladybirds in Ceylon that feed more or less upon *Lecanium viride*. I should be pleased to forward living examples of these to anyone who would be willing to look after them, on the chance of their finding more favourable conditions for increase in India than they enjoy in Ceylon.

* * * *

Apropos of the above, the following is taken from a letter from Mr. Green to the *Ceylon Observer* with reference to an extract from the Berlin "Echo" that was reproduced among *Planting Opinion* notes in issue of 24th ultimo :—

From an examination of Prof. Zimmermann's paper, it appears that we already have (and have had for many years) this same fungus attacking the "Green Bug" on our coffee.

It appears as a greyish mould covering and forming a delicate fringe around the bodies of the insects. At certain seasons of the year it is difficult to find a single bug that has escaped this disease. But that a certain number of the insects do survive is evident from the fact that the bug re-appears in equal strength year after year.

This disease doubtless helps to hold the pest in partial check, and prevents it from becoming even more troublesome than it now is.

* * * *

Professor John B. Smith, Entomologist at the New Jersey Agricultural College Experimental Station, remarks :—Under favorable circumstances importations may be of benefit, if the insect to be dealt with is also an imported insect; but we have not yet had any demonstration of the possibility of an injurious insect native to one locality having been controlled by a predatory or parasitic form native to another clime or country.

* * * *

From Mr. Green's remarks it is fairly evident that the green bug is an imported pest and he has also stated that the lady bird imported from the Cape feeds on the *Lecanium viride*.

NOTES.

Low priced Coffee. Common South Sea Island Coffee has been sold at 31*s*. per cwt.

Coffee in Coorg. Good crops are reported from Coorg, and we are glad to learn that estimates will be more than secured.

Sale of a Ceylon Tea Estate. The Bodawa Estate was sold the other day for Rs. 19,500. It is above 118 acres in extent, of which 40 acres are planted with tea; and includes also a paddy field of a little more than 3 acres.

The Indian Tea Association. According to the *Indian Daily News*, signs are not wanting that members are not altogether satisfied with the lines on which the Association is now run, and that some alteration will be needed, if it is to remain at all representative.

Calcutta Tea Sales. About 11,000 packages were sold on 22nd ult. at practically previous rates, teas for price being rather firmer. There was a fair demand for the Bombay market. The next sale is on the 16th inst. For most gardens the last sale practically closed the season.

Cacoa Pests. We give to-day a copy of the final report on Cacao pests by Mr. J. B. Carruthers, who was recently employed in Ceylon as Cacao Cryptogramist. The report is very interesting, and will be useful to any planter whose attention is given to the cultivation of Cacoa.

Dutch Tea. If not as active as the Ceylon planters in canvassing new markets, Dutchmen are at least closely watching the progress of India and Ceylon. They appear satisfied that the free breakfast table in England will not be reached just yet, and that a preferential tariff in favor of British Tea need not be feared.

London Tea Sales. Cabling to Colombo on the 22nd ult., Messrs. Gow, Wilson and Stanton reported a weak market, with prices unchanged, but apparently a shade easier. *Reuter* reported that of 17,000 packages Ceylon Tea offered now were sold, and of 17,000 Indian 15,000 are disposed of at an average of 8*d*. (a decline of $\frac{1}{8}d$. for Ceylon and $\frac{3}{8}d$. for Indian.

Davidson & Co., Ld. We have to thank this firm for a very handsome blotting pad, with calendar and diary attached. A map of Colombo, a Telegraphic code for ordering Tea machinery and interesting accounts of various machines are among the very interesting and comprehensive information given in connection with this "diary and blotter 1899," which is among the most useful we have yet seen.

A Japanese pest. *Indian Gardening* remarks :—Importers of trees and plants from Japan should be on their guard against the introduction of a scale insect, named by Professor Tryon as Diaspie amygdali. It is a pest of the most dangerous description, and may give greater cause for alarm than the much-dreaded San Jose scale. It is already in Australia—in fact, some have thought the pest was indigenous to that continent, but eminent authorities generally place Japan as the original home of the species.

Indian tea for the Indians. A writer in the *Indian Sportsman* says :—"Many native tea drinkers asked me for green tea, as they have a theory that green tea is less heating to the system than black tea. Some of them told me that they drink tea regularly during the cold weather, but have to give it up in the hot weather as it is too heating, but if they could get green tea they would drink it all the year round. I cannot pretend to say how far this theory is founded on fact."

A new Tea Drier. A Bedford correspondent warns the *Ceylon Observer* to look out for Mr. Bett with a Surprise Tea Drier. He provides an immediate surprise by adding :—"Touching on tea, to enable us to have *fair play* in the sale room in Mincing Lane, could it not

be possible to have our teas put up at an upset price, as in the case of the Government Agent at Badulla, when the planters arranged to buy the land at upset price and divide afterwards? He raised the upset price from R10 to R100!"

Coffee and Tea in the States.

The following clipping from a price list of a Coffee and Tea Store in New York gives food for thought when English prices are compared with those here given :—

Our celebrated Mocha and Java Coffee, quality unsurpassed, 4 lbs for $1.00, ℔ lb.	27c
Fancy Santos Coffee, bean or ground, ℔ lb.	19c
Choice new crop fine-flavoured Teas, green, black, or mixed, ℔ lb. ...	30c
High-grade new crop Teas—Formosa, Oolong, English Breakfast, Japan, Assam, Ceylon, or Mixed—℔ lb.	40c

The Depression in Tea.

Planters in Ceylon are apparently under the impression that the combined purchasing interests at Home keeps down prices of Tea, and it is now said that as there is not a large enough supply of low-grade leaf fine quantities are being forced down in price to take their place. We give this for what it is worth, merely adding that we have seen much assertion but no proof, and that it has not even been proved that there is an insufficiency of low-grade teas.

Cinchona Cultivation in Ceylon.

Alluding to the efforts lately made to give a new fillip to Cinchona plantation in Ceylon, the *Chemist and Druggist* remarks that it would be rash to say that the movement will lead to anything, as Ceylon planters have been too severely bitten by their Cinchona operations ; but as the failure of these was evidently due to their cultivation of inferior barks, it is probable that with Ledgeriana bark, and a moderate amount of Succirubra, they would make more of it now.

The Tea Corporation of Ceylon, Ltd.

This Company has been criticised pretty fully of late, the most rigorous of its candid friends being Sir Charles Lawson (of the *Madras Mail*). The report and accounts of the directors were received but not adopted at the Annual General Meeting, and it was resolved that a committee of investigation be appointed to confer with the board, with full power to investigate the transactions of the Company since the date of incorporation, and to report to the shareholders at a meeting to be subsequently called. It is a pity that Sir Charles Lawson declined to accept a seat.

Artificial Fertilisers.

With reference to the advertisement of Mr. R. J. Harris, of London, that appears on another page, we have been requested to explain that Mr. Harris intends to keep his Madras Agents, the India Trading Company, Limited, informed by *cable* of current prices, some without engagement, other quotations from for a given time. Planters will thus know the exact rates at which they can order supplies from time to time, and if Mr. Harris' figures are found to compare favourably with those of other suppliers, he should find a fair business passing to him as one result of the enterprise he displays in making what seems to be a new departure in methods of advertising.

A Midland Tea Company.

The Bombay Tea Company, Limited, has been formed to acquire, carry on, extend, and develop the business of the Bombay Tea Company, wholesale and retail tea dealers, which was founded in Birmingham in 1889. The Company has some 18 branches in the various large towns of the North of England and the Midlands. The capital of the Company is £100,000, divided into 50,000 six per cent. cumulative preference shares and 50,000 ordinary shares of £1 each. The vendors have fixed the purchase price at the sum of £70,000, and stipulate for an allotment of one-third of the present issue of shares in part payment thereof, the balance to be paid in cash. The present issue is of 35,000 preference and 35,000 ordinary shares.

Ceylon Tea in America.

The following is an extract from a letter from Mr. William Mackenzie to the "Thirty Committee" :—"I dined at the best restaurant in Omaha. I asked for Ceylon tea, the waiter did not understand. The proprietor came forward : he had never heard of it, he kept Japans, *but he had never tasted tea in his life.* He was an elderly German. From Omaha, I went north to St. Paul and Minneapolis, known as the twin cities, and containing about 450,000 people. They are the centres of the wheat and corn milling and lumber trades. I called on a firm of wholesale tea merchants. I found their store full of Japan tea chests. I asked if they did anything in Ceylon teas. They said about 25 chests a year; we keep them to mix with very weak Japs, they bring up the strength."

China's Cheap Teas.

Interviewed recently by the *Times of Ceylon*, Mr. Fairhurst, late of the Foochow Tea Improvement Company, said there was a great demand in the English market for common teas at about 4½*d.* or 5*d.*, and China could produce better teas at that price than Ceylon was able to. He gave as an explanation of this, that the Chinese method of manufacture of cheap teas was the better one, as although machine manufacture improved the appearance of fine teas, it had not that effect with the common kinds. Ceylon tea, Mr. Fairhurst remarked, ought to do well, considering the shortness of the amount exported from China and India, the falling-off during the past year with regard to China black teas, as compared with the previous year, being approximately 5,000,000 lbs. The demand in London was, as he had before stated, for common teas.

Dutch Government Cinchona Plantations.

The total expenditure in 1897 was equal to about £7,680, of which about 5·9 was incurred in new buildings and repairs. The estimates exceeded this expenditure by £155. In 1896 the expenditure was about £7,550. These figures work out a cost per lb. of 2·3-5*d.* in 1897 against 2·5-11*d.* in 1896. The gross returns for the crop of 1896 amounted to about £17,644 at the sales in Amsterdam, with a profit of about £8,100, to which has to be added profit made by sales in the East Indies, which brings the total profits to about £8,300. The expenditure of about 2·5-11*d.* has to have added 6-11*d.* for freight and commission on sales, which makes the cost of the bark per lb. to the Government 3·2-11*d.* Deduct this from the average price obtained per lb.—namely, 5·0-11*d.*—and a net profit of nearly 2·7-11*d.* per lb. remains.

Manuring.

The *I. P. G.* remarks that Planters, especially those in charge of the older gardens, must now admit that, unless stimulation and renovation is resorted to, more or less extensively, it is hopeless to battle against the adverse circumstances that have arisen ; and

without endorsing the opinions of those whose wholesale condemnation of the quality of the teas of the past season at its commencement, it stands to reason that tea cannot be kept up to the mark after half a century's incessant cropping and exposure of the soil to denuding atmospheric influences. Extensions on new lands, even if the older plantation is definitely abandoned, are out of the question under the present outlook, for funds will assuredly not be forthcoming; hence it behoves planters to make the most of the material at hand, and by copious manuring to get all out of the old gardens they can.

Cinnamon.

At the last quarterly sales prices declined, as was anticipated, but the quantity sold has exceeded all anticipation. Close upon 4,000 bales, a little over half of which consisted of fine and good sorts, passed the hammer, and 2541 found buyers at a decline of 1d to 2d per lb. for fine and good, and ½d to 1d for medium and ordinary. The *London Commercial Record* remarks:—

"Chips, after a smart spurt, have relapsed into their former state of inactivity; they have been unduly and artificially pushed and will suffer accordingly. It is a pity Chips are sold at all, for if Colombo would decline, as dealers there did promise some time ago not to deal in them, quill Cinnamon would gain in value to the benefit of planters, dealers, shippers, in fact, to all concerned. In spite of the decline Colombo remains firm, it being apparently considered that the large quantity taken out of the sales indicates bareness of stock in the hands of dealers and consumers. The sale of about 2,500 bales out of about 4,000 bales certainly implies a healthy state of the Cinnamon market, and we should not be surprised to see that prices have touched their lowest point."

The 1898 Tea Season in the North.

Commenting on the last tea sale of 1898, the *Indian Daily News* writes:—

"Thursday's auction, as far as most gardens selling on this market are concerned, practically closes one of the most disastrous seasons in the history of tea. High exchange, dear money, excessive ocean freight, and the fear of the crop exceeding the demand have combined to reduce prices to what is, to many concerns, a ruinously low level, with the result that Banks and Agents have begun to look askance at tea, and weak gardens are being forced to the hammer for want of finance. This is a pity, as there is every indication that we have seen the worst, and that, with exports to the United Kingdom only about 1 million pounds ahead, and an increase in home deliveries, during the past six months of 8¼ million pounds over the corresponding period of last year, the statistical position is getting so strong that a better state of things must soon set in.

Indian Finance Committee and Silver.

"I am assured on good authority," says the London correspondent of the *Manchester Guardian*, "that as far as the Indian Finance Committee is concerned 'silver is dead,' and nothing in the shape of bimetallism will be recommended. The various schemes of the Government of India, of Mr. Lindsay, and others are, I hear, to be put aside in favour of a development of the existing arrangements on the lines of the original Barbour scheme, and the only vital question the Committee has to decide is that of the ratio. There are those who think the present rate should be raised and others who are in favour of a reduction: but the bulk of opinion is in support of the proposal to give the rate fixity at 1s. 4d. It may be regarded as settled, I believe, that the mints will not be reopened to silver, and that in future the coinage in that metal will simply keep pace with the ordinary currency requirements of the Government. Lord Curzon said the other day that the really important thing is fixity of exchange, and the advocates of 1s. 4d. can urge, among other reasons, that its acceptance will cause no initial disturbance of the existing rate."

Cardamoms.

The subsidence of plague in Bombay is having a marked effect on prices of cardamons. Last year India bought next to nothing, and Europe had to swallow almost the entire crop, but this year Bombay dealers mean to have their share again in the business, and they are buying Ceylon descriptions on a very large scale, paying prices which range far above London parity, and which absolutely exclude European competition. Strange to say, they confine their operations almost entirely to fine descriptions of Mysores, and neglect Malabars and ordinary sorts of Mysores. This, as a Home paper observes, is extraordinary, and greatly at variance with their former mode of operations, and it would almost seem as if they had taken their cue from the London market, where the same preference for fine Mysores over Malabars exists. It remains to be seen whether in the end prices for these neglected sorts will not be forced up by consumers when, in lieu of fine descriptions, they will be obliged to take inferior sorts to satisfy their requirements. At the London sales of the 8th ultimo the selection offering was not such as to draw forth competition, and whilst an odd lot or two of good brought valuations, the remainder sold decidedly easier, more especially the Malabars.

The Colombo Tea Sales in 1898.

The *Ceylon Observer* and the *Times of Ceylon* have published statistics of the Local Tea Sales during 1898, and have also given a few figures to show comparisons with previous years. No doubt, these figures are sufficiently near accuracy for all practical purposes, but the fact that they do not tally certainly leads one to doubt their trustworthiness. In giving the yearly total sales of tea in Colombo since 1890 the two papers give identical figures in no single instance. Again, in following the course of sales, week by week, during 1898, our contemporaries differ just as widely and as systematically. Our deductions can only be approximate, therefore. We may say that during 1898 the average price ranged between 31 and 40 cents. with Exchange varying from 1/3 21/32 to 1/4 1/16; and that the *Observer* gives the following as the

COFFEE SHADE TREE.

Sun-dried Erythrina Lithosperma loppings, &c., contain per ton:—

61·50 lbs.	Nitrogen.
57·38 „	Potash.
14·92 „	Lime.
13·68 „	Phosphoric Acid.

Seed cured under Messrs. Sutton and Sons' advice.

Orders should be booked early for the 1898-1899 crop of seed from the parent trees of above analysis at Rs.6 per pound containing about 2,000 seeds. *Germination guaranteed.*

Only thornless variety extant, and is not procurable anywhere save from the

MANAGER, ARIENKOW ESTATE,
Shencottah.

statistics of the last ten years :—

	Offered lb.	Sold lb.	Av. c.	Exchange Demand s.d.
Total				
1898..	35,204,334	28,124,072	35	1 3 7-8
1897..	33,776,753	26,132,080	35	1 3 1-8
1896..	32,291,570	25,402,634	41	1 2 13-32
1895..	26,215,941	19,668,116	47	1 1 3-8
1894..	20,863,082	15,723,080	43	1 1 17-32
1893..	10,250,940	14,365,017	43	1 3 1-4
1892..	15,660,681	11,578,869	41	1 3 1-4
1891..	13,933,793	9,578,611	41	1 5
1890..	8,867,510	6,114,225	43½	1 6 1-4
1889..	6,841,529	4,627,762	46	1 4 1-4

The Foochow Tea Improvement Company.

The *Times of Ceylon* offered the following telegraphic item as a Christmas Box to its planting readers :—"The Foochow Tea Improvement Company, finding it an impossibility to make headway with the poor quality of Chinese leaf obtainable, is dissolving business. The Manager and the Engineer are seeking employment in India and Ceylon." The collapse of this enterprise has since been explained by Mr. Thomas Fairhurst, in an interview with a representative of the *Times of Ceylon*. He said the Company tried their experiments in improving teas about twenty miles from Foochow, in order to avoid any possibility of friction with the natives. The experiments, which were superintended by Europeans, were carried out in a very poor district, and it had since been thought if they had been undertaken in the more productive districts, 200 or so miles distant, such as Panyong and Scumoi, a larger measure of success would have attended them. The great difficulty respecting this, however, was the inadequate means of transport, the only method of communication or outlet being by a river full of rapids or by cooly-back, and there was another great drawback in the circumstance that the experiments in the better districts could not have the indispensable European supervision without considerable inconvenience, and, perhaps, danger to them. The reason for the collapse of the Company, Mr. Fairhurst continued, in reply to an enquiry by his questioner, was the high cost of production, this being accounted for by the difficulties of transport, high wages both to Europeans and Chinese, and the heavy Chinese export duty, which averaged something like 20 per cent.

A New Company.

The Anglo-American Direct Tea Trading Company (Limited), was registered at Edinburgh on November 26, with a capital of 1,250,000*l.* in 10*l.* shares, to acquire and take over as going concerns the businesses of Sherman Brothers & Co. and Hubert Galt, of Chicago; A. R. Robertson, of New York and Boston; and Steel, Hayter & Co. and the Monsoon Tea Company, of Toronto, Canada, and to carry on the said businesses; also to acquire 5533 10*l.* shares in Rogivue & Co. (Limited), and the tea, coffee, cocoa, and cocoanut estates in Cachar, Assam, Southern India, and Ceylon. The first subscribers are :—James Marr, 75, Montgomerie-street, Glasgow, clerk; Donald Love, 5, Grantly gardens, Shawlands, Glasgow, accountant; William Russell, 10, Melville-street, Pollokshields, Glasgow, clerk; J. Brown, 170, West Princes-street, Glasgow, clerk; D. Higgins, 121, Kenmure-street, Pollokshields, Glasgow, clerk; D. M'Pherson, 13, Ardgowan-street, Greenock, clerk; and P. Walker, 256, Renfrew-street, Glasgow, clerk. Registered office, 22, West Nile-street, Glasgow. The "private and confidential" prospectus issued, includes in the directorate Sir John Muir, Mr. W. A. Coats (of J. and P. Coats, Limited) and Mr. Robert Scott (of Messrs. Morgan and Scott, publishers of the *Christian* newspaper). Six banks appear as sponsors for the venture, and the Consolidated Tea and Lands Company, the Amalgamated Tea Estates Company, and the Kanan Devan Hills Produce Company, Limited, "have arranged to apply for and accept an allotment of" certain shares. This last provision is criticised by a shareholder in the three companies concerned, who protests "against the deviation from their original objects and methods of trade, *viz.*, the cultivation and manufacture of tea, to become promoters and partners, in England and elsewhere, of wholesale and retail tea traders." "The three companies," he continues, "are paying satisfactory dividends, and so have no financial excuse for a new departure. What is the tea trade coming to? I have no suicidal thoughts, but the soliloquy of a great Shakespearian character forcibly occurs to me 'Farewell! Othello's occupation's gone.'"

LETTERS TO THE EDITOR.

OUTTURN OF PARCHMENT.

Sir,—In response to your correspondent "Verite" I write to say that "Kartary's" statement astonished me also.

Most planters say they get a bushel of parchment from 2 bushels of cherry. Their cherry bushel is of all sizes, and not all call them boxes, as is done in Ceylon. I have often noticed that in measuring cherry, the measure is allowed to overflow and odd handfuls at the bottom of a basket chucked in; particularly so, when contract picking is on and the planter is not willing to give the extra handful to the next picker.

Here are some Ceylon figures for a normal season :—

"A *standard bushel* of cherry turns out 45 to 47 per cent. of parchment; *a box* (14 *in cube*) turns out 52 to 60 per cent."

Here are some figures I obtained from a careful test in season 1897.

192 bushels cherry = 73½ parchment. My conclusion was that 2 60 bushels of cherry required to give one of parchment dry enough for pounding out or about 40 per cent. only, against Ceylon 45 per cent. I measured the cherry struck and fresh. The least amount of heaping will make a difference.

I found it most difficult, on account of the popularly conceived idea of 2 bushels cherry equals one of parchment, to get a club of small native cultivators to accept 40 per cent. as the correct outturn, until the matter was proven to them beyond all question.

There is another popular error that needs discussion, *viz.*, "Parchment coffee increases in quantity as it dries."

I have found from careful tests that it does not, and will publish some figures I have later on, if the matter excites interest, as I am sure it will do.

There is a slight increase the first day or two after washing and measuring, but this increase soon changes to a decrease as the drying goes on. I feel almost sure I shall be told that I was robbed, but I took all precautions against this in the tests I made.

Glendale, Coonoor,
29*th Dec.* 1898.

Thos. Brown.

Sir,—In reply to "Bushel Measure" in your issue of Decem-

ber 17th, I herewith send you the result of 10 bushels (struck) as requested by him.

Parchment	=	4	Bs.
Light	=	$\frac{1}{2}$	,,
Tail	=	$1\frac{3}{4}$	,,
Total...		$6\frac{1}{4}$	Bushels.

This is better than "Kulla Kumbup" "Boxes." The K. K. correspondent to the N. N. should have stated *what* his "Box" was.

In any case I maintain that to get only 50% from "Boxes," whatever their size, is "bad" and *not* the fault of the "Cherry."

KARTARY.

SIR,—I see by Verite's statement in your issue of the 24th December that he measures the cherry "piled" and the parchment "struck" with the Imperial bushel measure. I know of several planters who do the same. The former method of piling cherry is very erratic, for the simple reason that no two bushels so measured are alike, sometimes holding more and sometimes less. If planters are to compare the outturns of their coffee, one uniform method must be settled on and adhered to. In my humble opinion the struck system should be adopted for cherry, wet parchment, dry parchment and tails. With this measurement I find that my cherry gives an outturn of $\frac{7}{19}$, that is 100 bushels cherry give $36\frac{16}{19}$ or thereabouts of wet Parchment, a rather poor outturn, due, no doubt, to the scanty rainfall during the south-west monsoon. The outturn of Shevaroy cherry is generally $\frac{8}{19}$.

Yours faithfully,

OAK.

YERCAUD,
27*th December* 1898.

LIBERIAN COFFEE AND LEAF-DISEASE.

SIR,—I gather from your remarks and quotations under the heading of "Coffee Hybrids" that one of the advantages of crossing the Arabica variety with Liberian coffee is the possibility of producing a hybrid which is not attacked by leaf-disease on account of the supposed immunity of Liberian from this disease.

I have seen Liberian growing in an irrigated coffee estate near Bangalore, also in Travancore, suffering from leaf-disease. Also in Selangor I have seen a Liberian coffee nursery impregnated throughout with leaf-disease. I venture to make these observations as I have heard so many planters state that Liberian coffee is not subject to leaf-disease.

ALORKOP.

[It is not asserted, we think, that Liberian is immune from leaf-disease, but merely that it is less susceptible to disease than *Arabica*. ED. *P. O.*]

CHEESY TEA.

SIR,—I have always held the opinion that this objectionable flavour in Tea is not always the result of the wood of the chests.

It has by brokers been often *correctly* attributed to *burning*. It will be observed that this flavour is got by tea that is binned in a room to which the steam of the drying room has access, but the most general cause is *Under fermented and Low Fired Teas*. Such teas never keep long and always go cheesy. I am, I fear, making a most startling and novel statement, but I am fully convinced that I am correct, and invite careful trial and close observation, such as I have gone in for.

THOS. BROWN.

GLENDALE, COONOOR,
29*th Dec.* 1898.

TEA BOXES.

SIR,—I fully endorse all that is said of "Venesta" tea chests by Mr. John Hill and published in *Planting Opinion* of December 10th, 1898, and must add that the tea lead reached me in so crumpled and damaged a condition that I had to reject it and to use the ordinary lead (4 oz. to the square foot). I took the precaution of covering the pine-wood battens with lead-foil to prevent the tea becoming tainted.

I sent my break forward in dry weather with great care and cautioned the Agents to handle the boxes with great care, as I was afraid of the middle of the corners bursting, there being no battens there to prevent this. The break arrived in London in excellent condition. The tares were beautifully even, and the cost of bulking saved, but there was no particular advantage. The cost of the chests was high, the anxiety and trouble great.

In putting the chests together, the clamps for 3 of the 4 sides are easily put in and rivetted, but the fourth side and the tops and bottoms is another matter. The clamp comes over at an angle, and to drive the points in square is an impossibility.

It may interest your readers to know something of the lead-foil used for Venestas. It weighs about 2 oz. to the square foot against the usual 4 to 5 oz., resembles the thin stuff over chocolate preparations and is most easily damaged by the cooly.

It is claimed by the makers of "Venestas" that the cement used for binding the layers of wood together is impermeable by damp, but I have a plank in which the layers have parted company, and I saw a chest *en route* belonging to an exporter in which the parts of a plank were opening out. I am glad my break did not go forward in wet weather!

THOS. BROWN.

GLENDALE, COONOOR,
29*th December* 1898.

GENERAL ARTICLES.

RINDERPEST.

With reference to "B's" letter in our last issue, General Morgan, of Ootacamund, sends us the undernoted memo. of a probable cure for Hydrophobia, Murrain, Pleuropneumonia, Anthrax, Cholera, Plague, &c., remarking that on one occasion he lost 50 head of cattle and on another 20 head, some of them valuable animals, that would have been saved had he then known of the remedy referred to in the following :—

A PROBABLE CURE FOR HYDROPHOBIA, MURRAIN, PLEUROPNEUMONIA, ANTHRAX, CHOLERA, PLAGUE, &C.

Some two years ago my cattle were attacked by Murrain, and I lost a dozen valuable cows and six Australian calves. Six other animals also contracted the disease, and their immediate death appeared certain.

Having heard that a raw preparation of the meat of a diseased animal, macerated in water of a temperature of about 65°, internally administered, was a certain cure, I resolved to try it. For each head of the diseased animals one pound flesh was cut off the buttocks of one of the animals that had died of murrain and macerated in 11/12th quarts of water of about 60° temperature.

The liquid was then strained from the meat, and one quart administered to each sick animal. Of six thus treated, five animals recovered at once, but the sixth, an Aden bull, died, the disease in this case having advanced too far to permit of the remedy taking effect. Five other animals had not been attacked, such of these as were full-grown, had a quart of the preparation administered to them, the calves being given a pint each. None of these animals contracted the disease.

Some milkmen residing in Ootacamund were advised to try the remedy. They did so, and saved their animals, which were then daily dying of murrain.

The method of preparing and administering the remedy is as follows :—

For every twelve head of cattle to be treated, 12 lbs. of meat should be finely divided, and macerated in thirteen quarts of water about 65° temperature, for a quarter of an hour. The meat should be taken from an animal that has not been dead for more than 24 hours. The fresher it is, the better. The liquid having been strained off, one

quart is to be administered internally to each adult animal, and one pint to each calf

All animals that have been in contact with the diseased ones, should also have the remedy administered to them. Such animals as have recovered, should be fed on bran mashes or rice conjee till able to graze again.

The theory apparently of this treatment is that the bacillus of incipient putrefaction has power to overcome and destroy the bacillus of disease.

There seems to be something after all in the Homeopathic motto of '*Similis similibus curantur.*'

The probability is that the application of this remedy would be efficacious in cholera, or the bacillus of the flesh might be isolated, cultivated in a suitable medium and given *internally*. Inoculation at times is both uncertain and dangerous in its action, *e g.*, in Hydrophobia and in the case of salted horses and cattle in South Africa. A good salted horse may cost from £60 to £120, and this is due entirely to the great number of casualties during the operation of 'Salting.' If the lungs of the diseased animals were macerated in water, and the resulting liquid given *internally*, there probably would be but small loss

The application of this remedy with such modifications as experience might render necessary, would doubtless prove of value in the treatment of many diseases for which at present, inoculation is considered the best treatment.

It is just possible that the bite of the much dreaded Tsetse fly might be cured by this treatment.

The more widely this remedy is made known, the better I trust it will be for mankind, and the animals that serve it.

Report of 1896-97 :—

By Vet-Lieut. Edwards.—'Subya treated 25 head of cattle of which 23 recovered and two died.'

TELEGRAPHIC QUOTATION.

LONDON —	Dec. 22	23	27	28	29	30	Jan. 2	3	4
Bar Silver	... 27⅜	27⅜	27⅜	27 5/16	27 5/16	27¼	27 5/16	27¼	27¼
Bank Rate	... 4 %	4 %	4 %	4 %	4 %	4	4	4 %	4%
Coffee	... ...	...	...	...	[quiet]	..	...	...	...
Nilgiri ave.(B)size	...	64	...	64	64	64	64	64	...
Mysore	... ...	75	...	75	75	75	75	75	...
Middling Ceylon	...	103	...	103	103	103	103	103	...
Stock tons	... ...	...	...	...	...	...	...	15042	...
Fortnights ldgs.	...	...	...	...	...	...	...	400	...
Do del.	...	...	...	...	...	...	...	900	...
Cinchona Bark	... ...	...	...	...	...	...	...	[firm]	...
Price per unit of Quinine	... ...	...	...	...	...	...	...	1	...
Stock pkgs.	... ...	...	...	...	...	...	...	20000	...
NEW YORK.—									
Coffee—Fair Rio	... 7	7	6¾	6¾	6¾	6¾	...	6⅝	6⅝
Futures Mar.	... 5·50	5·48	5·49	5·53	5·58	5·55	...	5·57	5·56
Silver—Commercial Bars	... 59½	59½	59½	59⅛	59⅛	59⅛	...	59·	59

"SENSIBLE QUALITIES" OF COFFEE.

IN a book published in England in 1815 the author describes a new method of roasting coffee "with closed instead of open cylinders," and states that in conducting this process he has no occasion to employ any art to give it an artificial lustre or gloss, as practiced by those who prepare a pretended patent coffee, and others. It is further stated :

Coffee when tasted after being roasted is somewhat bitterish, with a degree of unctuosity and farinaceous roughness ; it possesses in this state little or very trifling smell, and this renders it so easily counterfeited by employing the process of roasting or torrefaction to other farinaceous substances. As its smell arises from its aromatic part, so it is more prevalent a few days after it is roasted, for being put into a cask or canister (though the former is the best) a most beautiful and exquisite flavor and smell is discovered upon the lid being removed after the first or second day, and it is partly lost by being kept longer than three or four months. To have its proper flavor, therefore, coffee must or ought to be used in the course of a month or six weeks after roasting, or at least so soon as it is reduced to a powder, though. when lost, the smell may be again restored by roasting, or rather warming it anew, a proof that only a part of the aroma is evolved by the process. These sensible qualities coffee gives out in any menstrum in which it is infused, though in aqueous infusion or decoction is the form most commonly preferred both for domestic and medicinal purposes.

The notion that the aroma of coffee requires days for development is contrary to the now current belief that coffee loses in aroma from the moment it leaves the cylinder, and that it should always be fresh roasted, fresh ground, and fresh made, if a perfect cup of coffee is desired. Nevertheless, we are inclined to think that the writer quoted is not very far wrong, and that the flavour of coffee gains as much as it loses by a delay of a few days after roasting, provided that it is properly stored.

LIMES AS SHADE FOR COFFEE.

A South Sylhet writer recently referred to the lime tree as having a voracious appetite, and great ramifying power in its roots. A Dibrugarh correspondent comments on this in the *Planter* as follows :—

Now my little experience with coffee growing under lime trees happens to be quite the opposite of the above. I do not mean to insinuate, for a moment, that I know anything at all about growing coffee compared with your South Sylhet correspondent, or that he is wrong in putting the blame of the poor-looking coffee bushes, down to their immediate proximity to the gigantic lime ; still the following is fact, and "facts are chiels that winna ding, an' downa be disputed."

Some two-and-a-half years ago I planted up a good number of coffee plants in my compound, and one of them, belonging to the gigantic Liberian variety, was planted so close to a large lime tree that in digging out the hole for the plant, quite a solid mass of white roots was displaced. Some fresh soil was put into the hole and the plant was planted. Now at the present moment this is the finest plant (and there are some splendid specimens) in the whole of my compound, being exactly twice the size of any of the others, and by far the healthiest looking plant among them.

Its leaves are of a dark glossy, green colour, while the leaves of the other specimens are, now since the cold weather started, of a yellowish green colour. All the other plants in the compound have been in a dormant state for some time, but such is not the case with this extraordinary phenomenon, as it still continues to throw out shoots ; how long it will go on remains to be seen ; but I have already had to cut away half of the lime tree to allow of its expansion. I was of the opinion that the lime tree had something to do with this plant, and was inclined to hug myself over having made a valuable discovery, and fully intended keeping it to myself until I read your South Sylhet correspondent's article, after which I commenced to have some doubts on the matter, and to think with a touch of sadness that, perhaps, after all, something else was responsible for the extraordinary growth of this one plant.

THE FLORIDA VELVET BEAN.

Apropos of Mr. John Cameron's recent remarks in Coorg, in the course of which he included the Florida Velvet Bean in his test of bye products, we quote the following letter to *Indian Gardening* from the pen of Capt. E. A. Wilson, Orlando, Fla :—

SIR,—As many of your readers in your section are largely interested this season in growing the new forage crop—The Florida Velvet Bean—and as I have had a wide experience in its culture, I want to give them some points that will be of great value to them.

When it is possible it is always better to give the growing vine support, and keep pods off the ground, thus largely increasing fruitage. To do this it is a good idea to mix corn with your bean seed, and the vine will climb stalk, giving it the necessary support. A full, well developed crop will give you from twenty-five to thirty bushels to the acre.

The green forage is eaten ravenously by all stock on your farm, but I would not continue stock on it steadily for more than a week or so at a time, owing to its 54 per cent. of nitrogen. A few days off to other feed occasionally would be advisable. Should you want to sacrifice your bean crop you can cut vine up at any stage of growth and cure it as hay. All farm stock will eat it greedily ; or, what would be better, plant a field later, which you could use as a green forage for a time, and finally cut and cure as a dry fodder. A good average acre will yield you nearly four tons of dry feed

Plant your seed early in spring and when bean is ripe in the fall, pick it; but be very careful to place pods in an airy drying place—a scaffold is best—for fear of heat or mould. Most all your stock will eat the beans, hull and all, but it is better to have them ground up with hulls and feed equal parts of bran or shorts. This is an excellent feed for all stock, and especially for new milch cows, increasing the flow of milk largely.

After picking your bean in the fall you will most likely want to turn your dry leaf and vine under for fertilizer. You will find vine exceedingly tough, and plough will not break it. In a dry, hot sunny day, run over field with a harrow, before ploughing, and this will break the vine completely.

Now comes the important part, the shelling. You will find the pods wonderfully tough and leathery, and exceedingly hard to shell, and they can only be shelled at all, excepting when pods are crisp dry from exposure to sun, and even then, they often shell hard. If you want to practise economy and use your muscle freely, you can shell them fairly well by placing pods in a bag, and pounding them with all your might with a bludgeon. In this way a good strong man will pound out six or eight bushels in a day. With us we have passed beyond that stage, and have found a better way. We have a sheller—a two men machine—made specially for the business, that is capable of turning out from five to eight bushels an hour, the bean coming through 98 to 99 per cent. commercially clean. This is a labour saver to us, and one we appreciate, as many of us have as we do, from ten to eighty acres of beans to shell.

The Florida velvet bean is the coming forage and fertilizing crop of the country, there can be no question, and as a fertilizer, and an upbuilder of overworked land, there is nothing that begins to equal it. It has grown steadily in popular favor here, and men who commenced to grow it in a small way, are now growing from fifty to eighty acres. It is certainly the finest all-around forage, feed fertilizer and shade for the sunparched soil that can be placed upon the farm.

The United States government recognizing its great value to the country as a phenomenal forage and fertilizing plant, the Secretary of Agriculture placed an order with the writer for a carload, which was shipped July 26 from crop of '97 for general distribution to the people of the forty-five States of our Union.

With us it has been on trial for several years, but it is having a broader test the present season, as I have sent it on order to all the States of our Union, to Honolulu, Canada, the nineteen Central and South American Republics, Australia, England, Ireland, Scotland, France, Germany, Italy Egypt, and to far away China and Japan.

Should your readers want further information if they will send stamp I will cheerfully reply.

COFFEE AND CO-OPERATIVE AGENCY.

The *Madras Mail* says:—In connection with the Resolution passed at the last Committee Meeting of the Shevaroy Planters' Association, regarding co-operation for the promotion of sales of coffee direct to the consumer, the Chairman of the above Association. (who, we understand, was the drafter of the Resolution), sends us the following rough sketch of a plan, which might form the basis for enlargement and discussion:—

1. That a Co-operative Society—which may be called "The Pure Coffee Supply Association"—be formed of South India Coffee Planters, who should *all* be invited to join, by taking shares, which if subscribed for with moderate unanimity should give the necessary capital. Each share to be of the value of Rs.100.

2 This Association, conducted by an elected Indian Board, will make the offer to a well known London Firm of Merchants, to act in every particular as the Association's Agents; their remuneration being a fixed percentage.

3. The Firm accepting the business, would as soon as possible open in London small retail shops, under its own management, for sale of pure coffee, raw, roasted, ground, and in the essence, and would employ, in the first instance, say a couple of trustworthy and energetic travellers to push the article with retail grocers outside of London.

4. Catching advertisements should at once be inserted in the leading papers and magazines, and posters be placarded everywhere possible.

5. Growers consigning their produce would be paid for this at current London market rates, for each class of coffee sent to the Association for sale.

6. Profits at the end of each year (or half-year) to be rateably proportioned to each shareholder, the limit of a holding, in the event of a demand, being fixed at, say, 20 shares.

He says:—"I presume much could be done with a capital to begin with of, say, 1½ to 2 lakhs of rupees, which I think is not too large a sum to ask of South India Planters. The Board of Directors might at first be constituted of the present Committee of the U. P. A. S I., until the scheme has been put on a workable basis, when a properly elected Board of Share-holders would take over the concern. The firm of London Merchants, who would be asked to act as the Association's Agents, should be one of good standing with a thorough knowledge of the coffee trade in all its details, and their remuneration ought to be fixed at a figure which would pay them handsomely—especially when the confidence of planters has been established and the volume of business is increased. Small retail shops should be opened in London and its suburbs under competent salesmen, who should be thoroughly conversant with the best system of roasting, grinding and the preparation of the pure essence; and these shops should be provided with the most lately improved machinery for carrying on the above-mentioned processes. The travellers should have large samples placed at their disposal and should be men who appreciate and could therefore prepare a good cup of coffee, when occasion arises, for the fullest amplification of the benefits to be derived from drinking the pure unadulterated article. The system of advertising should be very thoroughly carried out and ought to be the very first step taken. Planters would, at first, probably consign only small shipments, but once the business was set agoing a larger volume of transactions would take place. And here arises the question of realisation on consignments, for the planter also cannot wait; there will be, to my thinking, no difficulty in selling drafts against Bills of Lading through curing or shipping agents. In conclusion I see no reason why the tea growers of South India also should not join in the suggested Association, for the sale of their teas could be carried on in the contemplated shops, with much advantage to the producer and consumer."

Mr. J. Chas. Large writes under date Yercaud, 28th Dec.:—

SIR,—Referring to your article of the 13th and 22nd ultimo commenting on the Resolution passed by the Shevaroy Planters' Association regarding pushing the sale of Indian Coffee in the Home market, (for which you deserve our thanks for pointing out the difficulties to be overcome in the project if ever matured), I wish to make a few observations. It is perfectly true that the production of Indian coffee is comparatively small compared to that of many other countries, but, at the same time, it is of far superior quality to other coffees and as such it goes into consumption principally in England and France; and I contend that if we can sell it pure to consumers at something under the price they have to pay at present, we should do a good business, and probably also be the means of reducing retailers' prices, which would again act in increasing consumption, the object aimed at. Granted, our efforts to push the article would probably stimulate rivalry, but of this we need not be a bit afraid, as the more pure coffee of all sorts is pushed into consumption the better for all planters, as a rise of price of the commoner kinds consequent on this would most certainly improve the position and price of Indian; and the more the taste of the public is gratified with pure coffee the less would they be inclined to buy the adulterations they have been accustomed to. Is it were not for these adulterations there would be even now probably not enough coffee to go round. I think it was in a late number of *Planting Opinion* that it was stated that out of 10 samples of coffee seized and analyzed in the United States, only three samples were found to contain any coffee at all, and these three had only a small proportion of coffee in them, the rest being composed of roasted wheat and other cereals, and the same thing goes on probably to a like extent in Europe. The coffee required to take the place of these adulterants (if they could be stopped) would at the very lowest estimate double the consumption of pure coffee, and by co-operation we could give the public pure coffee at the same price that they pay for that rubbish. The Indian and Ceylon tea planters, with their indomitable energy in pushing their packet teas into consumption, bid fair to turn the people of England into tea drinkers to the exclusion of coffee entirely, unless we do something to retain at least the present coffee consumption. I note, too, that cocoa is being

actively pushed and increasing in favour, but coffee is declining. I admit it is a big project and requires considerable capital and judgment to carry through, but if every coffee planter in South India would take shares in such Co-operative Association, it would, in my opinion, be quite practical and we should reap the benefit in soon realising very much higher prices for our staple than we do at present. I brought forward the subject for discussion in the hope that it would be threshed out by the different Associations, and did not deem it necessary to formulate any special plan, the Committee of the U.P.A.S.I. being much more competent to do this.

P. S.—Since writing the above, I have just seen your issue of the 29th ultimo containing the rough sketch of a plan by our Chairman, which I generally agree with.

CINCHONA IN JAVA.

A CORRESPONDENT lately sent the following to the *Pioneer*:—Monsieur Chailly Bert in his article in the *Revue General edes Sciences* intended to show the extent to which the Buitenrzorg Institute of Research in Java has served science and horticulture, omits to mention one of the most celebrated and the most successful efforts of that institution, namely, that connected with the introduction and establishment of the cinchona enterprise in the island by the joint labours in 1853 and 1854 of Professor Reinwardt and Herr Hasskarl, the Director and Botanist, of the garden at that time. The latter by a long residence in Java had become accustomed to the influences of a tropical climate, and seemed to the Director to be the best person to send to South America, whence the valuable variety of the quinine-yielding cinchona was to be obtained. He started on his hazardous journey on the 4th December, 1852, and arrived at Panama on the 14th of the following month. It was not till May, however, that he descended into the lower part of Peru. The roads there were found to be bad with dangerous precipices on one side. When the crest of the second Cordilleras was passed, the traveller had bad roads exchanged for worse steps. At Monohomba and Uchahamba, the first quinine trees in the natural state were met with, but they were not calisayas, which are only to be found in South Peru and Bolivia not in groups, but scattered all over the forests. This circumstance, only ascertained on the spot, altered the direction of Mr. Hasskarl's journey and he went towards Cuzco, the old Inca town, and thence ultimately to Sandia, which he made his head-quarters for a time. Before coming to Sandia, he was confronted on the way by a serious difficulty. Peru and Bolivia were at war in 1853, and the frontiers of the former were forbidden to travellers. But although Peru could not be entered, Bolivia was accessible, and the bark of Bolivia was the quinine bark *par excellence*. Moreover, the Cascarilleros, the collectors of the bark, were Bolivians, and it was by them that he was supplied with both plants and seeds in return for provisions and strong drink. The number of plants thus secured was 400 and with this precious burden Mr. Hasskarl traversed 150 leagues to bring it to a port of shipment. The plants had to be conveyed so as to reach the coast without drying up in the day when it was hot, and without freezing at night when it was extremely cold; and to avoid these extremes the sprigs were closely packed together with the roots in damp moss—then wrapped in Pisang stalks and sackcloth, and hurried by the party without interruption to leave behind the hill country with its extreme changes of temperature—and to get as far off the highway as possible, that the cavalcade might incur no risk of being challenged by troops, who took charge of all transports, as contraband of war. It appeared at one time as if the strife of the two Republics would occasion the failure of the mission, but after going through innumerable difficulties and overcoming many obstacles the Botanist at last arrived at Ariquipa and thence embarking he went by Islay to Calcutta and then direct to Java. On the long voyage he unpacked the bundle of plants and was surprised to find that although four weeks on the land journey they appeared to be fresh—and he planted them in cases. On the voyage by the Cape, the temperature was high and the cuttings began to shoot out, but many died. It was on the 13th December, 1854, that Mr. Hassakarl arrived at Batavia with 20 cases of cinchona plants and was forthwith charged with the exclusive duty of cultivating them.

Mr. Hasskarl's labours had been both before and after supplemented by those of others in various ways, but his formed the nucleus of the Java cinchona enterprise; and the soil, the air, the light, the warmth, the dampness and other atmospheric conditions of the locality chosen have perfectly suited the plant. Indeed it was seen that it could hardly be otherwise, as Java is situated in about the same latitude as Bolivia, and has not dissimilar volcanic surroundings.

Of no agricultural or horticultural undertaking can the result be predicted as certain. The whole system consists of exchange or transplantation of plants from one place to another This holds good of Europe as well as of the tropics. The cultivation of exotics in Java, such as coface indigo, vanilla, coffee, rice, besides cinchona, bring in large sums annually to the treasury, and most, if not all of these, have been introduced to the island by the Research Institute, which allows its humanitarian efforts to be hidden under a bushel—or at most to be spasmodically revealed to the world by some lingually accomplished foreign winter tourist.

The Dutch have had possession of Java for over 300 years with a short interregnum by the British, and have pursued a system of administration at once prosperous to the people and profitable to Holland. It covers an area of 50,000 square miles and the population numbers 24,000,000. The natives are governed just the opposite of the way we employ with natives in India, yet the Japanese are happy and contented.

The Java cinchona controls the market for this drug the world over—and the efforts of its consciencious experts should not be untold.

STRAY NOTES CONCERNING MANURES.

NITRATE OF SODA.—A resident of the Benalla district, South Australia, has just concluded some experiments with nitrate of soda in the cultivation of wheat, oats, potatoes, &c. In the case of the two cereals mentioned magnificent yields were obtained, being nearly 50 per cent. better than those obtained from plots of the same land which were not treated with any kind of manure. Similar results were secured from an area of lucerne and red clover, thus proving the value of the nitrate as an artificial manure.

* * *

LIME.—It is well-known that lime is a valuable agent in correcting the sourness of land, in unlocking the unavailable potash, phosphoric acid, and nitrogen in the soil, and as a general soil improver. Many plants are benefitted by the application of lime to the soil, but some are injured by it. Experiments made at the Rhode Island Experiment Station show that onion, parsnip, celery, cauliflower, spinach, lettuce, beets, asparagus, cucumber, cabbage, turnip, peas, tobacco, and kohl rabi are benefitted by its use; that carrots, potatoes, millets, Indian corn, and rye are indifferent to liming; that watermelons, sorrel, and blue lupines are positively injured by the use of lime. Lime is especially valuable to land that has been continually heavily dressed with stable manure, and which is showing signs of being less fertile than formerly.

* * *

MANURE PRESERVATIVES.—About the stable and the compost heap much valuable ammonia escapes and is lost. This can be largely prevented by the application of materials which will absorb and hold the volatile gases. Possibly the best and cheapest is dry earth containing a considerable quantity of humus Every farm has plenty of this, the only cost being the placing under cover. Gypsum or land plaster is highly recommended, but its influence is not very marked. Sprinkle the absorbent over the manure pile and about the stalls when the stable has been cleaned. Disagreeable odors will be prevented and fertility saved.

* * *

SHALLOW COVERING.—Farmyard manure should be kept as near the surface of the soil as possible. The rain water as it percolates through the soil has a tendency to carry the soluble plant food downward and out of the reach of plants. Consequently an attempt should be made to delay the downward progress of plant food instead of assisting it by plowing the manure in deeply Then again, nitrification is most active near the surface of the soil.

Therefore, manure kept near the surface is under more favorable conditions for having its plant food made available and consequently gives quicker returns.

When a heavy application of manure has been ploughed under deeply, it is no uncommon thing to see lumps of manure brought to the surface by subsequent ploughing, showing that it had never become properly incorporated with the soil. It is quite probable, too, that this deeply buried manure has lost considerable nitrogen through dentrification. Economical manuring consists in obtaining quick returns over as large an area of the farm as possible, and this is accomplished by moderate applications incorporated with the surface soil. Shallow covering of manure also increases the humus of the surface soil. As a result, the soil does not bake and crack in dry weather; it absorbs and retains water much more satisfactorily and works up into a fine tilth more easily.

* * *

POTATO MANURING EXPERIMENTS.—The *Indian Gardening* records the comparative results from a series of experiments conducted by the Highland and Agricultural Society of Scotland at its experimentalgrounds, in order to test certain conclusions arrived at by M. Ville, the well-known agricultural chemist at Vincennes, to the effect that the omission of phosphoric acid greatly diminished the potato crop, and that it was still further reduced when the nitrogen was left out, while the greatest reduction of all took place when potash was omitted. The experiments undertaken by the society in question are described as fully bearing out M. Ville's conclusions, the neglect of potash in the manure resulting in a marked decrease in the yield of the crop. The best manure to apply to potatoes was found by these experiments to be superphosphate at the rate of from 3 to 6 cwt.; sulphate of potash or muriate of potash at the rate of from 2 to 3 cwt., and sulphate of from 2 to 3 cwt. per acre, when they are grown without farmyard manure; while with farmyard manure a smaller quantity of the same artificials is very beneficial, also that all three manurial constitutents must be added to the manure to ensure good crops of potatoes, the most important being potash. The benefits resulting from the addition of potash to the manure were not merely confined to the increase in the amount of produce, but were also seen in the increased size of the tubers; those manured with potash giving 16.7 per cent. of large tubers more than the plots without potash. Field experiments.—Results on plots measuring 125 square yards each:—Without manure, yield 275 lbs.; incomplete manuring, (nitrogen only), 354 lbs.; incomplete manuring, (Phosphoric acid and potash), 411 lbs.; complete manuring, nitrogen phosphoric acid and potash 541 lbs.

THE INDIAN TEA ASSOCIATION.

A Meeting of the General Committee of the Indian Tea Association was held at the Royal Exchange, Calcutta, on the 5th ult.:

The London Secretary forwarded for the opinion of the Committee, copy of a letter addressed to his Committee by Messrs. Alex. Lawrie & Co., on the subject of tea blights in which they referred to "The pests and blights of the tea plant" by Dr. Geo. Watt. They specially drew attention to a blight named "the grey blight," which, according to Dr. Watt, is one of the most destructive and dangerous of blights to which the tea plant is liable. As there was no good remedy known for this disease, Messrs. Alex. Lawrie & Co. had suggested that the Calcutta Association should take up the question of appointing a scientific expert to investigate blights.

It was decided by the Committee that a communication should be addressed to the Assam Administration on the subject, enquiring if Government could see their way to assist the Association with funds, with a view to the appointment of such an officer.

The first Meeting of the Joint Committee of members of the Indian Tea Association and the Ceylon Association to consider the subject of duty on tea in England was held in London, when the question to agitate for a reduction of duty on tea was thoroughly considered. Considerable difference of opinion was expressed as to the advisability of any action being taken, as it was pointed out that the present tax of 4*d.* per pound on tea constituted a heavier imposition on China than on British grown teas.

It was ultimately resolved that, as the Ceylon representatives had received no instructions on the subject from Ceylon, it was inadvisable to take any action at present in the matter.

Considered letters of 21st and 28th October, and 4th November, from the Secretary, Indian Tea Association, London, in connection with the American Market Fund.

Mr Blechynden, who advised his arrival in New York, reported that business, so far as tea was concerned, appeared to be absolutely dead for the present. The reason was owing to the uncertainty as to the duty question, an agitation being on foot to remove the war tax now that peace had been proclaimed. He considered that until something definite was known there was small chance of revivifying the business.

Mr. Blechynden again brought forward the question of the manufacture of "Oolong" teas in India, as several enquiries had been made on the subject. He urged that systematic experiments should be made with teas of different districts, so that the Indian Tea Association could get some of the trade that Ceylon was pioneering. He considered that "Oolong" teas would be used as substitutes for higher-priced Japan teas and would go in blends with China teas, and he thought that although these teas might not sell for use by themselves at first, that might come after experience, and the gradual education of taste, by the blenders increasing the use of these teas.

The General Committee, after considering this subject, were of opinion that it would not pay the great majority of gardens to go in for "Oolong" teas. One firm had sent samples to New York which were approved, but when rolling with machines was tried the quality was much inferior to the sample made by hand. This firm had, however, sent a shipment to America. It was generally agreed that "Oolong" teas might be satisfactorily manufactured with hill teas, but it was impossible with teas grown on the plains. Some firms were making experiments with a view to see if they would be likely to succeed in the manufacture of this class of tea.

The Secretary was instructed to inform the Secretary of the London Association that one or two firms were trying to make Oolong teas, and that a few small shipments had already been sent Home.

The Secretary reported that the amount of contributions promised to the American Market Fund was Rs.1,02,031-13-6.

BLACK PEPPER.

(*Piper Nigrum.*)

SOME remarks made by one of our correspondents have caused our Calcutta contemporary the *I. P. G.*, to launch out on the subject of Black Pepper. We give its remarks in full, for with a boom in Pepper—or at least a spurt in demand for *Indian* pepper—practically phophesied, some of what is given below may prove of value to our readers:—

A correspondent in *Planting Opinion* would seem to question the possibility of a return per acre of Rs.250 from the above product. So far as we can glean, from both practical and scientific sources, a return of Rs.250 per acre appears not at all to be an over-estimate; rather under if anything. Referring to this product, Dr. Roxburgh has put it on record that the vegetable world is full of proofs that the sexual system of the immortal Linnæus is founded on absolutely sound principles, and that he never found a single plant in India which did not corroborate this fact. The Arabians, from time immemorial, knew that to render the date palms prolific, it was necessary to bring the male and female plants in contact with each other. Still, surprising as it seems, there are thousands of well-educated people who would be incredulous if they were told that there was such a thing as a sexual system existing in the vegetable kingdom. The Malays of Sumatra could hardly have known that the Black Pepper vine was a dicecious plant, or Mr. Marsden would not have neglected mentioning a circumstance so material when describing this plant, and the method of cultivating it there. As a matter of fact, Roxburgh had not met with any other, or any sort of information, that could lead him to think black pepper was the produce of a plant having the male and female on distinct vines.

The *Straits Times*, in an article on pepper-growing, says, when describing its cultivation there, that the lines are laid out 7 feet apart, and the holes dug 2 feet square by 1 foot deep, the centre of the holes being 7 feet apart in line. A post is put down at one corner of the hole having about 10 feet out of the ground. The post should be of such wood as will not be readily eaten by white ants; and some planters use posts of Erythrinæ, which take root and become permanent. It is usual to put three cuttings, 18 inches long, into each hole, in the opposite corners to the post, burying

the cutting six inches deep and for over a foot in length. The cuttings are taken from the tops of the vines and are usually put in a nursery to root before being planted out. The vine comes into bearing in 2½ to 3 years, and is in full bearing when from 6 to 7 years old, but continues to increase year by year if manured and not allowed to overbear itself. Twenty piculs (of 133lbs,) to the acre is considered a fair average crop, and a good crop 28 piculs to the acre.

Black pepper is simply the berries dried. White pepper comes from the ripest berries, which are allowed to lie in a heap for some days to ferment, when the skins are removed by rubbing or trampling by coolies; they are then washed and spread out upon a drying apparatus with a slow fire underneath. It is usually thought that black and white pepper are the produce of different varieties of plants. but they are produced by the self-same variety, the difference being merely in the curing of the berry, as shown above. In order to make the vine throw out laterals and spread, it is topped when about two feet high. Such, briefly, is a sketch of the pepper culture in the Straits, barring manuring, weeding and cost of laying out a garden, which, all included for the first three years, is said not to exceed $100 per acre.

An experienced low-country planter in Ceylon writes as follows in *All About Spices*: "Do not plant unrooted cuttings *in situ*; a very large proportion fails. Raise cuttings in nurseries, the cuttings to be, say, a foot long, and from the stem (branch cuttings useless) six inches to be buried; shade and water according to circumstances. Allow the plants to remain in the nurseries a year before transplanting, harden off by gradually removing shade. In suitable weather remove carefully without earth to the roots, but taking care not to injure those. Plant in holes at least a foot wide by 9 inches deep, and when the vines commence to creep, train them till they adhere to the stem of the tree. For supports, select trees which are not deciduous. Plants raised from seed should be allowed to remain in the nursery until they are 18 months old. For planting, by preference, select localities with an eastern aspect, as observation teaches that vines grow best and crop heaviest in such situations. In raising nurseries of either cuttings or seed, do not use those to be procured in your own district, but get them from some other district, at either a higher or lower elevation. By attending to this the resultant vines will be strong and good croppers" This is said to be the gist of a long series of experiments in pepper cultivation in Ceylon.

The correspondent in *Planting Opinion*, alluded to above, has evidently not had much practical experience in raising young pepper plants when he says: "The difficulty of rearing vines from cuttings or seed is very great, especially with seed, as generally a very large proportion give male, or non-bearing vines." We would point out the indisputable fact that a certain proportion of male plants is absolutely essential to having any crop at all, and the practice of ignorant cultivators in continually propagating by cuttings taken from the female plants is considered by scientists to be one of the reasons of pepper disease. By their continued neglect of the cultivation of the male plant, the latter has lost power and fails in a great measure to properly perform its natural functions. Roxburgh advises having at least one male vine planted in each pit, which would require one-third male plants. The neglect of proper cultivation of the males of deciduous plants is, in a great measure, responsible for the deterioration of their produce, and by weakening the vital power of the plants themselves predisposes them to disease.

Black pepper is cultivated on an exceedingly small scale in Assam, being only grown in a few native enclosures for home use. The Assam produce is considered to be lighter than Bengal, Straits and Malabar pepper, which is, most likely due to careless cultivation. A South Sylhet coffee garden has started to grove it upon the shade trees, and as a by-product it is well worthy of consideration. because as regards production and consumption, it ranks amongst spices as of the highest importance. It is one of the earliest spices known to man, and has for ages formed a staple article of commerce between India and Europe. One of the articles demanded in A.D. 408 as part of the ransom of Rome by Alaric was 3,000lbs. of pepper. In Malabar each vine gives a yield of about 2lbs a year up to the 20th year, or about 24lbs from each tree, a single tree sometimes supporting eight or twelve vines. An acre is calculated to beer 2,500 plants, and to yield a produce of £80 when in its best condition. "Spon's Encyclopædia says that the yield of plantations varies greatly according to circumstances. In Sumatra the dual crop is estimated to average 1¾lb. from each vine per annum. In Malabar each vine gives a mean of 2lb. a year, and sometimes 8 to 10lbs. will be got from a single vine, and that the vine lives for about 30 years.

The article on black pepper in Dr Watt's *Dictionary of Economic Products* does not mention its cultivation in Assam; the only reference made in that article to Assam; is to the effect that black pepper is doubtfully indigenous to the forests of that province. But from enquiries made by Mr. Bhupendra Chandra Basu, Assistant to the Director of Land Records and Agriculture, Assam, it would appear that black pepper does not occur in the wild state in any part of the Assam Valley, but an allied species (*P. longium*), the "pipal" or long pepper, is found. The Assam pepper seed is said to be smaller than the foreign product, which comes through Calcutta. The indigenous article is, however, more pungent and therefore commands a higher price in the local market.

The pepper vine according to the note upon it in the *Agricultural Ledger* is very susceptible to drought, which often proves fatal. Rain and fog during the cold weather cause the leaf to fall off. Hail storms are a frequent source of injury to black pepper as well as other crops in Assam. A species of caterpillar which feeds on the leaves would also appear to cause some damage. When it appears it is destroyed, as far as possible, by hand picking.

The highest outturn that can be obtained from a single vine in Assam is said to be about 3 seers of dry cured pepper, the average yield is commonly reported to be about one seer for each vine in a plantation. The wholesale price runs about Rs.20 per maund, and if we allow 1,000 vines to an acre, this would mean Rs.500, so that a return of Rs.250 per acre is not so much of a "dream" as the correspondent of our esteemed contemporary of Southern India might imagine.

TEA, &c., COMPANIES.

Tea Corporation Limited, (of Ceylon.).—The accounts of the Company for the year ending 30th June, 1898, show results that are not satisfactory.

The Company was formed to take over and work certain estates in Ceylon from 1st July, 1897; owing, however, to legal difficulties and delays in Colombo, which your Directors were unable to control, the estates were not conveyed to the Company until the end of that year. Consequently, for the first half of the period under review the original owners managed the properties on account of the Company, and the result showed, when their accounts were presented, a considerable loss on the working.

As soon as the Directors got possession, they took steps to improve the management and curtail the expenditure as far as possible. and in this they were ably seconded by Mr. Tatham, the Managing Director, with the result that the cost of the tea per lb. F.O.B., was reduced from 42·65 cents. to 25·96 cents.; included in this latter rate is a sum of £1,100 for manure, which under ordinary circumstances would have been spread over the whole year, as well as a large item for weeding and pruning some of the estates which had been neglected. The whole of this has been debited to working expenses.

Although the crop for the first six months fell short of estimates, the production of tea for the year amounts to 1,112,606lb., and the Directors are of opinion, that if Mr. Tatham had had control for the whole of the time, this total would have been materially increased.

The working of the estates shows a profit of £1,701 18s. 4d., after wiping off the loss on the first six months. and charging the whole of the Ceylon expenses. After charging London expenses and Debenture interest there is a loss of £1,620 6s.

The estimates furnished by Mr. Tatham for 1898-1899 are encouraging. He hopes to secure over 1,300,000lb. of tea at a cost of about 25 cents. per lb., and about 500 cwt. of Cocoa.

Spring Valley Coffee Company, Limited.—The crop of tea amounted to 391,400lb., and this, together with 85,080lb brought from neighbouring estates and manufactured at Spring Valley, sold for £16,365 19s. 1d. or an average of 8·24d. per lb., the average selling price last year being 8·40d. per lb. The yield from the 1,045 acres of Tea in full and partial bearing was 375lb. per acre against an estimated yield of 400lb. per acre, and this would have been secured but for severe drought during the latter part of the season which was felt throughout the Island, and more particularly in the Badulla district. The total proceeds from the sale of produce amounted to £17.231 4s. 5d. and expenditure in Ceylon and London was £14,558 2s. 6d. leaving a profit on the year's working of £2,673 1s. 11d. To this profit a sum £691 1s. 4d. has to be added, being the balance brought forward from last year, and after debiting £100 16s. 8d. for Income Tax and £900 for Dividend on Preference Shares to 31st July 1898, there remains a balance of £2.363 6s. 7d. now to be dealt with. The Directors recommend the payment of a Dividend of 2½ per cent. for the year on the Ordinary Shares which will absorb £2,000 of the above sum and that the balance of £363 6s. 7d. be carried forward to next year. During the past season the sum of £7,191 13s. 11d. has been

spent on Capital Account, and recent advices from the Manager on Spring Valley lead the Directors to believe that the whole of the contemplated extensions, both of the Tea area and Factory, will be completed by the close of the present year. The tea crop now being plucked is estimated to produce 499,400lb. of made tea, exclusive of bought leaf, and though the effects of the drought continue to be felt, this yield is still looked for. The latest advices report the estate to be in good order and condition throughout.

Digalla Ceylon Tea Estate Company, Limited.—The net amount at credit of profit and loss account, after providing for general expenses, Directors' fees, Income Tax, etc., is £150 4s. 6d. Dividends on the 6 per cent., preference shares were paid for 1897-98 (less Income Tax) amounting to £348, leaving to carry forward to next year a balance of £1,02 4s. 6d. The Directors regret that, owing to the fall in the price of tea, and the expenditure incurred on the cultivation of tea not in bearing, they are not in a position to pay a dividend on the ordinary shares. The amount expended on tea not in bearing in the past season was £45 , on the factory £900 11s. 3d., and on new clearings £1,248 17s. 10d., in all the sum of £2,599 9s. 1d., which has been added to the capital cost of the estate. The acreage of the Company's property is now as follows:—Tea in bearing 420 acres; tea not in bearing, 99 acres; new clearings, 80 acres; jungle, 151 acres—total 750 acres. The gross average price realised was 6 17d. per lb., as against 6·47d. per lb. last season, and the rate of exchange was 1s. 3·27-32d per lb., against 1s. 33-16d. The total crop amounted to 190,818 lb. or 453 lb. per acre of tea in bearing, which includes 37 acres young tea in partial bearing.

The Carolina Tea Company of Ceylon, Limited,—The surplus of £5,327 13s. 6d. it is proposed to appropriate as follows:—Net profit, £5,227 13s. 6d.; amount at credit of ordinary shares, £110 4s. 7d.; debenture interest £2,450; dividend on ordinary shares at 5 per cent. per annum, £2,500; proposed to place to reserve fund, £275; balance to be carried forward to the credit of the ordinary shares, £112 18s. 1d.

The actual tea crop from the Company's properties was 939,491 lb as against an outturn for the previous season of 893,288lb. exclusive of Bellongalla Estate (sold in 1886-97, and which produces 36,778 lb. tea in that season). The cost of the tea free on board Colombo was 5·10 per lb. compared with 4·88d. per lb. for the previous season, the extra cost being due entirely to the advance in exchange. The average gross sale price in London was 8·02d., as against 8·26d in 1896-97. In addition to the tea crop 441 cwt. of cocoa and 307 bushels of coffee were obtained, as compared with 450 cwt and 413 bushels in the previous season. The reduction of profit shown by the accounts from the earnings of last and previous years was caused mainly by the considerable advance in rates, both of exchange and freight, during the season, and which entailed an extra cost of working equal to nearly 3½ per cent. on the capital of the Company, while the average selling price of the tea was about ¼d. per lb below that of the previous year's crop.

The total quantity of land now under cultivation is 2,577 acres.

The South Travancore Tea Company, Limited.—The outturn of tea was 242,046 lb. being 32,954lb. below the estimate. The area now under tea amounts to 743 acres. The average price realised was 5 55d. per lb., as against 5·85d. obtained last season, the gross profit £1,3 4 15s. 3d., as against £1,672 11s. 10d. last year. The net profit amounts to £740 0s. 7d., which, with the balance brought forward from last year, makes a total of £941 15s. 4d. Shortness of tea crop, unusual drought, high freights, high rate of exchange, failure of coffee, and lower prices generally have combined to produce so disappointing a result. The Directors are of opinion that the capital expended in developing the estates since the formation of the Company will now bear fruit, and that the current year will show more satisfactory results. The latest crop reports show that for the first three and a-half months of the current year 90,000lb. of tea were made as against 54,891 lb. during the corresponding period of 1897, and so much of this as has been sold has realised a satisfactory price. Mr. Valentine, who has recently been appointed visiting agent, reports under date September 23rd, that the garden and factory are in good order, reflecting great credit upon the Manager (Mr. Stewart) and the Assistant (Mr. Macdonald.) Mr. Valentine estimates the probable outturn for this season at 350,000lb.

At the request of the Directors, Mr. Forbes Laurie, early in the present year, visited the Company's tea gardens in South Travancore. His report on the properties, with the exception of two small divisions, was favourable. Negotiations are proceeding for the resale of the latter to the vendor on terms favourable to the Company. During the period under review. 1897-98, Mr. Alexander resigned the management of the Company's properties, and Mr. Stewart was appointed manager in his place.

The Ottery Tea Company of Ceylon, Limited.—Owing partly to unfavourable climatic conditions, and also to a somewhat finer system of plucking, which was adopted towards the end of the season, the crop has been considerably short of the estimated yield, the amount of tea secured being only 152,978 pounds against the original estimate of 170,000 pounds The tea has cost without manure cents 25·05, and has realised a nett average price of cents 42·40. During the year, a sum of £125 has been paid in further reduction of the mortgage, and this, together with the amounts previously paid, and the profit which has been derived from the favorable rate of exchange at which the mortgage has been reduced, has been transferred to a reserve account. From this account a sum of £2,500 has been spent on manure, and it is proposed to provide from the same source a further sum of R1000 during the present season. After making provision for the interest on mortgage, &c., the balance of profit available amounts to R22,9 1·68. Of this sum, R1,864·08 was absorbed by the payment of £125 in further reduction of the mortgage, and an interim dividend of 3 per cent. to March 31st has been paid, leaving a balance available of R12,147·60. From this it is proposed to pay a final dividend of 4 per cent., absorbing R11,920, and to carry the balance R227·60 to next account. At an extraordinary general meeting held on the 24th June, 1898, it was decided that the Directors be authorized to enter into an agreement with the mortgagee to make the balance principal secured by the mortgage payment at twelve months' notice on either side, instead of by annual instalments of £500, and this was accordingly done.

The Dejoo Tea Company, Limited.—The season is expected to close with a crop of 433,600lb. or 13,472lb. in excess of that produced in 1897. Up to the present date 245,710lb. have been sold at an average of 9·17d. per lb. This price is very disappointing, and is due to the want of quality in the tea. The estimated cost of the current season's crop is 8·63d. per lb., or about a farthing, under that of 1897. This high cost, as compared with 1895 and 1896, is due to expenses incurred in the necessary importation of new labour in 1897-8 and higher exchange, chiefly the latter. In consequence of the large quantity of tea yet to be sold, and the narrow margin of profit shown by the average at present realised, the Directors regret that they are unable to pay an interim dividend.

Needham Tea Company.—The Secretaries report the receipt of a telegram advising the outturn to November 30 as follows:—3,360,000lb., as compared with 3,109,840lb. for last year to same date.

Jokia (Assam) Tea Company.—The Secretary reports that the total amount of tea manufactured to the close of the season is 3,815,440lb, as against 3,691,159lb. last year, an increase of 124,281lb.

Jhanzie Tea Association.—The managing agents report that the total quantity of tea manufactured to the end of the season is 937,120lb as against 825,091lb. to the same date last year, an increase of 112,029lb.

Bargang Tea.—An ad interim dividend of 3 per cent. on the preference shares and 3 per cent. on the ordinary shares.

Moabund Tea and Borelli Tea.—These Companies have each declared an ad interim dividend of 2½ per cent. on the preference shares.

Makum (Assam) Tea.—Interim dividend of 2 per cent, being at the rate of 4 per cent. per annum, on account of season 1898, payable on 23rd inst.

The Oodoowerre Estates Company of Ceylon, Ltd.—At the extraordinary general meeting of shareholders of this Company held on Christmas Eve, it was resolved that the Company be wound up voluntarily, and Mr. C. E. Haslop was appointed Liquidator.

"COMPOSITION OF CINCHONA SOILS."

Mr. John Hughes writes to the *Ceylon Observer* under date.

SIR,—In the last *Overland Observer* bearing the date of November 4th, there is on page 1540 a short editorial note under the heading of "Cinchona Bark and Quinine to the Front" in which a renewed attempt at Cinchona cultivation is seriously advised especially in the Uva districts.

Bearing in mind the disappointment caused in the past, through the failure of Cinchona plantations to produce profitable results, it would be desirable and certainly wise to ascertain first, whether the land selected is likely to be suitable for the purpose intended. Also whether the average rainfall is sufficient in quantity and fairly equally distributed throughout the year.

In 1886, for his own information, the writer specially obtained through Mr. R. Thomson, a specimen of soil, from the Central Cordillera of the Columbian Andes, upon which Cinchona Lancifolia were growing and it may be useful to planters if the analysis, particulars of rainfall and situation were made public at the present time.

Mr. Thomson's notes are as follows:—

"The best varieties of Cinchona Lancifolia grow upon this soil, the elevation is 8,000 feet and the average rainfall is about 100 inches. One variety of Lancifolia gave 620 per cent. of quinine, while several other indigenous species of Cinchona in the same locality contained from 1 to 2½ per cent of quinine. The subsoil to a great depth is the same as sample sent, for the immediate surface soil specially rich in vegetable matter was excluded when taking the sample. This subsoil is sandy and porous so much so that after heavy rains the soil quickly becomes perfectly dry. The sample was taken from virgin forest and represents the quality of the soil throughout the entire Cordillera."

The most noticeable points in the analysis are the high figures for natural moisture 4·823 retained in the air-dried sample, and 18·687 combined water and organic matter; showing considerable retentive properties, which are probably due to the decayed vegetable matter present, and also to the apparently large amount of alumina suggestive of a somewhat stiff soil. Mr. Thomson, however, states that the soil is very porous and is not injuriously affected by heavy rain. It is fairly rich in phosphoric acid though the figures for potash are low. In nitrogen, however, this specimen is very rich, the figures being much above what is usually found in soils of average fertility, and as nitrogen is a very important constituent of the alkalords it appears essential that soils suitable for Cinchona should be rich in nitrogenous vegetable matter.

Let us now see how the composition of this soil compares with that of the Indian Cinchona soils, samples of which were kindly supplied the writer in 1882 by the Madras Government authorities:—

No. 1.—Neddivattam, formerly forest land, now planted with succirubras, which are growing very well, average annual rainfall during five years from 1887 to 1882 was 92·41 inches.

No. 2.—Neddivattam, formerly grass land now planted with succirubras and condamineas, the former growing very badly and the latter fairly well.

No. 3.—Dodabetta, rich surface soil, elevation 7,200 feet, average rainfall during five years from 1877 to 1882 was 51·70 inches growing Condamineas and doing well.

No. 4.—Dodabetta, poor gravelly soil elevation and rainfall same as No. 3 growing Condamineas.

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ANALYSIS OF CINCHONA SOIL.

From the Central Cordillera of the Columbian Andes in the District of Chaparral.

SENT BY MR. R. THOMSON, 1886,

Composition of the air-dried sample.

Water (lost at 212° F)	4·823
* Combined Water and Organic Matter	18·687
Oxides of Iron	5·752
Alumina	15 406
Lime	·253
Magnesia	·214
Potash	·086
Soda	·091
Phosphoric Acid	·105
Sulphuric Acid	·055
Carbonic Acid	·473
Chlorine	·118
Insoluble Siliccous Matters, Sand, &c.,	53·937
	100·000
* Containing Nitrogen	·364

REGISTER OF RAINFALL AT THE CINCHONA PLANTATIONS, CHAPARRAL.

REPUBLIC OF COLUMBIA.

	1883	1884	1885	1886
January		6·88	5·10	8·62
February		3·25	7·23	5·11
March		15·65	12·50	6·88
April		12·28	18·97	15·90
May		15·25	11·47	
June		9·17	6·89	
July		2·98	2·08	
August		2·30	4·68	
September		5·05	8·47	
October	10·53	12·25	20·67	
November	9·33	6·30	5·84	
December	4·85	5·73	13·32	
		97·09	117·22	

From the above returns, it will be seen that the rainfall is heavy and pretty evenly distributed throughout the year; though March, April, and May, appear to be the months of greatest rain. October, however, seems to be a damp month and in 1885 experienced the record downfall of 20·67 inches.

Evidently Cinchona thrives best in a comparatively damp hot climate with only occasional short intervals of really dry weather.

INDIAN CINCHONA, SOILS.

Composition of the air-dried Samples.

	Neddivattam.		Dodabetta.	
	1	2	3	4
Water (lost at 212° F)	4·560	3·704	3·650	1·580
* Combined Water and Organic Matter	18·580	18·420	16·950	8·080
Oxides of Iron	7·080	9·800	8·510	26·870
Alumina	16·340	10·380	6·968	7·390
Lime	·291	·100	·481	·078
Magnesia	·244	·280	·274	·077
Potash	·266	·115	·216	·031
Soda	·164	·096	·073	·040
Phosphoric Acid	·268	·108	·217	·211
Sulphuric Acid	trace	trace	·058	trace
Carbonic Acid	·140	·240	·220	·160
Nitric Acid	.009	·006	·007	·004
Chlorine	·002	·002	·004	·003
Insoluble Siliceous Matters, Sand, etc.	52·106	56·749	62·372	55·476
	100·000	100·000	100·000	100·000
* Containing Nitrogen	·485	·229	·496	·107

On comparing the analytical results with the remarks of the authorities, who forwarded the samples, it will be observed that the soils which yielded the best growth were those which contained the most natural moisture (retained in the air-dried condition) the most organic matter and the most nitrogen.

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OF

ESTATE REQUISITES AND MANURES.

N.B.—We are prepared to indent home for any and all kinds of estate requirements not kept in stock or enumerated in this List.

		Rs.	A.	P.
ESTATE TOOLS—				
Round Eye Felling Axes (steel), 4 lbs weight per doz.	...	20	4	0
Do. do. do. 2½ „ „ „	...	15	0	0
Pick Axes, 6½ lbs. (well steeled) ... .. „	...	16	8	0
Bill Hooks, (Barcutties) 12″ blade, bright steel „	...	18	0	0
Do. Kentish, with back, steel, 2½ lbs wt. „	..	16	0	0
Bushel Measures (Galvanized), Imperial Stnd. each	..	15	0	0
Watering Cans, (Galvanized) "Nonsuch," 2½ gals. each	...	4	8	0
Do do. do. 2 „	...	4	0	0
Steel Digging Forks. *Steel strapped all along handle.* 4 & 3 pronged per doz, Rs 39-0-0 &		33	0	0
Grass Knives, socket handle, steel ... per doz	...	12	12	0
Hammers, 6, 7 & 8 lbs. ... .. per lb	..	0	6	0
Handles, Digging Fork ... ... each	..	0	14	0
Lining Ropes, } abt. 600 feet „	..	17	0	0
Tarred Russian Hemp } „ 300 „ „	...	8	8	0
Mamooties, Steel 10″ x 8″ & 9″ x 7″ abt. 4 lbs. wt. per doz.		12	12	0
Do. Iron 10½ x 8½ & 9½ x 8 abt. 3¾ lbs. wt. „	..	7	8	0
Quintanies, Steel 15″ x 6,″ 5½ lbs. weight .. „	...	18	0	0
Do 9½″ x 5,″ 3¼ „ „ ... „	...	14	4	0
Manure Pans, (Galvd.) 8″ deep x 18″ top x 10″ bottom „	...	23	4	0
Pitting Bars (Alavangoes), well-steeled points,				
3″ spade end, 45″ long, 9 lbs. weight ... „	...	16	8	0
3″ do. 36″ do. 6½ lbs. do. ... „	...	12	12	0
Pruning Knives, English make, best steel, 4″ blade „	...	9	0	0
Do. Saws, do. do 14″ „	..	18	0	0
Seamless Bags (for coffee transport to coast) 42″ x 20″ „	...	9	12	0
Shovels, round nose, T handle ... .. „	...	12	12	0
Tea Transplanting Spades, steel, sharp edges each	...	2	8	0
Tea Transplanters —Made to Planters' Samples.				
TEA PACKING REQUISITES, Etc.—(*For Nails see opposite.*)				
Chests Full 24 x 19 x 19 (outside) ½ in. planks each	...	1	1	0
Half 16 x 16 x 16 („) do. „	...	0	13	0
Quarter 14 x 12 x 10 („) ⅜ do. „		0	9	3
Deld. Metapol., Palghat, Calicut. Any dimensions, proportionate prices.				
Lead—BEST INCORRODIBLE. 4½ oz. Per case of 2 cwts:—				
127 sheets 37″ x 22″ ... ... „		32	0	0
240 „ 25″ x 19″ or 93 sheets 65″ x 19″ „	...	32	0	0
586 „ 14″ x 14″ ... ... „	...	30	0	0
50 „ 84″ x 22″ for sides } „	...	30	0	0
100 „ 21″ x 16″ „ tops and bottoms }				
Hoops, Steel ½″ (abt. 3,000 feet to the cwt.) per cwt		15	0	0
Solder (Sticks) per case of 1 cwt. Rs. 50, or per lb.	..	0	8	0
Soldering Fluid ... ... per bottle	...	2	0	0
Do. Irons ... ... each	...	2	0	0
Stencil Ink black, in round tins ... „		1	0	0
Do. Brushes ... ... „	...	0	12	0
Tea tasting Pots and Cups ... per doz	...	10	8	0
Tea Sieves, brass No. 6, 8, 9, 10, 12 mesh each		6	0	0
Do. do. bottoms do. „	...	3	8	0

		Rs.	A.	P.
WINDOW GLASS—per case of 100 sq. ft. (all sound)	...	15	0	0
12 x 10 (120 panes). 16 x 14 (64), 18 x 14 (57),				
22 x 18 (36), 24 x 20 (30), 28 x 24 (21), 36 x 24 (17) and 36 x 30 (13).				
COFFEE PULPERS—*To order only. One month required for delivery.*				
Agents for:—MESSRS. WALKER SONS & CO., LD.				
COIR MATTING—Per rolls of 60 feet long x 3 feet wide:—				
* Machine-made Yarn:—Superior Rs. 15; Fine	...	12	8	0
* Ordinary Twill Bungalow	...	7	0	0
No. 1 Estate, Double (for coffee drying, etc.) ...	...	2	8	0
„ 2 „ „ (do.) ...	...	2	4	0
Shade (for nurseries, ferneries, &c.) ...	...	2	0	0
* *Coloured stripes to order. Samples on application.*				
ASPHALTE—				
In barrels of 6½ to 8½ cwts. gross (tare 56lbs.) per cwt. net.		4	0	0
PORTLAND CEMENT—John Bazely White and Bros.				
"Whites" Best ℔ barrel of abt. 375 lbs. net	...	11	12	0
Sole Agents for S. Canara, Coorg, Malabar, Coimbatore, Travancore.				
COAL TAR—				
Best ℔ barrel of abt. 4 cwts. gross (net about 3¼ cwts.)	...	20	0	0
GALVANIZED IRON—				
Continuous Iron. For roofing, etc.				
In rolls of 100 ft. x 2 ft. 28 G. (per ft., 7 as.) per roll	...	35	0	0
Nails 1 in. flat headed for fixing the above per 1,000 Nails.	..	1	5	0
Corrugated Iron (English), 24 G. 2 ft. wide ... per cwt.	...	11	0	0

Lengths in feet	5	6	7	8	9	10	
Sheets to the cwt. (abt.)	8·25	6·95	5·85	5·10	4·55	4·10	
Selected sheets Rs.	1/9	1 12	2/1	2/6	2/10	2/15	each.

Iron Ridging, 6 ft. x 6 inch lap ...	...per length..	1	8 0
Bolts and Nuts, ¼″ x ⅜″ ...	.. per gross...	1	14 0
Rivets ... ... „	...	0	12 0
Washers, Iron ... ... „	...	0	10 0
Do. Lead ... ... „	...	1	2 0
Screws, 2½ in. ... ... „	...	2	4 0
Lead headed nails, 2½ in. .... „	...	2	12 0

NAILS—Wire, French.

℔ 1 cwt. keg	1″	1½″	2″	2½″	3″	4″
	Rs. 13/12	11 8	11/	10 8	10/	9/8
℔ pound	annas 2¾	2½	2¼	2¼	2	1¾
Nails ℔ lb. (abt.)	600	250	150	100	50	30

Triangular Barbed Wire Nails

℔ 1 cwt. keg	1″	1½″	2″	3″	4″
	Rs. 11 4	9/8	8/12	8/0	7/8

LUBRICATING OIL FOR OIL ENGINES:—

A blend of the finest and best oils				
In drums of 5 Imperial gallons	...per drum...	15	0	0
PERMANGANATE OF POTASH ...	per lb. ...	1	6	0
Used by the Medical Authorities for purifying wells, drinking water, etc.				

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F.r.m.

It will also be noticed that the best soils namely, No. 1, from Neddivattam plantations and No. 3 from Dodabetta plantations, are both of them much richer in lime, potash and phosphoric acid, the important mineral constituents. In other words, the analyses are a reliable guide in estimating the probable future crop results.

It is important as well as interesting to notice that the alumina varies very considerably, being highest in No. 1 and least in No. 4. The figures for oxide of iron on the contrary being highest in the poorest soil No. 4, of which in fact it forms just one-fourth or 26·870 per cent. and consequently is unusually ferruginous in character.

There are undoubtedly many Ceylon soils that are equally rich in nitrogen, but the average plantation soil does not contain as much as these Indian soils do. While as regards potash and phosphoric acid, which are most important mineral constituents, there is also a corresponding deficiency, the amount of lime being about the same.

The success which has attended the Indian Government Cinchona Plantations, is generally recognised; therefore it is fair to assume that the analytical results have been fully borne out in the respective yield of valuable alkaloids.

In making therefore any future experiments in Ceylon it would obviously be desirable to proceed with caution and to select a favourable situation in a locality having a rainfall of 90 to 110 inches per annum and a soil rich in nitrogenous organic matter and capable of retaining moisture during periods of occasional drought.

Usually it will be found that richness in nitrogen is also associated with richness in the important mineral constituents, except of course in the case of peaty soils, which though rich in nitrogen and vegetable matter, are sadly deficient in potash, lime and phosphoric acid.

CACAO DISEASE.

The following is an additional report on Cacao Disease by Mr. J. B Carruthers:—

After writing my report in September last, I had brought to my notice the fact that in some cases the bark of the tree behind the diseased pods was cankered, and this led me to carefully examine a number of diseased pods, and I came to the conclusion that there was an undoubted connection between the canker in the bark and the diseased pods. I, therefore, agreed to remain in the island during the recent wet season, *i.e.*, the North-East monsoon, and carry on my observations and experiments; and my doing so, I venture to think, has been of value—first, because I am able to add to, and to a certain extent correct, my former reports; and, second, because I have been able to watch the effects of the different methods of treatment, during the season when the canker is most active.

I propose to describe my investigations into the pod disease and what has been learnt from them and what it teaches us with regard to the treatment of cacao. and then to give the results of observations on the curative means—and how they have succeeded in combating and curing the canker.

In explanation, I must refer to the statements in my previous reports that the disease in the pods was due to an entirely different fungus to that in the bark, and that the pod fungus which belonged to the group of the Peronospeæ could not grow in the bark.

When I first began these investigations in Ceylon, I examined diseased pods and found them to be permeated by quantities of mycelium which was different in character to the mycelium in the bark, and which bore masses of sporangia, *i.e.*, egg-shaped bodies containing the spores or seeds of a fungus totally different in structure from what I afterwards found to be the fruits of the canker fungus. These sporangia, on being applied to healthy pods, induced in them the characteristic disease of the pods. The immense masses of the sporangia prevented me from seeing what I have now found, even in my preparations made when I first began my work, that among them are to be found the much smaller and inconspicuous gonidia spores of the canker fungus. It is only recently that I have been able to see and examine pod disease again; as, during the larger portion of my stay, there has been very little crop on the trees and consequently no diseased pods.

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PACKING AND SHIPPING £3-10.

THIS machine has been in use for some years past on private estates in Assam, and the excellence of the tea manufactured thereby is proved by the good prices obtained, and the reports characterise the teas as being "good *tippy* teas, with strong pungent liquor, and well-twisted leaf."

The roller adapts itself to any class of leaf, and can be used, if desired, as an open top machine, or pressure can be applied as lightly or heavily as necessity may arise by means of a simple mechanical arrangement. The twist in the leaf is obtained to a degree of nicety without balling, no breakage occurs, and is kept cool throughout. The tips are not blackened by the oxidation of the juice from the leaf.

The low price of the machine will allow planters to obtain an excellent leaf roller at a very moderate figure, and thus be enabled to supplement their rolling plant, which in so many cases is insufficient.

The machine is very easily driven, absorbing about 1½ h.p. only when fully charged. The mechanism is exceedingly simple, and nothing can get out of order. All parts are made of the best material, and good workmanship guaranteed. It will take 300 lbs. of withered leaf at a time, and is easily and rapidly filled and emptied.

TILESTONITE.

A new covering for corrugated iron roofs and walls.

Invaluable as a Heat-, Fire-, and Water-proof covering for Withering-Houses, Fermenting Rooms, Offices, &c.

Makes a clean, fireproof floor for an upper sorting or withering department.

Further Particulars on application to the India Trading Co., Ld., Madras.

In order to prove the action of the canker fungus on the pods, I carried on the following experiments :—

A.—Pieces of cankered bark were placed in selected healthy pods on sound trees. Five pods were so treated. In all cases the pods became diseased after about eight days, and in less than fourteen days spores of both fungi were produced in abundance.

B.—Pieces of diseased pods were placed in the bark of sound trees. Eight of these experiments were made. In all cases canker was produced in the bark, after about ten days, and the spores of the canker fungus, but not of the Peronospora were found after about seventeen days.

C.—Pieces of cankered bark were placed in the bark of sound trees, just above the stalks of healthy pods. Seven of these experiments were made. In all cases the pods became diseased, and on them were produced the spores of both fungi, in about eight days, and on their stalks the spores of the canker fungus only.

D.—Pieces of diseased pods were placed in healthy pods on sound trees, and the disease having been produced, the effect on the adjoining bark was observed. Six of these experiments were made. In three of these experiments, the canker was produced in the bark of the tree adjacent to the stalk, and in the other three cases, the stalk of the pod was cankered, but not the adjacent bark,—in one of them the canker went into the wood of the tree through the stalk, but without affecting the bark surrounding the stalk.

These experiments show conclusively:—1st: That the canker fungus can spread from the bark to the pods. 2nd: That the canker fungus can spread from the pod to the bark, and 3rd: That the disease before described affecting the pods does not grow in the bark, and is confined to the pod tissues, not running into the stalk of the pods.

They also show that the canker fungus grows much more rapidly in the pod than in the bark, and produces its spores much sooner on the former than on the latter. On the bark it takes weeks and often months for the spores to form; on the pods it is a matter of days. The prompt appearance of the Peronospora fungus after the canker has infected the pods, is shown by experiment *C*, but the exact share which these two fungi take in the destruction of the pod tissues should be made the subject of further experiment and observation during the next wet season.

I may here mention that one or two careful observers stated to me, when I was first investigating the origin and nature of the disease, that the canker on their estates first appeared on the trees surrounding the holes where the pod husks were buried, but this I found not to be always the case; and, having no further data to support it, in my knowledge of the life history of the fungi, I imagined it to be a coincidence. This fresh knowledge of the canker fungus points to the fact that the spores from the diseased pods had in these cases infected the trees near which they had been deposited.

That the diseased pods should not be buried in the holes with the healthy ones has been insisted on in the previous reports, and this shows clearly the danger of such a proceeding.

On examining some hundreds of diseased pods, the fungi are in practically every case found associated. The explanation of this seems to be that the Peronospora fungus (which belongs to a group most of which are parasitic, *i.e.*, growing on living tissue, but which also has some members which are suprophytic. *i.e.*, growing on dead tissue) at once succeeds the canker fungus and lives on the tissue killed by it. This I have endeavoured to prove, but have not, up to the present, been able to do, owing to the difficulty in isolating the Peronospora spores so as to get a pure culture of them for the purposes of inoculation; and so I have not been able to observe the action of the Peronospora spores *alone* on a healthy pod. The action of the canker spores alone I have been able to observe on a healthy pod, but, in the space of about two hours, it was joined by the Peronospora fungus and spores of this latter produced.

The characteristic brown patch which is very moist to the touch when cut, caused by the presence of these fungi on the pod, is more frequently found at the ends than on the middle parts of the pods. This is due to two or three causes.

In the first place the central tissue of the pod is frequently the means of conveying the mycelium of the fungus from one end to the other, and this is always the case when the stalk is affected. On cutting open a pod diseased at both ends, or the stalk and point diseased longitudinally, the central tissue bearing the seeds will be seen to be discolored owing to the presence of the mycelium of the fungus. There is also a greater tendency for the spores to germinate at the stalk end or the point than on other parts—at the stalk end there is a naturally-formed cup round the stalk, which retains moisture longer than the sides of the pod, and at the tip a drop is often formed, which remains for a sufficiently long time to enable a spore to germinate and push its germ tube into the tissue of the pod.

In observing the general effect of the pod disease all over an estate, one finds that the diseased pods are gregarious on individual trees, so that on one tree ten or twelve diseased pods are seen, and none on the neighbouring trees; while on a tree at some little distance again there are a number of diseased pods. This is more marked where the trees are grown at a reasonable distance apart. This is mainly due to the rapid spread of the disease from pod to pod, the spores being produced in a few hours, and conveyed to the nearest pods which they, in their turn, affect and produce more spores.

The spreading of the spores over an estate is a most interesting, and the most important, question in relation to the canker, and has received a great deal of thought and attention from me, as it is by means of the spores that all the increase of the disease comes about. Though I have seen cases of infection from pod to stem and *vice versâ*, by actual contact, these cases are so rare that we can neglect them and consider that the spores are responsible for all the extension of the disease.

The methods of infection of different trees are very various; but we can distinctly point to three or four chief means of attack which have been constantly observed. In the first place, the wind has no doubt the largest share in spreading the spores, especially over large distances, and it is the wind which enables the disease to spread from estate to estate. Instances of this may be mentioned. In one case an estate was chiefly and first attacked at the point nearest to a native garden which had been entirely killed out by canker, and the trees allowed to remain after they were dead; a prevalent wind blowing from this direction. Cases similar to this are numerous. On the other hand, the disease is often absent from sheltered hollows, even though there were present all the conditions which favour it, because the winds pass right over, and not through the cacao.

The next and nearly as important an agent is water—both rain and river. Rain washing down the trees and dripping off the pods on to other pods or parts of branches and stems, carries with it the spores from infected places, and leaving them, causes fresh spots. I have seen a tree covered with a mass of small fresh diseased places all independent of each other, below an old patch of canker, which was covered with spores. There have been many and clear proofs of rivers spreading the disease—in some cases, I fear, by the dead timber being thrown into the stream and conveying its deadly cargo to other places lower down: and also a number of instances of cases of flood washing the spores over a flat area of cacao and infecting the trees. A very clear case of this was found in one young clearing, where practically every tree was cankered just above the surface of the ground, where a few inches of water had stood for a short time during a flood.

But, in addition to both wind and water, ants and other small animals are the means of spreading the disease to an extent that I think is hardly recognised. Any one who has watched the ceaseless activity of ants in running over stem, branch, and pods of cacao tree, cannot fail to see how they must be the means of carrying from one place to another the spores when they pass over them. I have examined the legs and bodies of some ants which had been travelling over a tree having spores on its bark, but without discovering these spores on them. But, considering the extremely small size of the spores, this does not materially weaken the contention, and, indeed, I should have been surprised if in any of the few cases I examined I should have discovered any spores. The fact that the ants frequent the pods, where they feed on the secretion from the backs of the white coccidæ that live on the juices of the pod alone, makes it probable that in the case of the pods the ants are responsible for a good deal of damage in carrying infection.

How much part the pods take in spreading the canker in comparison to the stem and branches, it is very hard to determine, but the rapidity with which the fungus grows in the pods, produces its spores, and spreads to other pods and to the bark, leads to the supposition that in many cases the majority of the damage is due to the disease in the pods. It is unfortunate that in most estates

the time when the largest number of pods are on the trees is the wet season, which is most favourable to the fungus, and a suggestion may be offered in this connection:—It is well known to cacao planters that the amount of fruit produced by each tree at the different crop times varies; that one tree produces a bigger spring crop and not so big an autumn one as another—this is an individual characteristic which is in many cases quite pronounced. If such characteristics are carefully selected in propagating (as has been done to produce the early and late varieties of cereals and many other cultivated plants) a plantation may be formed which will, in normal seasons, habitually produce its largest field of fruit in the spring when the dangers of attacks of fungi are much less and when the planter has the advantages of sun in ripening his pods and curing his seeds. By continually using seed which has been produced in the spring, no doubt this would be gradually done; but it would be more effectually and quickly brought about if the planter would observe for a year or two those individual trees which bear their fruit more in the spring, and by using the seed from them, get in time a spring crop variety. The attention of planters might also with reason be drawn to the practice of grafting which Mr. Hart, of Trinidad, has shown to be practicable in cacao, and which would, without doubt, lead to most interesting results.

With regard to the curative experiments, the interest of my stay over the wet season has been to me very great, for I have been able to visit some ten estates in different districts, in all of which curative treatment has been carried on, and in all cases the treatment has been to a great extent successful. It must be remembered that in the previous reports, the treatment by shaving was not recommended as the best but as a second method, when trees were so badly diseased that the more drastic method of entirely cutting out the diseased tissue was likely to kill the tree. The conditions necessary for the success of the shaving are a dry atmosphere, or still better direct sunlight. In estates where, because of shade, the atmosphere is seldom dry, except during a long drought, the shaving treatment does not succeed so well. By "shade" is not meant merely the shade produced by other trees put in for that purpose, but the shade produced by the cacao trees themselves. If the trees are so close that the branches overlap each other, then the ground is shaded just as if heavy shade trees were present. Where the canker is prevalent, the danger of such proximity in spreading and favouring the disease is very marked, and in more than one case where the air has been let in by judicious pruning as well as by cutting down shade trees, the good effects have been most marked.

But in all cases where the effects of the shaving have not been marred and even nullified by excessive shade, the trees, as a rule, were cured. I have examined more than 300 trees, the diseased parts of which had been carefully shaved as recommended, and in only 36 of these was there any sign of the disease. In the case of some estates which had been visited by a most unusually prolonged dry period, the trees had, in nearly every case, been cured, but in these places a proportion of the trees which were badly diseased, and require to be shaved over a large surface, had succumbed to the effects of the drought and the shaving combined; but, in these cases it cannot be said how long the trees would have survived had they been left; and it is probable that the disease would have itself killed them in a not very much longer time, while, by shaving off the diseased bark and destroying it, a vast amount of danger to the remaining trees was removed.

However, the rule laid down in the last report still holds good; in my opinion, where possible, the whole of the diseased tissue and a wide margin should be entirely excised and destroyed, but in the cases of badly diseased trees the shaving may be tried; and it must always be remembered that having shaved them they are not yet safe, and must be, after a short period, examined to see if the treatment has been satisfactory; and if any active canker still remains, it must be cut out.

The experience which we have gained during the wet season shows us that it is possible, even in cases of estates seriously diseased, to combat the disease; but, it also shows very clearly how much more easily the disease is kept in hand when it is looked after in its initial stages; and it is, therefore, of great importance that all growers of cacao who have no canker, should be the victims of a wholesome dread of the disease, and by constant watchfulness discover the first signs of any canker, and destroy all affected parts, whether occurring in stem, branch or pod.

The statement in the second report that Forastero was much less attacked by the canker than the Criollo, there is reason to think should be to a certain extent modified—though all the data still point to the Forastero being less attacked; yet the existence of fairly large areas of Frastero badly affected show that given the conditions necessary, the disease can. in both bark and pod, produce great, and if not checked, fatal damage to an estate which is entirely Forastero.

The cutting out or shaving of trees is an operation that calls for great care, but a very little instruction enables the cooly to understand and practise it. I have seen it carried out perfectly by large bands of coolies on several estates. However, planters will find that a great deal of supervision is necessary to avoid scamped work, which is in many ways more dangerous than not doing the work at all, as it induces a false feeling of security. The application of lime and other washes, while beneficial as a preventive, makes the detection of the cankered parts more difficult, in fact, the disease goes on growing under the applications until it is noticed by the bleeding, and this means that it must have been active in the tree for some time.

The necessity for a continual inspection of cacao trees is rendered more imperative by the fact that in a considerable proportion of the cases of canker examined, the mycelium of the fungus has penetrated to the wood and runs along the wood and breaks out at another place in the bark; but if the parts of affected bark are all removed in most cases this mycelium in the wood is starved out. Still, this habit of running under the bark in the wood is insidious and calls for special observation even when a tree appears to have been properly treated. Special coolies who show themselves clever at their work, constantly examining the trees of an estate, will be certain to repay a hundred-fold their daily wage.

In conclusion, it appears from a further period of observation, that if the methods before laid down for battling with the disease are carefully carried out, this enemy to cacao cultivation may be gradually exterminated, and it behoves all cultivators, however small the area of their plantation, to do their best to fight the disease and to see that they are not the means of spreading the spores of the fungus to the detriment of their neighbours', and the destruction of their own, trees.

MARKET REPORT.

COFFEE.

The *London Commercial Record* of 16th ult. says:—The demand has been slow, as is usual with the near approach of the Xmas holidays, and the market closes with a decidedly flat tone for all kinds, except a few colory lots of new crop Costa Rica, which sold with good competition at full prices Ceylon Plantation realised steady rates. A parcel of Peruvian of good quality sold at firm prices. A generally better feeling has prevailed for "futures," and although at the close there is a little less demand, quotations all round show an improvement for the week, *viz.*:—

London	Santos	March delivery	...	31s 9d.
New York	No. 7 Rio	,,	,,	.. 5·95 cents
Hamburg	Santos	,,	,,	... 32½ pf.
Havre	Santos	,,	,,	... 39 francs
Holland	Good ordinary Java			... 32½ cents.

Imports Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1898.	1897.	1898.	1897.
West India ....tons	415	276	1737	869
Ceylon	73	126	326	589
East India	1059	1194	5664	5331
Mocha	469	455	884	731
Brazil	3856	2933	4133	3756
Other Foreign	9486	4849	30518	24072
Total tons...	15358	9833	43262	35348

	Home Consumption.		Export.	
	1898.	1897.	1898.	1897.
West India.....tons	324	323	1335	620
Ceylon	139	194	220	393
East India	2412	2319	3297	2630
Mocha	730	561	180	238
Brazil	1019	1427	2233	2629
Other Foreign	8844	8826	16859	13496
Total tons...	13468	13650	24124	20006

The preceding figures exhibit—

In the Imports an increase this year of 7914 tons
Home Consumption a decrease of 182 ,,
Export an increase of ..... 4118 ,,
Stock an increase of ..... 5525 ,,

Auctions this week have passed off as under :—

CEYLON.—*Plantation.*—2 casks 3 tierces 7 barrels 1 bag sold, middling 103s, good middling 108s, bold 110s.

JAVA.—37 bags bought in : also 108 bags *Jilore*.

MOCHA.—131 packages withdrawn.

JAMAICA.—20 barrels 46 bags half sold, good ordinary pale 32s; London-cleaned, smalls 34s 6d to 35s 6d, peaberry 51s 6d.

COSTA RICA.—508 bags half sold : new crop smalls 43s, low middling dull greenish 58s ; London-cleaned, smalls 28s to 37s 6d, medium colory 71s to 76s, bold 90s to 92s, peaberry 81s 6d to 87s

COLOMBIAN.—3,037 bags catalogued, and 1,900 bags sold :—small to good ordinary pale Antioquia 29s to 35s, fine ordinary 40s, good ordinary pale Cucuta 34s to 35s, ordinary to good ordinary pale 30s to 38s 6d, fine to fine fine ordinary greenish and gray 40s to 50s, 6d, low middling gray 53s to 57s 6d, peaberry 60s 6d ; London-cleaned, smalls 22s 6d to 40s, dull soft greenish mixed red 46s to 51s, low middling soft greenish 55s to 59s, middling 60s to 65s 6d, good middling 66s 6d to 71s, good colory and bold 72s to 81s, peaberry 55s to 80s.

PERUVIAN.—234 bags London-cleaned sold, smalls 34s to 35s, fine ordinary 42s, mixed dull greenish 45s 6d, middling 57s 6d, good middling colory 67s, peaberry 55s to 65s.

VENEZUELAN.—113 bags withdrawn.

CLOSING REPORT.—Auctions to-day comprised 946 bags Nyassaland, 28 half-bales Mocha, 141 packages Jamaica, 15 bags Peruvian, 270 bags New Granada, 94 bags Coban, 1,190 bags Vera Paz, 56 bags Costa Rica, 974 bags Guatemala, 638 bags Columbian, 162 bags Mexican, 68 bags Porto Rico, 289 bags Ecuador, 17 bags Guayaquil, and 173 bags Salvador. The sales went off at full prices for good and fine qualities, but inferior lots were neglected.

Messrs. Wm. Jas. & Hy. Thompson's Report of the Colonial Markets for the week ending December 7th, 1898, states :—

This market continues in the same quiet state reported during the past few weeks, and although the supplies have been smaller, prices show no improvement.

According to Messrs G. Duuring & Zoon, the stocks at the European ports on the 1st inst. shewed an increase of 13,000 tons, and the total visible supply a decrease of 8,680 tons, being estimated respectively at 222,450 tons and 410,290 tons, against 209,450 tons and 418,970 tons on the 1st November.

Daily receipts averaged 5,400 bags in Rio, and 14,200 bags in Santos.

Futures have been dull and lower, closing prices shewing a decline of 6d per cwt., viz. :—Good average Santos in Havre, March delivery, fcs. 38.25, in Hamburg pf. 31¾, and No. 7 low ordinary Rio in New York $5.65

TEA.

The *Record* of 16th ult. says—CHINA—A small trade is passing quietly with practically no change in prices. During the week 5,938 packages have been offered at public auction but only a small proportion sold.

INDIAN.—Public auctions were smaller amounting to 34,800 packages, against 46,400 packages in the preceding week, and 49,700 packages at this period of 1897.

The above reduction in supplies somewhat steadied the market, and there was a better demand generaly at the comparatively low rates now current. Pekoe Souchongs and Pekoes with fair cup ruled firmly, while strong liquoring Pekoe Fannings up to 8d per lb., and Broken Pekoes of a similar character, from that figure to 11d per lb. received more attention, and were often dearer. Fine and finest Orange Pekoes and Broken Orange Pekoes, particularly when possessing a touch of cold weather flavour met with spirited competition, and fetched on the whole higher prices.

For 30,800 packages on estate account 8⅜d per lb. was obtained, contrasted with 8¼d per lb. for 39,800 packages, and 32,200 packages in the last two seasons.

CEYLON.—Sales were rather heavier, embracing 19,700 packages, opposed to 14,000 packages on the 6th inst., and 21,500 packages a year ago.

Useful leafy kinds were in request and sold without much alteration though occasionally, when quality was not so good, they went against sellers. Broken Pekoes drawing coloury infusions were wanted and evinced a hardening tendency, whilst many of the upper lines also recovered a little in value.

The average is 8⅛d per lb. On the 8th inst. it was 8¼d per lb., and 8⅛d per lb. at this time in 1897.

JAVA.—Only 233 packages of direct import were offered, of which 173 were from the Djati Nangor Estate, commanded brisk bidding and brought 9d per lb. No further catalogues have at present been issued.

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns were :—

From 1st to 13th Dec., 1898..... 8,521,883 lbs.
,, ,, 1897..... 7,764,992 ,,

During the week the following have been printed for sale by public auction :—

	Sold. Pkgs.	Withdrawn. Pkgs.	Total offered. Pkgs.
India	30,833	3,998	34,831
Ceylon	18,767	944	19,711
Java	233	—	233
Total	49,833	3,942	54,775

Also 793 packages from second hands.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report dated December 16th, 1898, says :—

QUANTITY BROUGHT TO AUCTION IN LONDON

FROM 1ST JUNE TO DATE.

	Indian.	Ceylon.	Java.
1898-1899.	913,353 pkgs.	643,101 pkgs.	25,269 pkgs.
1897-1898.	901,785 ,,	668,263 ,,	25,023 ,,

35,064 pkgs. Indian
20,718 ,, Ceylon
233 ,, Java
} Total 56,015 packages were offered in public auction this week.

Movements of Tea in the United Kingdom for the first six months of the present season, as shown by the Custom House figures, are given below. A considerable increase has taken place in the duty payments upon Indian Tea, but in comparing the total duty payments with the previous year it must not be forgotten that an exceptional payment on about 3 million lbs. of Tea was made at the end of September 1897 ; these figures therefore do not show the increase which is actually taking place in the Home Consumption. Re-exports of Indian and Ceylon Tea are encouraging.

INDIAN. The sale was comparatively small, only 35,064 packages being brought forward against 46,769 packages last week. The inclination was to a rather steadier market with a slightly improved demand, rates current last week being well maintained throughout the auctions. Invoices now arriving are beginning to show some autumnal flavour.

Week's average of Tea sold on Garden Account 1898, 30, 797 pkgs., av. 8·25d. 1897, 40,496 pkgs., av. 8·51d.

	Week Sales. 1898.		Week Sales. 1897.		1st June to date. 1898.		1st June to date. 1897.	
	PKGS.	PRICE.	PKGS.	PRICE.	PKGS.	PRICE.	PKGS.	PRICE.
Assam ...	1789	5 9·08	2026	3 9¼	339043	9·78	317312	10·26
C'ch'r & Sylht.	748	3 6·63	955	9 7¼	139639	6 17	166050	7·06
Chittagong ...	—	—	288	7½	1714	6·67	4367	7·16
Dhot'N'gpor' ...	—	—	—	—	822	5·11	804	4·84
Darjeeling ...	1548	9·52	2348	10½	56813	10·67	48109	11·24
Dooars ...	3120	7·14	4814	7⅞	82298	7·18	75562	7·68
Kangra, etc. ...	—	—	—	—	5403	6·67	4935	7·41
Neilgherry ...	110	7	453	8¼	3373	6·58	4477	7·02
Terai ...	417	6·50	1070	7¼	10293	6·42	16604	7·26
Travancore ...	224	6·13	1701	6½	24312	6·15	19340	6 41

Total Tea sold on Garden Account 1st June to date 1898, 664,250 pkgs., av. 8·46d. 1897, 657,796 pkgs., av. 8·96d.

Ceylon. 20,718 packages were brought forward against 15,693 packages last week. The Teas met with a good demand and were mostly sold without change in quotations, Teas for price continuing in strong demand. Average for the week 7·99d., against 8·27d. same period 1897.

Java. The small Auction included 173 pks. of fine flavoured Tea from Djattie Nangor which with good competition realised an average of 9d. per lb.

Movements of Tea in United Kingdom from 1st June to 30th Nov., as shown by Custom House Returns

	Imports.			Home Consumption.			Exports.		
	1898.	1897.	1896.	1898.	1897.	1896.	1898.	1897.	1896.
Indian ...	87,223,645	83,990,276	83,380,561	65,027,039	60,881,400	59,037,906	4,012,626	2,421,219	2,148,517
Ceylon	49,601,019	47,299,423	48,979,548	42,234,501	46,231,644	44,220,752	6,195,320	5,237,792	4,251,695
China ...	20,110,457	23,261,371	27,162,844	7,434,881	8,332,634	10,301,846	7,799,283	10,284,853	10,330,978
Other Countries ..	3,502,412	3,127,181	3,067,277	2,570,433	2,434,050	2,855,872	595,516	564,633	513,865
Total lbs. ..	160,437,533	157,678,251	162,590,230	117,266,854	117,879,728	116,416,376	18,602,745	18,508,497	17,242,055

Analysis of above export of Tea from U. K. during last two years (not including transhipments).

	Indian.		Ceylon.		China.		Other Countries.	
	1898.	1897.	1898.	1897.	1898.	1897.	1898.	1897.
Countries in Europe ...	2,378,754	1,305,853	3,826,079	3,270,615	4,561,172	6,994,427	383,375	407,332
United States ...	226,441	291,397	437,661	656,305	219,582	724,123	42,998	24,529
British N. America ...	730,591	288,941	1,111,702	604,020	547,657	485,495	33,880	6,679
Other Countries ...	676,840	535,028	819,878	697,852	2,470,872	2,080,808	135,263	126,093
Total lbs. .	4,012,626	2,421,219	6,195,320	5,238,792	7,799,283	10,284,853	595,516	564,633

SULPHATE OF QUININE.

SULPHATE OF QUININE is firm—at 10½d per oz. B&S or HB, closing buyers. Very little business done.

OFFICIAL QUOTTIONS.

Sulphate of Quinine—	*in tins.*	*in 1 oz, vials.*
Howards & Sons ...	... 1s 0d to 0s 0d	1s 2d @ 0s 0d.
Thomas Whiffen ...	... 0s 11d „ 0s 0d	1s 1d „ 0s 0d.
Brunswick ...	.. 0s 10½d „ 0s 0d	
Mannheim	... 0s 10½d „ 0s 0d	
Auerbach	... 0s 10½d „ 0s 0d	

Sulphate of Quinine—	*in tins*	*in 1 oz, vials.*
Zimmer Jobst... ...	... 0s 10½d „ 0s 0d	
Milan	... 0s 0d „ 0s 0d	0d 0d „ 0s 0d.
Taillandier	... 0s 10½d „ 0s 0d	
Amsterdam	... 0s 10½d „ 0s 0d	
Pelletier's	... 0s 0d „ 0s 0d	1s 5d „ 0s 0d

HIGH CLASS TAILORING.

We have now secured the services of Mr. W. J. Marden, whose experience as a cutter and Practical Tailor extends to a period of over 20 years in some of the leading houses in England and India, and whom we can, therefore, confidently recommend as a veteran expert cutter. Having placed our Tailoring Department under his control, we guarantee perfect Fit and Style. This assurance, coupled with our proverbially Cheap rates, will, we trust, induce you to give us a trial order, which we respectfully solicit.

FREE CHRISTMAS GIFTS.

We are giving away 4 Bicycles and 200 useful Prizes. Numbered Ticket is given for the purchase of every 2 Rs. worth of goods. Drawers of the lucky numbers will receive the prizes free.

ROYAL EMPORIUM,
BANGALORE.

[w. 3-9-98—t.f.o.]

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w. 1-10-98—t.f.o.]

COCOA.

The *London Commercial Record* reports:—Auctions were held on Tuesday last but were little better than a farce. 1,634 bags catalogued, of which 280 bags African sold at 67s to 68s for good and 66s to 66s 6d for good fair, being some decline. Private transactions have been somewhat extensive during the week, including 236 bags ordinary Native Ceylon ex the auctions at 68s, also 200 bags Trinidad at 74s to 76s for good red, 1,200 bags Grenada at 68s to 72s for fair to good, 100 bags Dominica at 65s, 500 bags Bahia at 67s, 800 bags African at 65s to 68s, and 700 bags Guayaquil—grey Caraquez at 71s to 72s, Balao at 72s, and good Arriba at 80s to 84s per cwt.

PEPPER.

Black.—The market assumed a firmer appearance early in the week, and values advanced somewhat, but at the close the tone is dull. On the spot sales of fair Singapore have been made at 4¾d, dusty Penang at 3¾d, and good Alleppy at 4½d. For arrival about 200 tons Singapore have changed hands, viz., January-March shipment (s.) at 4⅞d to 5d (closing at 4⅞½d), and February-April at 5d. The small shipments (received late last night) will no doubt lead to a firmer market.

At auction on Wednesday only odd lots were offered and sold "without reserve" as follows:—4 bags fair Singapore at 4½d, 10 bags brownish and grey Alleppy, and 20 bags brownish but stalky Tellicherry at same price, and 15 bags Penang light dusty at 3¾d per lb.

CLOSING REPORT.—*Pepper.*—Black quiet. 300 bags Singapore sold at 4¾d for fair. February-April shipment quoted at 5d.

GINGER.

Cochin.—There is no change in the position, prices remaining firm but demand quiet. Catalogues embraced 179 cases 375 bags 40 bales, of which 59 cases 200 bags 40 bales sold—bold and medium cut and scraped 83s, medium ditto 58s 6d to 59s 6d, dull small roughly cut and scraped 35s, ditto mouldy 31s to 31s 6d, good bright clean small washed rough 23s to 23s 6d, fair washed 22s, medium brown Calicut rough rather wormy 21s dull cuttings wormy 13s per cwt.

Green.—4 barrels St. Vincent sold at 26s per cwt.

CINCHONA BARK.

The Monthly Auctions on the 13th ult. offered 1,953 bales, which met a very good demand and, with the exception of a few piles which were rather highly limited, the whole sold at full prices to here and there some advance, although we cannot quote the unit higher than 1d.

381 bales 10 cases *South American* offered and all sold—stout split Red quill 1s 11d, cultivated Calisaya Yellow quill 4½d to 7d per lb.

135 bales *Ceylon Cinchona* sold as follows:—Succirubra chips and shavings 2½d to 2⅝d, ditto renewed 2¾d to 3⅜d per lb.

853 bales *East India Cinchona* catalogued and 640 bales sold—Officinalis chips and shavings 2¼d to 4½d, ditto renewed 3d to 6⅜d, quill 4d per lb.

Of 352 bags *Java Cinchona* offered 220 bags sold—Ledgeriana, chips 2¾d to 4d, branch 2½d to 3⅞d; Hybrid, root 5d to 5½d per lb.

218 bales *African Cinchona.*—Succirubra quill 4⅛d to 4½d per lb.

PUBLIC SALES FOR SOUTH INDIAN TEA.

(AVERAGE FOR ALL INDIA 7·78d.) *December 9th.*

GARDEN.	Total.		Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust, and Various.	
	Quantity		Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.
Neilgherry ...	314	p	6·31												
New Hope ...	216	p	6	...	...	67	6	38½c	†7¾	86	5½	...	...	25	6½
Pykara Falls ...	98	p	7	...	...	25	6¼	39½c	8½	13	5½	...	...	21	7½
South Wynad ...	256	p	7·12												
Chulika ...	55	p	8¼	19½c	11¾	17½c	8¾	...	...	19	6½	...	...	...	...
Erramaculla ...	108	p	7½	...	...	23½c	8	30½c	11	17	7	27	5¾	11⅛c	6½
Perindotty ...	93	p	6	15½c	†8¼	36	5¾	15½c	7¼	27	5½	...	...	...	...
Travancore ...	2374	p	6·22												
Ashley ...	60		5½	...	...	35	5¼	25	6	...	...	...	...	...	...
BA ...	17		5¼	...	...	...	...	...	...	...	...	17	5¼	...	...
Balamore ...	70½c		6	...	...	47½c	5¼ 5¾	19½c	7½	...	...	3½c	5	1½c	3½
BM ...	8		4¼	...	...	...	...	...	...	...	...	8	4 4½	..	...
Bon Accord ...	115	p	6¾	...	...	41	6½	42	7½	18	5¾	...	...	14 p	4¼ 6¾
Braemore ...	106	p	5¾	...	...	42	5¼	38	6 6¼	...	...	14	5¼	12½c	4½ 6¼
Cheroot Mallay ...	67	p	4¾	...	...	1	5¼	...	...	25	5	...	...	41½c	4 5¼
Cherian Malay ...	38	p	6¼	17 p	6 7¼	14	5¾	...	...	...	...	...	...	7½c	5¼
Corrimony ...	100½c		7¾	...	...	61½c	6¼	38½c	10	...	...	...	...	1½c	3½
Fairfield ...	112		6¼	...	...	55	6¼	39	7	7	5½	7	5¼	4	5
Glenmary ...	85	p	7¼	47	†6¾ 9	16	†5¾	...	...	...	...	...	...	22 p	4½ 8
Glenmore ...	80½c		5½	...	...	50½c	†5 5½	28½c	5¾	...	...	1½c	5	1½c	4¼
Home ...	164	p	5½	...	...	104 p	5¼ 5¾	50½c	6¼	...	...	6½c	4¾	4½c	3¾
Invercauld ...	103	p	5¾	..	...	51	5¼ 5½	33	6½ 7	15	5¼	...	...	4½c	3¾
ME ...	20	p	5	...	...	...	...	...	...	...	...	18	5	2½c	3½
Merchiston ...	63	p	5½	20½c	6 6½	30	5¼	9½c	6½	...	..	...	...	4½c	5
P ...	23		4¾	..	...	...	...	...	...	...	..	23	4¾	...	...
Poonmudi ...	159	p	6	...	...	72	5¾	41	7	29	5¼	...	...	17½c	4 5½
Seafield ...	70½c		6¼	...	...	52½c	5½ 6	17½c	7¾	1½c	5	...	...	...	..
Sth. Indian T C KK	60		7	46	6½ 8	...	..	...	...	5	5½	...	...	9	6¾
STT Co Venture ...	153		6¾	...	...	70	6¾	45	8	28	5½	...	...	10	4¾
Stagbrook ...	78		7	30	7 8½	25	6¾	...	...	13	5¾	10	6	...	..
Travan T E Co BA.	218		6¼	...	...	48	5¾	88	†6¾ 7	7	5½	4	5¼	71	4¼ 5¾†
„ „ Pamb.	145	p	6¾	33	6¼	10	6	60	7½ 9	...	...	...	..	42½c	5
Vembenard ...	149		6¾	...	...	54	6¼	65	7½ 7¾	17	6	7	6¼	6	6¼
Wallardie ...	111		5½	...	...	79	5½	19	†6¼	12	5¼	...	...	1	3½

(AVERAGE FOR ALL INDIA 8·25d.) *December 16th.*

Travancore ...	224	p	6·13												
Herefold ...	92		5¼	60	5¼ ‡6¼	6	5	...	...	26	4¾	...	...	...	...
Vembenard ...	132		6¾	...	...	46	6½	58	7½	19	6	...	...	9	6¼

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A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

VOL. IV.] MADRAS, SATURDAY, JANUARY 14, 1899. [No. 2.

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DOMESTIC OCCURRENCE.—The fee for inserting a domestic occurrence will be *One Rupee* for each insertion, payable in advance.

N. B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 20th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Please note the change of address.

Coorg. Polli Betta, 10*th January*.—*Weather*.—Clear and windy the last few days. Previously cloudy, dull and humid; and it has been difficult to get coffee dry. *Crops*.—Coming in with a swing, proving better than was expected. *Plant Diseases*.—Condition of coffee very good, considering the heavy crops on the trees. Ought to give good average crops again next season. Reaping of Paddy in progress. *General Health*.—very fair.

Kotagiri. Nilgiris, 12*th January*, 1899.—In. 65.58 were recorded here last year, the average due being only In. 58.92. Better distributed, this good rainfall would have been beneficial and been appreciated, but it was either drought or deluge throughout the year, and coffee suffered from both; the rain in February was too early and too heavy, whilst the three months, June, July and August, influenced by the S. W. monsoon made a very poor show with the miserable record of In. 9.16 aggregate fall for these three months, estates out to the eastward hardly getting half that, when much mischief during that dry period was done; on the other hand the N. E. monsoon has been very heavy, consequently crops hung fire and a very appreciable quantity of crop has been dropping; but after all most estates are picking in excess of estimates and some are bearing very heavily. The outturn generally runs light: as a rule, into 3 figures or close on to it.

ATTRACTING CUSTOM.

Attracting custom. The grocer realises that this is an important part of his work. He must do it, or his business cannot expand, if indeed it can be held together. There is a "retail" sound about the words. Yet do they not apply equally to the wholesale dealer? And is it not the duty of even the producer to attract custom? Unless he can do so,

his products will not realise the value that he would like to obtain nor sell so freely as he would wish them to sell. As to the aim in view, therefore, he may learn something from the retailer. Perhaps he may acquire some useful information as to methods from the same source. Only recently, we read that in a large house in the United Kingdom an enterprising firm delivered at the houses of respectable residents price-lists, business cards, and—*free samples of tea.* Each sample was but an ounce or so, in a neat little paper bag; but it was a sample, and the price (in this case 1*s.* 6*d.* per lb.) was stated, and customers were requested to "please taste." This is but one among many methods of "attracting custom." It is advertisement in one of its most practical forms, and consequently in one of the most efficacious. Of course, such a distribution of samples would need to be made with discretion: it stands to reason that the quality of the bulk represented by the sample should be adapted to the probable requirements of the class of people to whom the samples are sent. Probably, too, advertisement and even personal canvassing would be found very useful supplements to a distribution of samples. What we now wish to point out, is the soundness of this method of application of the principle of "baiting the hook." If tea be given away like this in small samples, surely it is an improvement on the old style of "given away with a pound of tea," and other catchpenny methods of trade competition.

There is, however, need to consider also other methods of attracting custom. In the first place, samples could be of no use unless they were samples of articles likely to please the taste of the recipients. Take for example, an *American* town. Of what use to send round numerous samples of Indian teas until the palate of the people has been educated to an appreciation of these teas, or the teas themselves adapted to the taste of American consumers? There is something more than a mere prejudice to be overcome, if we are to be guided by Mr. WILLIAM MACKENZIE'S reports and letters. That gentleman has told lately a story he heard from a representative of the well known firm of tea dealers in America. Mr. LARKIN'S traveller called on a grocer several times, who had rather a prominent store, but who refused to take in any of Larkin's packets, because there was no demand for pure black tea. A Welsh family settled near this grocer's place, and the lady made her grocery purchases there. She complained bitterly to the grocer of the quality of his tea. He gave her different kinds, but could not satisfy her. Wishing to retain her custom, he got a package of "Salada" which he sent her. She called next day and thanked him, saying that was what she wanted. The grocer said: "There is no use my keeping that tea, as you will be my only customer." She said "no, there are several old-country families near me, I'll ask them to tea and make customers for you." Within a week, she had sent him several customers. This surprised him so much, that he took a packet home and had his wife make it. He tried to swallow it, but felt he was getting sick, and spat it out. But his customers returned for it, and he resolved to give it another trial. This time he forced himself to swallow it; he tried it again, and now he and his wife drink it regularly! But first, it made him feel sick! And again at Philadelphia Mr. MACKENZIE was told that the very girls who were pushing the sale of Ceylon tea could not be got to drink it! The "people from the old country" ask for it. Those from the new have to be fairly "educated" before they can take it. Obviously, under circumstances such as these, distribution of samples of ordinary Ceylon and Indian teas would be mostly waste. If Indian planters are to command the American market they must either manufacture teas to suit the American palate or "convert" the American consumer to a taste for such teas as are manufactured in India. The course of these two that is likely to prove the easier, is the one that should be taken; and until a definite choice of route has been taken expenditure in advertising, &c., should be cautious rather than lavish. True, even now Ceylon and Indian teas may be largely used in America for blending purposes; but we think the goal sought by tea-planters here should be a monopoly, not a mere secondary position to that occupied by growers in China and Japan.

It is in the matter of blending that we find the chief obstacle to a direct distribution of samples by the planter. If it were possible for the planter to attack the strongholds of individual households, to convince the consumer that Indian teas are preferable to Chinese, and thus to stimulate demand, much would be achieved. But *pure* Indian tea is only *acquiring* popularity, it has not yet entirely ousted blends, and it is not always retailed in England on its merits. Hence, we can scarcely suggest that Indian planters would gain an immediate profit if they threw out sprats in the form of samples such as those we have referred to. At the same time a distribution of such samples might do a great deal of good. It is the consumer that must ultimately be reached. Doubtless it pays to distribute samples and "cups" of tea at exhibitions and elsewhere. We can even believe that a prudent distribution of free chests or half-chests among selected grocers would not be money thrown away. It is open to question, however, whether in the long run Indian tea-planters might not find it more to their advantage to arrange for a wide distribution of free samples among *consumers.* Co-operation for some purpose of this kind might be tried on a comparatively inexpensive scale. We cannot suggest the same for coffee, unless the aid of a reliable firm of roasters could be enlisted, so that samples of the roasted (or even the roasted and ground) Indian berry might be spread far and wide over the country. Perhaps this suggestion deserves consideration. At any rate, it would probably not be very difficult to ascertain, through the medium of District Planting Associations, to what extent tea and coffee planters would contribute, *in kind*, with a view to the organization of a system of distribution of free samples of the pure Indian products. A money contribution to meet expenses of packing, distribution, &c., would be necessary also, but the amount that would fall to each individual would be extremely small.

THE DEPRESSION IN COFFEE.

The outlook for coffee just now is not very cheering according to the utterances of various writers. Still, the fact remains that Indian varieties have hardened a trifle of late and that even Brazilians are not as low as they were a few

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[2-10-98—t f.o]

months ago. The American quotations we give every issue have shown, on the whole, some improvement. Their fluctuations prove how largely Brazilian coffee is operated on by speculators. This fact no doubt explains suspicions such as have lately been expressed by Messrs. W. H. Crossman and Brother, of New York, that the decrease recently shown in receipts in Rio was due to the holding back of coffee, owing to the unsatisfactory state of exchange. This firm considers that "official reports at Rio must never be taken seriously." Planters are feeling the effects of the rise in exchange, which during the last six months has amounted to something like 40 per cent. Still, well managed estates in Brazil are said to be profitable even now. Messrs. Crossman consider that the growing crop is likely to be a record-breaker, so we must conclude that the steadying of prices of late has been entirely due to the adverse tendency of exchange. As regards other countries, Messrs. Crossman remark that the falling off in the Java crop, compared with last year, has already shown itself in the decreased arrivals from July to date. Information about the other crops continues as unreliable as ever. Reports from Mexico so far agree in foreshadowing an enormous yield there. From Venezuela, Central America, and the West Indies the probability is the next crops will be up to the average. The Bahia crop has only just commenced to be sent down, the coffee doubtless having been kept back there, the same as in Rio. But withal, the total of all crops other than Rio and Santos does not change much, and is likely to be up to the usual average. They observe that if there is a shrinkage in one quarter, it is usually compensated by a larger yield in another. New localities are constantly being added to the coffee-producing countries, such as in Hawaii, South Africa, and the west coast of South America, and although a great deal is heard of unprofitable coffee cultivation at existing values, persistence in the production indicates that it is more remunerative under equal conditions than sugar and other tropical products.

It is a gloomy report; and, let us hope, a pessimistic one. Still, notwithstanding fears of over-production, every wise planter will agree with the Sao Paolo *Brazilian Bulletin* in holding that it is a grave mistake on the part of the Brazilian coffee merchant to attempt to minimize the output of coffee for the purpose of putting up the price. The enormous producing capacity cannot be concealed. Climate, soil, immunity from disease, and abundant labor conspire to make Brazil the great coffee-producing country of the world. The better policy would be to stimulate production and promote consumption. That is a sound principle, all the world over.

MANURING EXPERIMENTS IN BENGAL.

ALTHOUGH the manuring experiments conducted from time to time on the experimental farms in Bengal do not deal with Tea or Coffee, it should be of interest to planters to watch progress. The study of manuring must be to a large extent in the abstract. The application of what is learnt will of necessity involve fresh experiment. Even if the manuring of tea is studied in one place, the application of the lesson in others will often be merely experimental, for soils differ as widely as products. Hence it is that we review the Report of the Director of Land Records and Agriculture, Bengal, for 1897-98 with a special interest in the manuring experiments carried on in the Bengal Farms. These are three in number, and are at Sibpur, near Calcutta, under charge of the Government; at Burdwan, the property of the Maharajah of Burdwan; and at Dumraon, belonging to the Maharajah of Dumraon. As regards the Sibpur Farm, Dr. Leather reported that owing to the variable nature of its soil it was unsuited to the purposes of an experimental farm, as reliable comparisons could not be made between the results obtained from different plots. Perhaps this accounts for the fact that while manure experiments were made with oats, potatoes and cabbages, decisive results were obtained with cabbages only. With this crop it was found that the highest outturn was obtained by the use of saltpetre; but the difference in the effect of this manure and castor cake, with which it was contrasted, was not so marked as in the previous year.

On the Burdwan Farm the effects of different manures were tried on paddy, sugar-cane, jute and potatoes. With paddy, a mixture of bonemeal and saltpetre (at the rate of 3 maunds of bonemeal and 30 seers of saltpetre per acre) yielded the best results, and bonemeal alone came next in efficiency. This confirms experiments made the previous year. Cowdung also proved very useful and gave a high net profit. In fact, the conclusion arrived at is that, so far as the practical value of the manures is concerned, there seems to be little to choose between cowdung and a mixture of bonemeal and saltpetre. Experiments were also made to test the relative merits of manuring paddy with cowdung and with jute ploughed in. There was no marked difference noticeable in the results of the contrasted plots, though both these plots gave about double the outturn obtained from the unmanured plots. The experiments made in manuring the local *shamsara* variety of sugarcane showed that bonemeal and cowdung produced the largest yield of *gur* (jaggery). The previous year, however, this mixture gave the poorest yield, a mixture of cowdung and "supers" having ranked first. Cowdung came second. It is remarked, however, that the experiment must be continued for several years before any conclusion can be drawn. Cowdung proved the most useful aid to jute. As a good manure for potatoes there seems to be little to choose between castor-cake and cowdung. The manured plots gave over four times the outturn off the unmanured one. It may be added that pitted cowdung was again found superior to cowdung purchased from the raiyat.

In Dumraon, ashes of cowdung gave the best results with paddy, cowdung ranked second, bonemeal third. The first two manures raised the crop two-fold, the outturn of grain per acre obtained by their application amounting to 2,132 lbs. and 2,010 lbs. respectively, against 1,002 lbs., the outturn obtained without the use of any manure. The cost of the manures was more than recouped by the increase in outturn. Bonemeal proved less useful and more expensive and yielded an outturn of 1,670 lbs. The average yield of paddy obtained by neighbouring cultivators in the same season was estimated at only 820 lbs. per acre. With wheat cowdung again proved the best, when tried against ashes of cowdung and saltpetre, bonemeal, town-sweepings and green manures, all of which were applied in such quantities as to supply 50 lbs. of nitrogen per acre. The outturn of grain on cowdung manured plots was 1,805 lbs. per acre, and the average of the unmanured plots amounted to only 485 lbs. per acre. The net profit from the plots manured with cowdung, after deduction of all cost of cultivation, manuring and harvesting, amounted to Rs.32 per acre, while the

unmanured plots showed a loss of Rs.6 per acre. Town sweepings gave fairly good results, running to about 1,625 lbs. of wheat per acre. It is observed, however, that the results of a second experiment with wheat tended to show that cowdung manure does not take much effect on wheat unless the land to which it is applied is irrigated.

COFFEE IN DISTANT LANDS.
II.

British Central Africa.—The export of Coffee for the year ending 31st March, 1898, was 860,664 lbs. (say 7,685 cwt.), showing an increase of 98,282 lbs. (say 878 cwt.) Referring to complaints of "Empty berry," Mr. W. T. Thiselton Dyer, of Kew Gardens, lately wrote to the Acting Commissioner as follows :—

"I am sorry to state that on this side it is impossible to carry on an exhaustive investigation into so obscure and intricate a subject as this evidently is.

"The matter can only be satisfactorily studied on the spot and with a full knowledge of all the local circumstances.

"Judging by analogous conditions in other plants we suggest the 'empty berry' was probably due to want of nutrition in the plants, or the concurrence of severe drought during the growth of the berry. The former might be remedied by forking the soil and the application of farm yard (not artificial) manure. The latter might be met by irrigation; but should this be impossible, the ground around the trees after forking and manuring might be covered or 'mulched' with cut or other vegetable *débris* to keep the soil cool and moist

"These are simple and practical suggestions that cannot fail to be permanently beneficial to the coffee trees So far there is no evidence that they have been carefully tried."

The Gold Coast.—The Curator of the Botanical Station, Aburi, reports as follows :—

Coffea Stenophylla.—A parcel of seed of this coffee, known as Sierra Leone Coffee, was received from the Curator at Sierra Leone in January, 1897. It was sown and germinated freely—we now have a good stock of young plants both in pots and beds ready for planting out to permanent places in the next rains.

Coffea Arabica.—Arabian Coffee does not thrive at Aburi, the soil and the climate seems totally unsuited for it. There are only about 200 plants in the Botanical Station, and these are dying out very rapidly. Only five bags of this coffee were shipped during the year, and I purpose planting Liberian Coffee in the place of the Arabian and doing away with the latter, with the exception of a few plants.

Coffea Liberica.—Liberian Coffee, this species gives every satisfaction : there are 3,400 planted out, 2,300 of which are bearing fruit. This makes a lot of labour during the harvest, namely, picking, pulping, fermenting, washing and drying, all of which is done by the same amount of labour and expenditure as when there was no fruiting coffee in this station. The first shipment of coffee was made in 1896 after my arrival at Aburi.

In gathering the coffee we find the large red tiger ant to be a great nuisance : they bite so fearfully as to make the men afraid to pick from infested trees. I have tried solutions of kerosine and water, also lime, but without the desired effect. I should be glad if any correspondent could suggest a means of eradicating this pest.

Plantations.—In the Akwapim District there are hundreds of small coffee and cocoa plantations which have originated from the Botanical Station, especially the Liberian coffee and cocoa. The facilities given the Curator for travelling are practically *nil*, but of the few plantations that I have visited, the best that I have inspected are those belonging to the Rev. A. W. Clerk and the Rev. Samson, both retired Basel Mission Ministers. The former is a Jamaican, and has been in the Colony nearly 54 years. Mr. Samson is a native. Each of the above-mentioned plantations contain about 1,000 Liberian Coffee trees and the same number of cocoa ; these two gentlemen take a great interest in the cultivation of Coffee and Cocoa, and that cured by them finds a ready sale in Accra, owing to its being properly cleaned and dried. The natives of the interior, I believe, only take their cocoa from the pods and dry it in the sun, without either fermenting or washing. This, of course, does not command such a good price as that which is properly cleaned. Many natives from considerable distances have visited the Botanical Station for the purpose of obtaining information. After being instructed how to cure their coffee and cocoa they have gone away delighted, and very grateful for the information they have received. Some have been given small samples of coffee and cocoa to compare with their own, and I trust that nothing but good results will be the outcome of the above-mentioned object lesson.

Paraguay.—It seems that the first attempts at cultivating coffee in Paraguay are meeting with complete success. Among the many varieties the most cultivated there is one which comes from Bolivia, whose geographical position is pretty much the same and whose soil is also very similar. It is believed that this coffee can compete with the best known in the markets of Europe, where it already figures, though in small quantities. It is a little early yet, however, to talk of an export trade with Europe. At present, it is said, a market can be found in Paraguay for all the coffee produced, and it will probably be some years before the Paraguay article will command recognition in London or Paris.

Among the recent reports from United States Consuls is one from Mr. Ruffin, at Asuncion, with reference to the adaptability of the soil of Paraguay for the production of coffee. He says there are coffee plantations which have been in existence for many years, but they have not been cultivated, being left to some extent to the excellent climate. These plants produce a variety similar to that cultivated in Brazil and Bolivia, coming from the Arabian species. The production in this line is not extensive, and the consumption is local. The plantations which have been established of late years have proved profitable investments, as a market has been found in Paraguay for all the coffee produced. According to the statistics obtainable, Mr. Ruffin places the number of coffee plants in the Republic at 343,407. He thinks all the products can be disposed of in the Asuncion market, as "the people are great coffee drinkers."

The coffee plant thrives best in countries having a mean temperature of from 68 to 78 degrees Fahrenheit. The official findings give Paraguay a temperature of from 58.42 degrees in June to 84.45 degrees in December, or a mean of 71.16 degrees. The land is suitable for cultivation, as it is level and damp and can be worked easily. Among the many varieties of coffee, Mr. Ruffin says that the most cultivated in Paraguay is the *yungas*, because it originated in Bolivia, a country with much the same geographical position and a very similar soil. It is believed that this coffee can compete with the best known in the markets of Europe, where it already figures, though in small quantities. Authorities state that the *yungas* coffee of Peru and Guatemala is as good as any produced on the American Continent. The grain is well

developed, of exquisite aroma, green-yellow in color, and in size and weight superior to Mocha coffee, which in general characteristics it resembles. The plant is vigorous, develops rapidly, and produces in three years.

PRIZE ESSAYS.

Only two essays have yet reached us, so even if the "good" and "better" stages have been accomplished there is no "best." One or two planters who have not yet found time to compete have expressed their desire to do so, and we therefore extend the time allowed to the *14th February* 1899. For the convenience of new subscribers, we repeat our statement of rules concerning our first prize essay competition, the subject of which is

THE LABOUR QUESTION.

THE PAST, PRESENT AND FUTURE SUPPLY OF LABOUR IN THE . . . . . DISTRICT.

FOR the best essay on this subject from any planting district in Southern India, we offer a prize of **Rupees one hundred.**

RULES.

1. Write on one side of the paper only.
2. Sign your name in full, and state address (not for publication, except in the case of the winner).
3. Be as brief and concise as possible.
4. Cite your authorities where possible.
5. Mark your M.S., "Prize Essay Competition."
6. Submit not later than 14th *February*, 1899 (in Madras).

IT should be clearly noted that all essays sent in will be the absolute property of *Planting Opinion*, and that the proprietors will have the right to publish them, in full or abridged or revised, in *Planting Opinion* or elsewhere, and to republish in pamphlet or book form. No limit of length is fixed, but conciseness will count when "points" are reckoned up. Rupees one hundred will be remitted to the winner immediately after publication of the prize essay.

TELEGRAPHIC QUOTATIONS.

LONDON —	5	6	7	9	10	11
Bar Silver ...	27 1/4	27 5/16	27 5/16	27 5/16	27 5/16	27 5/16
Bank Rate ...	4 %	4 %	4 %	4 %	4 %	42
Coffee ...	...	[dull]	...	...	...	...
Nilgiri ave.(B)size..	64	65	...	65	65	...
Mysore do. ...	75	75	...	76 1/2	76 1/2	...
Middling Ceylon ...	103	103	...	103	103	...
NEW YORK.—						
Coffee—Fair Rio ...	6 5/8	6 5/8	6 5/8	6 5/8	6 5/8	6 5/8
Futures April ...	5·58	5·63	5·66	5·75	5·78	5·73
Silver—Commercial Bars ...	59	59	59 1/4	59 1/4	59 1/4	59 1/4

NOTES.

Indian Tea Shipments to the U. K. in 1899. The estimate of shipments of Indian Tea to the United Kingdom in 1899 is 1½ million lbs. in excess of the shipments of 1898.

The Penny Post. The Ceylon Association in London has accorded "to J. Henniker Heaton, Esq., M.P., a hearty vote of thanks for his strenuous and successful efforts in the cause of Imperial Penny Postage."

The Bombay Tea Company. *The Grocer's Journal* was officially informed that the shares of this Company were applied for several times over.

Sale of a Ceylon Estate. It is reported that Kandahena Estate, at Namunukuda, has been sold to a Kalutara planter for Rs.60,000. Kandahena consists of 363 acres, of which 132 are in tea, and 68 in coffee.

Ceylon and the Coolgardie Exhibition. Up to the 31st ult. about 43 estates in Ceylon had contributed exhibits of commercial teas for the Coolgardie exhibition. The smallest contribution was 20 lb., the largest 80 lb., the total about 2,520 lbs.

"Rocks Ahead." The *I. P. G.* warns tea planters that gardens thrown up as unprofitable may fall into Native hands, and of the ultimate result that must inevitably follow. To this risk might be added that of abandoned gardens developing into very nice nurseries for pests and blights.

The Calcutta Tea sale. The first Tea sale of the year in Calcutta was held on the 6th instant, when about 18,000 packages were sold. There was a strong demand for Pekoe Souchong kinds, which were quoted fully three pies dearer. Other grades were steady at previous rates. Good teas sold well.

A new Ceylon Tea Enterprise. The Ceylon Planters' Direct Supply Association has been started, with offices in London, with the object of encouraging the taste for good tea which has of late so greatly degenerated. All residents in Ceylon are invited to become agents, and thus benefit themselves and the Ceylon tea enterprise.

Grafting Coffee. The Java *Locomotief* mentions successful experiments in grafting Java coffee on Liberian coffee trees. These trials have been carried on in East Java, where ordinary coffee, it is said, has very poor prospects indeed. Opinion is divided as to whether the success achieved can be looked upon as permanent.

Coffee in Jamaica. A correspondent at Clarendon, Jamaica, writes :—We have no gold mines in Jamaica, except our coffee trees, oranges and other staple products. Sugar estates are being crippled. Years gone by 100 lbs. of coffee could pay five taxpayers' taxes of 10s. each, and something left for family's support; but now it can hardly pay taxes.

The British Duty on Tea. At a meeting of the Committee of the Indian Tea Association, (London) on 13th ult., the following copy of resolution passed in Ceylon was read :—"That the Committee is not yet sufficiently convinced of the desirability of reduction in the tea duty in England to induce the Committee to take up an agitation on the matter at the present time."

Coffee in Porto Rico. Porto Rico is the most highly cultivated of the West Indies, and produces sufficient food for its inhabitants in addition to large crops of sugar and coffee for exportation. It has 361 large coffee estates, 4,184 small coffee farms, 433 sugar estates, and 16,988 small fruit farms. Coffee grows in the high lands and sugar on the lower slopes and plains.

New Markets. Thus the *I. P. G.* :—"That it would not be out of place to call upon the

Indian Tea Association to take a little more interest in the matter of finding new markets for Indian teas, we are convinced ; but no reforms have ever been brought about without united and concerted action. If Indian planters are not as much alive to their own interests as their Ceylon *confréres*, they have only themselves to blame." Hear, hear !

Acme Tea Chests. In succession to the old metal chests the Acme people have now brought out a new box, made of an outer lining of Canadian wood in *four* thicknesses of veneer in contrast to the "Venesta's" three. The metal binding of the lid too is bent, not cut, which is an improvement, and the whole is fastened with a sort of hasp coming over and clipped by two ends of the metal which meet in the centre just beneath the hasp.

Coffee on the Sirumallays. A correspondent of the *Madras Times* visited these Hills during the Christmas holidays, and now writes that from what he was able to see crops were affected by both leaf disease and bug. Owing to continuous rains, the labour supply had been very irregular, so much so that the coffee berries could not be picked, and many had dropped to the ground from over ripeness and disease.

Tea Prospects. A London correspondent writes :—I hear it stated on good authority that there will be a considerable deficiency next season from at least one tea district in India for which the estimate was originally much larger. In fact, the stocks at home are now on a much more satisfactory basis than they have been for some time, and better prices for both Ceylon and Indian teas are confidently expected if only the supply keeps within reasonable limits of moderation.

Scale Pests. The dangers attending the importations of Australian fruit have lately been commented on in Ceylon, and the interest that has been aroused in the study of scale and other pests may yet have a revolutionary effect on the fruit export trade of various countries. Indeed, in some quarters caution has developed into timidity, and we could even cite an instance where it has been decided not to import Indian *coffee seed* because of the fear that some pest might avail itself of the opportunity to seek pastures new !

The Australian Tariff. Commercial advices from Australia state that the all-absorbing topic of the moment is the increase in the tariff on such commodities as tea, dried fruits, canned fruits, rice, cocoa, coffee, &c. The change has been made without the previous knowledge of importers, and for the moment the markets have been excited. The additional duties will severely curtail business in a number of British commodities, such as jams, preserves, cocoa, chocolate, and the like. The increase has been made solely for revenue purposes.

The London Tea Market. Telegraphing to Colombo on the 5th inst. Messrs. Gow, Wilson and Stanton reported that the market was generally steady. Fair liquoring Ceylon Pekoe Souchong was quoted 6½*d*., and the average for the week 8*d*. (both unchanged). Reuter reported the same day a "generally firm" market, fair Pekoe Souchong 5¾*d*. (¼*d* up) and the average 8*d*. Of 20,000 packages Ceylon Tea offered 18,000 were sold, and of 32,000 Indian 29,000 changed hands. The average of Indian was 8⅝*d*., a rise of ⅛*d*.

"Ceylon in India." Writing from the Coimbatore district about the end of the year, Mr. E. J. Martin, formerly of the Kelani Valley, reports, according to the *Ceylon Observer* :—"We have some magnificent soil and a fine climate and I am much pleased with the land and climate up here, after the Kelani Valley. I have several Sinhalese here who are felling and are quite happy and contented. Being a new district we have many difficulties to contend with, one especially being transport ; but, a cart road is being pushed on as fast as possible and the Engineer's only difficulty is that he can't spend the money fast enough."

Java Teas. The *Ceylon Observer*, after remarking that Java Teas are coming to the front, and must be allowed for in estimates of the future, as cultivation is extending, says :—"Of course, there should be a wide market for such teas in Holland, Belgium and Western and Northern Germany, if only the Java planters, their agents and friends properly cultivated it." If Ceylon and Indian planters do not keep very wide awake, they will find that Java teas will spread far beyond the area named above, and try to deal by Indian and Ceylon teas as these have dealt by Chinese.

Colombo Tea Sales. On the 5th instant, about 10,390 pkgs. = 800,645 lbs. were offered, of which about 8,173 pkgs. = 636,551 lbs. were sold. The *Times of Ceylon* says :—"At the opening sale of the year a very firm tone prevailed for nearly all grades, especially common leaf kinds, which were in strong demand. Medium grades were not so keenly sought after, while fine and finest qualities were rather easier. Among the finest teas in the sale were : Devonford, Monkswood, Middleton, Glasgow, and Ottery. Amongst low-grown teas, good invoices were offered from Glencorse, Chesterford, Putupaula, Eila, and Rayigam."

Tea Estimates. The Secretary of the Indian Tea Association (London) lately issued a circular stating that "In view of the importance to the tea industry of accuracy in the published figures showing the acreage under tea cultivation, it is desirable that a circular be addressed to the Secretary of the Indian Tea Association, Calcutta, and to the Members of the Association, as also to other associations in India, representing tea interests, suggesting that their members be asked to supply Government, when required, with the necessary information to enable correct returns to be drawn up."

Starving the London Markets. Reviewing the year 1898, the *Times of Ceylon* remarks :—"The advantage of starving the London Tea Market has come home to the planting community with increased force, and we venture to think that the United Kingdom will never receive for home consumption—unless there is a considerable rise in prices—a larger total from Ceylon than that sent forward in 1897." It is a bold forecast, and probably India will be the gainer should it prove to be also a true one. Our contemporary adds, with respect to 1899, that regarding the *cultivation* of tea, much help is expected from Mr. Kelway Bamber's investigations.

"The Imperialist." We are in receipt of a copy of the first issue of *The Imperialist*, published at Calcutta, and aiming at representing a "United Anglo India" and at providing a high class Journal of a distinctly political character, in defence of the interests of the European community of India and their descendants, and for the advancement of their welfare politically, socially, and intellectually. It will voice the grievances of this community and advocate its claims in the State services, and in all that concerns its material welfare." The programme is comprehensive, and the new paper may prove a very useful one.

A Hospital Ward for Indigent Planters. Mr. J. Buckingham, C.I.E., the Chairman, Assam Branch Indian Tea Association, has announced that a sum of nearly Rs.5,0 0 has been collected by private subscriptions towards the above object. He adds :—"It will be remembered that at our last Annual Meeting I proposed that the balance required should be obtained by asking managers to give a small annual subscription of, say, Rs.10 for each assistant on their estate. The Assam Company through their Superintendent, Mr. Hulbert, and a few other estates have promised to subscribe up to the amount I proposed. If the proposal meets with the response I anticipate, the sum required will not exceed Rs.5 per annum per assistant."

Misleading Figures. The *Times of Ceylon* has discovered that published figures regarding exports of Ceylon Teas are not all in accord. It now writes :—"During the past year the total shipments of tea from Colombo—we learn from the Secretary of the Chamber of Commerce—amounted to the unexpectedly large total of 119,972,071 lbs., of which 96,126,145 lbs. went to the United Kingdom. The total to the United Kingdom for December last was 8,500,000 lbs., and the estimate for the current month is 8,500,000 to 8,750,000 lbs. The export to all countries for last month was about 750,000 lbs. larger than our estimate a fortnight ago." It is explained that the Customs authorities do not include a shipment until the entries are passed, while the Chamber of Commerce include it 'at once' (whatever this may mean.)

"Cheesy" Teas. The dangers of blending are illustrated in a remark by the *Grocer* on the subject of 'cheesy teas': "Dealers and the large blenders have found it to cause much inconvenience when, in making a blend, a tea supposed to be sound, but that is in fact cheesy, has been mixed with other teas, and the whole blend has consequently become tainted, thus detracting from its original value." Our contemporary adds :—It is no uncommon thing for a buyer to ask at the auctions, "Is this Tea sound ?" and as the reply is that the parcel is sold as per sample, which is sound, buyers have to take it as such ; whereas part of the break may be cheesy, the parcel not having been properly inspected. Buying-over brokers are naturally careful that their clients get what they purchase according to sample, and do not care for part or whole of a break bought to be unsound, which means that the whole parcel will be "chucked up," as it is generally expressed, thereby causing inharmonious proceedings to all concerned. The question is now being privately discussed by the Tea Brokers' Association, and it is to be hoped that this vexed question will be settled on a proper basis, thus removing friction in the trade which would not otherwise occur.

The American Tea Trade. Paper warfare between Mr. E. A. Willard, a champion of Chinese and Japanese Teas, and Mr. Blechynden, the Indian representative, has been waging in the States. So far, it does not appear to have been fought out. Mr. Willard asserts that the liquor of China and Japan infusions is clear, of Indian muddy, and he has a gentle poke at fertilizers. Mr. Blechynden replies that nightsoil is the great fertilizer in China and Japan, and is absolutely unused in India and Ceylon, where the tea gardens flourish on practically virgin soil. He points out that the active principle of tea is caffeine, and India and Ceylon tea contain sometimes as much as 4 per cent. of this alkaloid, whereas China tea contains less than one per cent. and Japan tea barely a trace, and that black teas contain less tannin than green trees. Finally, he says :—"I maintain that all the green tea from China and Japan is artificially colored, and that not one single ounce of India or Ceylon tea is artificially colored. It is therefore ridiculous to say that any tea can be purer than those from India and Ceylon. In round figures some 87¾ million pounds of Japan and China tea came into North America last season. Will any champion of these teas say what proportion of these teas was free from artificial coloring ?"

Coffee in Central Africa. Visiting the Chiole Mission Station, a branch of the Zambesi Industrial Mission, Mr. S. Israel found that the coffee planted there seemed to be carefully attended to, but badly in want of rain. The nurseries and vegetable gardens by the way of irrigation, presented a fine appearance and proved the fertility of the soil. He remarks that scarcity of labour should never be spoken of considering the large Hinterland from which an unlimited supply can be drawn. The Angoni are only too willing to work for planters, they are not frightened of internal troubles, thanks to the interference of the Government, but they do not seem to know their proper position toward the Government yet. *Apropos* of this a report of the Portuguese visit to Nyasaland states that in Nyasa there was at first a great scarcity of labour ; one, of course, could not depend on the white element, and the missionaries did not in the least afford help to the newly arrived planters. Afterwards the natives began to flock in, the hut tax obliged them to earn money and the natural tendency to clothe themselves also prevailed. As a rule they all contracted for 6 months, the men earning from 3 to 5 shillings a month, and the women from 2 to 3. Native artificers earn up to 10/- 15/- per mensem, but there are few of the latter. The coffee prospects at Zomba are said to be unusually good at this season. The coming crop is expected to be more than double that of any previous year.

Brazilian Coffee. The United States Consul General at Rio de Janeiro reports that English and some Belgian syndicates have bought recently large coffee plantations in the States of Minas, Geraes, and San Paulo. At the end of October several British merchants, with engineers and agricultural experts, were expected to visit Rio and Santos, proceeding afterwards into the interior of Brazil for the purpose of picking up bargains in agricultural properties. Mr. Seeger states that, according to the opinions of the best-informed men, profitable investments may now be made in Brazilian landed estates by capitalists who are not obliged to rely on an immediate return. To some extent the circumstances which have occasioned the increased attention now

being directed to Brazil have arisen out of the great depression in the price of coffee, due to the enormous production. During the ten years before 1897 the high level of (paper) prices maintained in the Brazilian coffee markets gave the planters extraordinarily large profits. The consequence was a vast extension in the area of the plantations. The millions of trees then put down have begun to bear within the last two years. The supply of coffee has thus become suddenly enlarged, with the result that the profits of coffee-growing, which in special cases reached as much as 150 per cent. per annum, are now reduced almost to the vanishing point. Hence the great fall in the value of estates and the strong desire to dispose of them.

In Philadelphia.

The stock of Teas at Acker's well-known grocery in Philadelphia includes Formosa and Foochow Oolongs, Young Hysons, pan-fired Japans, basket-fired Japans, Imperials, English Breakfast, Assam and Orange Pekoe, but a specialty is made of Acker's finest Ceylon-India blossoms. This tea, it is claimed, differs from China or Japan teas in the following essential respects: *First.*—It is rolled and manufactured entirely by machinery, especially designed to eliminate all contact with the human hand, thereby insuring superior cleanliness. *Second.*—No coloring matter of any kind is used on Acker's finest Ceylon-India blossoms. *Third.*—No artificial flavor or foreign leaves are permitted in this tea, its strict purity being absolutely guaranteed. *Fourth.*—A given quantity of Acker's finest Ceylon-India blossoms will give twice the quantity of liquid tea which would be given by tea from any other country. Two tender leaves and a bud are all that are used; these contain the concentrated essence and vigor of the whole plant. This accounts for its remarkable strength. Customers are cordially invited to visit the Ceylon India booth and test the tea made by the attendant. Customers are served with samples in the tea booth or at any demonstration counter without charge. The firm circulates tickets and invites customers, through *Acker's Weekly* and the daily papers, to visit their store and to test the quality of their goods, believing it an imposition to ask people to try their goods and then charge them for it. If customers want more than a sample of tea or coffee, it is served at the soda fountain, and the regular price charged. Six or seven demonstrations are always in operation.

Orthezia Insignis.

The *Times of Ceylon* states that Tea planters in Ceylon are confronted with a new bogey in the guise of *Orthezia indignis (sic)*. This is not quite a correct statement. The *Orthezia insignis* Dougl. is mentioned by Dr. Watt as apparently introduced to Ceylon on ornamented plants. It occurs on lantana, and Mr. Green has stated that it spreads to the neighbouring tea, where it has been found crowding into the young shoots. He also said that the infested area in Ceylon had been fired, and the pest apparently exterminated; but from what is now reported the insect is apparently rising again from the ashes of these fires. Still, after what Dr. Watt has stated, and with Mr. Green near at hand to give information, it is curious that our Colombo contemporary should have written as above and should also have said:—"At present it is reported to have specially attacked lantana, for which it deserves our thanks, and, so far, has done little damage to tea. So we may hope that no more will be heard of the pest, as it generally confines itself to one species of plant. There is no record of this insect in Sir Emerson Tennant's exhaustive book, and the natural history collections of the British Museum do not contain a specimen." The *orthezia insignis* derives its title from a Frenchman named Dorthes, who seems to have discovered and classified it towards the close of the last century. It traces its descent from the family of *Coccidæ*, but belongs to the homopterous, as opposed to the hemipterous, branch; that is to say, its wings are of uniform texture, unlike those of its half-brother, better known but known for worse, the bug, whose wings are partly hard partly soft. It is a small scale insect, covered with a white waxy secretion, and varies in length from one-eighth to a quarter of an inch. It is appallingly prolific. The male has wings, but the female is apterous.

COFFEE SHADE TREE.

Sun-dried Erythrina Lithosperma loppings, &c., contain per ton:—

61·50	lbs. Nitrogen.
57·38	„ Potash.
14·92	„ Lime.
13·68	„ Phosphoric Acid.

Seed cured under Messrs. Sutton and Sons' advice.

Orders should be booked early for the 1898-1899 crop of seed from the parent trees of above analysis at Rs.6 per pound containing about 2,000 seeds. *Germination guaranteed.*

Only thornless variety extant, and is not procurable anywhere save from the

MANAGER, ARIENKOW ESTATE,
Shencottah.

LETTERS TO THE EDITOR.

A CORRECTION.

DEAR SIR,—In your last issue, you commented on the scheme lately suggested by Mr. Large and elaborated by Mr. Lechler, our local Chairman, for promoting the sale of coffee direct to the consumer, as if it had emanated from me, whereas I had nothing to do with it. Please correct this in your next issue.

Yours faithfully,

YERCAUD, *11th Jan.* 1899. ROBT. GOMPERTZ, *Hony. Secy., S. P. A.*

[NOTE.—We greatly regret that an error should have occurred.—ED. *P.O.*]

MALE COFFEE TREE.

DEAR SIR,—There was, I believe, some correspondence in your paper some time ago *re* "Male coffee trees." I have, what I have always understood and believed to be, a Male tree on this estate. A very fine chick about 37-38 years old. It bears very little crop, and that is all peaberry. I enclose a few beans in parchment, picked yesterday and also a small branch. It would be interesting to learn how many estates have not got a tree of this description, as I cannot help thinking—although I shall probably be laughed at for the idea—that these trees may be beneficial in fertilizing the blossom of coffee trees on an estate. I believe there are certain trees that will not bear in the absence of a Male tree, viz., the Papoy. It will be rather interesting to see what kind of a plant the seed from this tree will produce, and I don't see why it should not germinate as the germ is present in the bean. I will try and see.

Yours faithfully,

7th January, 1899. G. R. OLIVER.

LOCUST DISEASE FUNGUS.

The following letter which was addressed to Dr. Edington, Director of the Bacteriological Institute, Grahamstown, is another testimony to the efficiency of his locust disease fungus:—

SIR,—I beg to state for your information that, immediately after the receipt of the fungus you were kind enough to send me on the 13th ultimo, I began experimenting upon *three* large swarms of locusts (voetgangers) in various periods of development and obtained very satisfactory results. After having dissolved the contents of five tubes of fungus in five ounces of tepid water (which water had been boiled and allowed to cool) I immersed a number of healthy voetgangers in the prepared liquid and gave each of them a dose of it internally, using a quill scoop for the purpose. The locusts operated upon were then placed in a glass covered basket, and fed on young green barley, and the following day a number were placed among the locusts at the head of the three swarms alluded to, which owing to damp and overcast weather were not moving at the time. On the fourth day after, numbers of locusts died, and on the seventh day after the introduction of those infected the three swarms were destroyed. I am of opinion that locusts used for destroying others should be highly infected, as the living devour the dead and in their turn become the means of disseminating disease. (Sd.) J. C. SEYMOUR KINGSLEY.—*Central African Times.*

RUBBER PLANTING IN COSTA RICA.

Curiously, it was the last sentence in the following brief extract that first attracted our attention:—

A recent visitor to New York was Mr. J. H. Conkling, engaged in general merchandise at Arenal, on the San Carlos river, in Costa Rica. Mr. Conkling, reports a growing interest in Costa Rica in the planting of rubber, especially since the Government has offered a bonus of 25 centavos per tree planted. Meanwhile the native trees (*castilloa elastica*) have been disappearing rapidly, in spite of the law intended for their preservation. The trouble, according to Mr. Conkling, has been due to the repeated extension of the time for putting the law into effect. Once a year it is announced that the cutting of rubber on other than private lands will be permitted for twelve months more, and during this time the rubber gatherers, thinking that it is their last chance at the trees, cut and bled them recklessly, and with fatal effects. Mr. Conkling is unable to say what is the cost of making a rubber plantation, but an important fact is that very little expense is necessary to keep one in proper condition, after planting, until the trees are old enough to yield rubber. Another encouraging fact is the low cost of lands. It is unnecessary to remove all the timber in order to plant rubber, but only the undergrowth; the rubber trees soon reach such a height as to take the sun readily, while the return of the undergrowth protects the soil from the sun and keeps it moist—a condition most favorable for the rubber. Rubber tree seeds are readily obtainable, and young rubber seedlings may often be gathered in the forests. While coffee is to-day the principal product exported from Costa Rica, Mr. Conkling thinks that rubber will become the most profitable crop to plant in that country.—*India Rubber World*, Dec. 1.

AN ENERGETIC TEA-PLANTERS' ASSOCIATION.

THE Dooars Planters' Association has passed a whole string of resolutions of a more or less vigorous character. After considering the question of reducing coolie Hazaree to the Cachar Sylpet and Assam rates of wages, viz. Rs.5 for men, Rs.4 women, and Rs.1/8 children, it decided to introduce from the 1st July 1899 throughout the Dooars a uniform rate of Rs.6 for men, Rs.4/8 women and Rs.2 children.

It further resolved, *inter alia*, "That Government be approached through the Dooars Committee of the Indian Tea Association and asked to open negotiations with foreign countries, and arrange matters, so that it will be worth our while to ship to those markets, and thereby to facilitate the disposal of overproduction that at present exists and also to abolish Income Tax, placing tea planters under the agriculturist clause." Vague enough in the earlier part, but precise towards the end. It was resolved also:—That Government be approached through the Dooars Planters' Association to include in British Territory the first range of Bhutan Hills bordering on the Tursa-Sunkos Sub-District owing to the water famine that now exists, and also owing to the lower hills being at present inhabited by outlawed *budmashes* who have taken large advances from the different gardens and whose one idea is to harass and plunder the adjoining gardens; that the Dooars Planters' Association be asked to approach Government to reduce all upward and downward freights on all the railways connected with the Dooars to enable us to meet the present crisis; and finally that all gardens holding aloof from the Dooars Planters' Association be considered as opposed to the Tea Industry in the Dooars, and that they will be liable to certain stringent rules drawn up by the Dooars Planters' Association to deal with their short sighted policy.

"A DISTRIBUTOR" OF COFFEE, &c.

The London correspondent of the *Times' of Ceylon* gives the following, under the head of

AN ENTERPRISING CEYLON MAN AT HOME.

Eleven years of steady persistent effort and good attention to duties as distributor, have not been without their effect on the business of F. J. Horsfall of "The Kiosk," Bournemouth. The business is progressing. Lately coffee roasting has been added to the facilities for the business. The latest circular says: "Every pound of coffee I sell is roasted on the day it is sent out, and each pound is roasted in a separate cylinder, by which means every berry is perfectly developed: it is then cooled instantaneously by a powerful blast of cold air drawn through an electric fan, and all the flavour and aroma retained in the berry. For hotels, clubs, cafés, I make special deliveries twice daily of coffee direct from the cylinders." All this is carried on at 35, Old Christchurch Road, where is fitted most complete and perfect machinery for roasting, cooling, blending and grinding coffee. This plant is driven and worked entirely by electric motors of the most modern type. The premises at Old Christchurch Road are new and additional to those of St. Peter's Chambers, where the business obtained the good name it has amongst all residents in, and visitors to, Bournemouth, by the most excellent quality of tea, coffee, and cocoa sold in the cup. It was the care given to this branch which led to the developments I have above described. The sale of the poorer cheap descriptions of tea coffee. and cocoa, Mr. Horsfall leaves to others. He goes for quality and flavour, the safest of all foundations on which to build a business, particularly in a place like Bournemouth, where there are so many invalids. Harsh, coarse, pungent teas are quite the worst they can drink, chiccory liberally dosed into bad coffee can do them nothing but harm, and as to the much-advertised cocoas with Kola and other such ingredients, the owners who make delicate people believe they are building up their constitutions with such rubbish ought to be prosecuted It is by confidence in his goods that Mr. Horsfall has secured his clientéle, and there is nothing but progress of a substantial character before him. Moreover, he holds the sole agency for Bournemouth of Messrs. Teetjen & Co., Limited.

PLANTING IN CEYLON.

"AN Experienced Planter" has supplied the *Ceylon Observer* with the following "Planting Report for 1898":—

Tea.—The past season has not been a favourable one. The 1897 average price has hardly been maintained either in Mincing Lane or locally—though planters had generally made better tea or tea from less coarse leaf. Exchange has been a trifle more against us than in 1897, and the crops, with some happy exceptions, have turned out less than were estimated. Moreover the tea farmer has had to contend with a new disadvantage, viz., a surplus labour force, through manuring and extensive operations having been greatly curtailed. The industry has also had a much drier season than usual, the rainfall being in several districts less, more especially in sunny Uva. Even fairly wet districts, such as Maskeliya, have recorded shorter rainfalls.

So much for the seamy side. The rift in the clouds may be represented by the cheering fact that less tea has been exported from

Ceylon direct to the United Kingdom, which, however, has continued to export more heavily to Russia and Germany. Ceylon has increased by millions its direct export of tea to Australia and Russia. The Planters' Association's *revised* estimate of exports has been a very exact one.

Unless we have an exceptionally favourable season, the total exports for 1899 will not much exceed that of 1898, for unprofitable fields will be abandoned and it is not likely that coarser plucking will again be resorted to

The tea farmer in Ceylon therefore may take courage and hope soon for better prices. He has touched bottom, while India—but it is as well to confine our review to Ceylon industries.

Coffee.—Its health, as one of our industries, has to be toasted in solemn silence. The cultivation is now as dead as Julius Cæsar.

Cacao planters hold their heads up again, thanks to the assurances of our energetic and shrewd Cryptogamist, Mr. Carruthers, who has, we all hope, only departed for a short season. The Ceylon Government is evidently turning over a new leaf in the matter of the employment of scientists and specialists, and His Excellency will place a feather in his cap if his Government can induce Mr. Carruthers to reside permanently in Ceylon, for if all accounts are true cacao is not the only industry that has to contend with fungoid diseases. Small extensions are being made and we notice that the natives are clearing up their gardens which two years ago they seemed inclined to abandon.

Guayaquil worries us by throwing so much cocoa on the market; but we are assured by large American manufacturers who have lately visited the island, that the consumption of cocoa is increasing, and that the finer varieties of cocoa will always find a good market in the States.

Cinchona.—The good returns Java planters are now enjoying rather make our planters' mouths water; but the soil and climate of Java are more adapted for its cultivation than the Ceylon soil and climate.

Cardamoms.—Those who have so far the monopoly of this cultivation in Ceylon are not blessing the local extensionists nor those of India In a year or two we shall be back to the rupee per lb. and as the days of Company-mongering are over, our monopolists will have to take the bitter or the plain bread of the future with the sweet and glorious cake of the past three or four years.

Minor Products such as ramie, pepper, vanilla, &c., are receiving attention; but I fear these will never do more than add a few rupees to concerns that would live without them.

HOW TO FERTILIZE VEGETABLES.

MR. GERALD M'CARTHY, N. C. Expt. Sta, reports:—

The chief ingredient in a good fertilizer for vegetables of which the leaves or stems are the edible portion is nitrogen. For root vegetables, phosphoric acid and potash are about as important as nitrogen. For vegetables of which the seed is the edible portion, especially such as are planted early, like the garden pea, phosphoric acid is the leading element. For vegetables like the tomato, egg plant, celery, melon, etc., potash is the most important. The following table shows the amount of the different elements of plant food in 1,000 lbs. of the edible portion of the vegetables named:—

Vegetable.	Nitrogen.	Potash.	Phos. acid.
	lbs.	lbs.	lbs.
Beans	...32.9	15.5	9.5
Beets	... 3.4	4.4	0.9
Cabbage...	... 3.8	4.3	1.1
Cucumber	... 1.6	2.4	1.2
Pea	...35.8	10.1	8.4
Rhubarb	... 1.3	3.6	0.2
Spinach	... 2.9	2.7	1.6
Squash	... 1.1	8.9	1.6
Sweet corn	... 4.6	2.2	0.7
Tomato	.. 1.6	0.5	2.2
Turnip	... 1.8	3.9	1.0

Except only as to peas and beans, it will be seen that vegetables are not very exhaustive to the soil. Peas and beans are able to take most of their nitrogen from the atmosphere. The table shows that potash is the element mostly drawn from the soil, next nitrogen, and lastly phosphoric acid. But nitrogen has a value for early garden vegetables that chemical analysis does not show. Nitrogen forces early growth and gives large succulent leaves and stems. Potash gives solidity and crispness to stems and leaves and high colour to the fruit. Phosphoric acid gives plumpness and increases the sugar and starchy parts of seeds, and forces early maturity. A good general fertilizer for all garden vegetables, except beans and peas, would be the following mixture per acre, but intensive market gardeners use two are three times as much:—

Sulphate of potash	...150 to 225 lbs.
Super phosphate	...250 to 375 lbs.
Nitrate of soda	...150 to 225 lbs.

The fertilizer should be raked in just before the seed is sown. For peas and beans, the normal amount of potash and phosphoric acid may be doubled and the nitrate of soda reduced to 50 lbs. per acre.

The sulphate is the best available form of potash for garden vegetables, as it contains no chlorides or salt and does not make the soil cold. It also acts with especial favourableness upon the starchy portion of vegetables. Fresh or water-slaked lime is always beneficial to garden soil.

PRODUCE AND PLANTING.

Two Sides to the Question.—The following letter from Colombo, and signed "Shareholder," appears in the *Pall Mall Gazette*:—"I note that you have published some letters regarding reports issued lately by several Ceylon Tea Companies. I agree with your view that the promised over-supply will undoubtedly bring prices down on the London market, but strongly recommend shareholders agitating to have their estates' teas offered on the Colombo market, where now, owing to advantages of direct shipment, Russian and other buyers are able to pay better prices for the teas than can be obtained on the London market. If the teas are sold in Colombo, the Company saves freight, marine insurance, dock charges, interest, &c.—say ¾d. to 1d. per lb. equal on low-priced teas, say, to 10 per cent. to 20 per cent. The managers of estates and brokers in London are, of course, in no hurry to give this information to shareholders, as they do not want to lose their pickings on the business." This drew the following reply from a correspondent who signed himself "The Proof of the Pudding":—"I have read the letter of 'A Shareholder' in your edition of to-day, and as a proprietor of Ceylon estates sending home an annual production of nearly half a million pounds of tea, I am prepared to say that my experience has proved beyond doubt that it pays better to ship to this country and sell in Mincing Lane than to realise in Colombo. I was very strongly advised by my Colombo agents and others at one time to sell my teas in the island, and I decided to give the question a fair trial, shipping one-half of the crop and selling the other half in Colombo, with the result greatly in favour of the home market. There is no doubt that now and again a better price may be obtained in Colombo, owing to a rush of purchasing orders for the Australian market; but take the average for the year, and it will be found that after allowing for freight, insurance, dock charges, &c., the balance will usually be well in favour of Mincing Lane, which undoubtedly is the tea market of the world."

The Russian Market.—The Russian Empire take some ninety million pounds of Chinese tea annually, a large proportion of it being imported at very cheap rates in returning vessels of the Volunteer Fleet that take out troops, convicts, munitions of war, and railway material to the Far East Indian and Ceylon growers, in their desire to push their produce in Russia, have a great deal of prejudice to overcome, but with the two millions of pounds of British tea now sent thither they have made a fair beginning. If it were not for the heavy duty of 1s. 9d. per lb which, of course, is all in favour of China, Indian and Ceylon teas would mak rapid headway.

Too Generous.—The Admiralty cannot be said to encourage the consumption of tea and cocoa in the Navy. The total abstinence men, and others who do not care to take their allowance of grog, have hitherto been allowed to draw its equivalent in tea, coffee, cocoa, and sugar. And if they cared to economise, even on these articles, they were permitted to carry them ashore duty free, for the use of their families. They may do so still, but under a new Admiralty order, only on condition that they pay the duty on the tea and cocoa.—*Home and Colonial Mail.*

CANADIAN DUTY ON TEA.

The *Toronto Mail and Empire* lately published an article very strongly in favour of British-grown teas. Its remarks were of a highly imperialistic flavour, and we quote them below:—

FREE BRITISH-GROWN TEA.

A duty on tea will probably be included in the next batch of tariff changes. Intimations have been given to the public that such an impost is forthcoming. The last of these premonitory symptoms we find in the columns of that well-informed Liberal newspaper the *Montreal Witness*, which, as a consistent advocate of free trade as it is in England, would doubtless welcome a transfer of taxation from some other commodities to tea. But concerning a tea duty—if the Government is unalterably resolved to impose one, there is something to be said in the name of another principle very different from free trade, and that is preferential trade. If, in face of the Government's decision, it is vain to urge that all directly imported tea continue untaxed, then we shall content ourselves with insisting that some of it—namely, British-grown tea—remain untaxed. Whatever the duty may be, the tea of Ceylon and India must be exempt from it. If it is not, the Government will quickly be made to feel the unpopularity of the impost. To remove from the free to the dutiable list, a staple product of two great divisions of the Empire—a product, too, which ranks as one of the necessaries of life—would be to do too great violence to the sentiment in favour of preferential trade. A few months ago a new tax was levied on the people of Canada for the benefit of the sugar producers of the British West Indies, that is, the sugar duties were raised, and a differential rate was established in favour of the islanders. If the Canadian people will thus submit to a tax to help one part of the Empire, it is very certain they will not submit to a tax to injure another part. Instead of contemplating the idea of imposing a duty on British-grown tea, the Government might very well take into consideration the advisability of freeing such tea from the 10 per cent. duty on shipments of it coming here from the United States market. That tax, however, might wisely be retained as against tea of foreign origin, for it is notorious that much of the China and Japan tea coming into the country is unfit for consumption. On the other hand, the general excellence of the tea of Ceylon and India is almost of itself enough to entitle that tea to a preference. It is wholesome, unadulterated tea, prepared for the market by modern machinery methods, instead of by the primitive and less sanitary hand methods which are yet followed in China. Already Canada is a large market for Ceylon and Indian tea, and is rapidly becoming larger. A Canadian duty, therefore, would strike our Cingalese and Indian fellow-subjects of Her Majesty very heavily.

THE ANGLO-AMERICAN DIRECT TRADING COMPANY.

Whether South Indian planters take shares in this Company or not—we fear it is too late for them to secure may at par—the coffee men might make a special note of its aims, as stated in the Prospectus:—

The Company is formed, "for the purpose of combining a distributing and producing tea and coffee business by acquiring and establishing large distributing businesses in the most important centres in the tea-drinking countries of Great Britain, United States, Canada, Russia, Turkey, and Persia," together with estates in India and Ceylon, "thus practically bringing the consumer into direct contact with the producer." Retail grocers will be interested in learning that "it is intended . . . to develop a distributing business on a large scale in the United Kingdom. The Directors have been looking for a favourable opening in the distributive branch of the tea trade, but, knowing the special importance of good personal management in this class of business, they waited until they were able to procure the services of exceptionally capable managers. This they are satisfied they have now done." With a view to successfully establishing a business of the nature described, arrangements have been made and are now in course of completion for the purchase of the following blending and distributing businesses:—The business of Sherman Brothers and Co. of Chicago, General Tea, Coffee, and Produce dealers; that of Mr. Hubert Galt, Chicago. Tea and Coffee dealer; that of Mr. A. R. Robertson, Tea and Coffee dealer; that of Messrs. Steel Hayter and Co. and the Monsoon Tea Co., Toronto, Tea and Coffee dealers. Details are then given of the various businesses just mentioned, and it is shewn that Galt, Robertson, Steel Hayter and the Monsoon Cos. sold for 1897—2,671,391 lbs. tea, one-fourth of the entire consumption of Indian and Ceylon tea in the United State and Canada for that year. With regard to Russia, the Prospectus states that the Company has arranged to purchase 5,533 shares of £10 each (£2 paid) in the business of Rogivue and Co., Limited, of Moscow, St. Petersburg, Odessa, Nijni Novgorod, &c., &c. The remainder of the shares, viz., 1,467, are held by Mr. Rogivue, founder and present manager of the business, and one of his late partners. Rogivue, Limited, have already eight branches and twenty-three agencies in Russia, and recently a branch has been opened in Lausanne, Switzerland Mr. Rogivue has agreed to manage for a period of at least 10 years, and has a large pecuniary interest in the business. In Great Britain, it is also intended, in co-operation with the Consolidated, Amalgamated and Kanan Devan Companies, to develop a distributing business on a large scale. Arrangements have been made to purchase the following estates:—Nahorani, Nahortoli, Hathibari, in Assam; Ialinga and Allenpore, in Cachar; Koliengode, Polyampara, Puli Vassel, Peria Kanal, Val Parai, in Southern India (these five are coffee); Warwick, Mandara Nuwara, Lynsted, Chetnole, Meddekande, Kassagalla, Halwatura, Maddegedera, Halgolle, and Katugastotte, in Ceylon—total 34,192 acres, of which 9,704 acres are tea, 794 acres cocoa and cocoanuts, and 1,405 acres coffee. The price to be paid for the estates is £518,898; for the various businesses and the shares (£2 paid) in Rogivue, Ltd., £47,599. The average probable amount of working capital for the distributing businesses is given as £150,000. Allowing £65,000 as the value of the unplanted land (22,289 acres) the cost of the cultivated area is £38 10s. per acre. The profits accruing to the Company from all sources for 1898 will probably amount to £33,000. The profits for 1899 are estimated at £46,000. £18,000 is required to pay interest on preference shares of the present issue, leaving £28,000 for the ordinaries. The Company is to be worked as a private Company, and later, formed into a public Company. It is expected this will be done with a substantial profit to the shareholders.

BLACK AND WHITE PEPPER.

The *Grocer* says:—The position of these condiments is well deserving of attention, it having vastly improved of late, and proves that at the port of London, at least, the trade in pepper generally is a growing one. The black descriptions especially have largely increased in importance, the landings in the first forty-nine weeks of 1898 having reached 6520 tons, in contrast with 4650 tons in the same period last year; and although the deliveries (for home use and exportation) have greatly augmented—embracing 5010 tons, in lieu of 3950 tons in 1897 to date,—the stock at this port on the 10th inst. was swollen to 7300 tons, or to 1840 tons beyond that of a year ago, when it was only 5460 tons. The movements in white pepper, however, were of a less pretentious character, as while this year's arrivals have expanded to 3035 tons, in place of not more than 2170 tons in 1897, the total clearances for all purposes have been restricted to 3025 tons, against 3100 tons in the previous year; and the quantity remaining on hand presents an excess of 270 tons, being now 2350 tons, in comparison with 2080 tons in December last.

Another encouraging circumstance in connection with extended operations in the article is that, notwithstanding its greater plentifulness—as gauged by the extra supplies landed here,—black pepper has steadily advanced in value for months past, and is now pence per pound dearer than it was at the end of 1897. Further, if we compare existing rates with those ruling at this time in 1896 it will be seen that a still more material rise has been established, due chiefly to reports of a continuous falling off in the shipments from Singapore and Penang during the current season, and also to the belief that the estimates of the coming crops are far below those in the former year. A significant fact besides the above is that prices in the producing countries are higher than in the European markets, and stocks on the Continent are considerably lighter than they were in either 1897 or 1896. Any revival of demand, therefore, whether for home use or exportation, the latter to the United States or elsewhere, would at once benefit holders, and the dealers

and others, who have no supply of consequence in reserve, would have to give even more money than they are paying for pepper at the present moment. Similar remarks may be applied to white pepper, the prospects for which are almost inextricably bound up with those for black sorts; and to show at a glance the statistical positions of each kind at the port of London, we subjoin a statement of the imports, deliveries, and stock (in tons) for each of the last three years ending about the middle of December, together with the quotations (per lb.) at which the latest business was done on the spot, viz :—

	Imports.			Deliveries.			Stocks.		
	1898.	1897.	1896.	1898.	1897.	1896.	1898.	1897.	1896.
Black ..	6,520	4,650	3,660	5,010	3,950	2,555	7,300	5,460	4,530
White ..	3,035	2,170	1,905	3,025	3,100	2,795	2,350	2,080	2,900

Prices.

	Black.		White.	
	Singapore.	Penang.	Singapore.	Penang.
1898	0 4¾ to 0/4⅞	0/4 to 0/4½	0/7¾ to 0/9½	0 7⅞ to 0/7½
1897	0/3⅝ 0 3¾	0 3 0 3¼	0/6¾ 0/7¾	0/5¾ 0/5⅞
1896	0 2⅜ 0/2½	0/2⅛ 0/2¼	0/4 0/5½	0 3¼ 0 3½

As above shown, the advance which has taken place since 1896 is very considerable, and it is a most singular coincidence that the enhancement in the marketable value of pepper has gone hand-in-hand, as it were, with the development of its trade as a staple of commerce.

TESTING SEEDS FOR GERMINATION.

The absolute essentials for accurate tests are suitable temperature, proper supply of moisture, and free ventilation, though darkness is highly desirable. The normal temperature of germination under natural conditions is from 55 deg.—65 deg. F.; and in artificial tests a constant temperature between 60 deg. and 80 deg. F. should be maintained. The heat of an ordinary living-room will, however, generally be found sufficient for home-tests, though a little fire may be advantageously provided if the night temperature appear likely to fall very low. Perhaps the best and most simple apparatus for home testing is prepared by taking two plates, in one of which is placed a folded flannel or other woollen cloth which is very damp without being soaked The seeds are placed regularly between the folds, and the whole is then covered by inverting the other plate over it. Another equally simple apparatus is made by soaking a handful of cotten-wool in a glass or tin dish containing water. The seeds are placed on the cotton-wool preparatory to the dish being covered with a sheet of glass to check evaporation. Seeds not larger than cereals may also be tested by placing them between the folds of damp flannel or blotting-paper in a porous clay saucer—unglazed flower-pot saucers will do—standing in from one-third to half its height of water in a tin pan which must be covered with a sheet of glass. Sufficient moisture will soak through the porous saucer to ensure germination. Several saucers can, of course, be placed in a large pan at one time. Plaster of Paris dishes are better in every way than ordinary porous saucers; and they are very simply made by mixing the plaster with water until it is of about the consistency of cream, and then pouring it into a suitably-shaped box, the hooked or screwed sides of which will readily come apart when desired. Take a sheet of glass as large as the top of the mould, and fix a shallow flat bottomed glass dish to it with cement. Use the pane of glass so prepared as a lid for the mould or box. The affixed dish thus projects into the soft plaster, making the necessary depression. Flannel and blotting-paper may be dispensed with if plaster dishes be employed for tests, the seeds being merely sown on the bottom of the depressed centre. Another method of testing several samples at once is that of obtaining a large dripping pan, and placing an inverted flower-pot saucer in each of the four corners. On these rest a flat wire framework, on which folded pieces of flannel or blotting-paper are placed, each with an end of flap hanging down into the water in the dripping pan. The seeds are put between the folds; and the hanging flaps, by capillary action, keep them supplied with moisture. Of course, it is best to cover the tin with a sheet of glass to minimise evaporation.—*Agricultural Gazette.*

EXPORT DUTIES AND OPEN MINTS.

Having lately quoted "X" (in *Capital*) on the Exchange Problem, we now give Producer's remarks in reply. "Producer" writes:—

The objection which "X." in his article of November 24th, takes to the above policy is probably that which has prevented much discussion of it hitherto. It seems to me, however, that the matter is open to further debate. Everyone will allow that the quotation from Mill's Principles of Political Economy correctly describes the usual course of trade, except, perhaps, that it may be doubted if, in these days of quick communications and worldwide competition, there is such a thing as a customary profit. Most industries are constantly passing through the phases of high, barely profitable, and unprofitable prices. To give this quotation from Mill as a reason why we can expect no permanent profit from allowing exchange to fall to its natural level seems to me carrying the argument too far. For, if the evanescent nature of large profits is a reason why it is useless to try and make them out of low exchange, it is equally a reason for abstaining from trying to make them out of any business whatever. It is equally useless to endeavour to reduce the cost of production and transit, because, as soon as an extra profit is made, others will rush in and take away the profit, on earning which probably much capital has been expended. The acceptance of such a theory would destroy all incentive to trade, and, as a matter of fact, we know that neither merchants, manufacturers, nor agriculturists act on such a theory. On the contrary, they are always trying to reduce the cost of production and transit in order to reap the large profits which await those first in the field in introducing improvements. They recognise the evanescent nature of large profits owing to competition, but that makes them only the more eager to snatch them while they may. The way they show their appreciation of Mill's warning is by constantly opening up new lines of business, lest, as has happened to many firms and companies who stick only to old and well known lines, they may find their business rendered unprofitable through overproduction. In arguing that a sudden fall in exchange would benefit exporters "for a time—that is all," and that the profit would tend to slowly but surely disappear, "X" seems to me to ignore the well known methods by which men of business habitually provide against that inevitable law of trade.

He also seems to overlook the effect of such a fall in exchange on the volume of trade. Probably no one will dispute the following propositions :—

(1) A comparatively high rate of exchange, while her rivals enjoy a lower rate, tends to diminish India's trade.

(2) A low rate of exchange would certainly enable Indian producers to oust some of their rivals from some branches of trade and secure them for India

(3) The extra profit a sudden fall in exchange would give would induce a rush which would mean a large increase in the volume of trade. (I am not, of course, arguing that a sudden fall is preferable to a gradual return to a natural level of exchange, but merely taking the case as "X" puts it, that exchange would probably fall to 10d. in a year.)

(4) The volume of trade is of far more importance to a country than the profits of individuals.

(5) To provide capital for and encourage the opening of new lines of business there must be good profits on existing lines.

If these propositions are accepted, it does not seem difficult to show that the fall of exchange to its natural level would be of permanent benefit to india. For, once a large trade was started, however much the profits of individuals might diminish, the volume of trade would remain at a maximum, as long as those engaged in it could pay their way, or get credit to carry it on. This is especially the case with such industries as mills and plantations, which require the expenditure of a large capital for some years before they earn a profit. As long as the volume of trade remained large, the country would benefit by increased employment and the

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Government by increased revenues. For the increase in the volume of trade would counteract a very heavy fall in prices, and prevent Government receiving less support from the export duties. It would probably take a considerable time before the fall in gold values would counterbalance a fall in exchange from 1s. 4d. to 10d. per rupee, and the greater the fall in gold prices the less would India's rivals be able to stand her competition. Meanwhile large profits would be earned, which the more far-seeing would devote to opening up new lines and thus further increasing the volume of trade. These new lines would be safe from overproduction long after the old lines had been rendered unprofitable, or until they again became profitable. It has been argued that the rise in exchange is a blessing in disguise to the tea industry, as by checking profits it has checked overproduction. To give profits to the few who can weather the storm at the expense of the mass of people engaged in any trade does not seem a very enlightened policy. It would be better to encourage large profits on a big trade, however temporary such profits might be, in hopes that some of those who made these profits would invest them in new lines. As a matter of fact, some of the most successful tea companies invested their profits, before 1895, in opening up plantations of cocoanuts, coffee, cocoa, and other products. Once good profits are made, it is easy to launch out into new lines; but, if profits are cut off or reduced to a minimum, there is no capital available for such enterprise.

"X's" supposition, that in the absence of a rush into a profitable business,—that is of overproduction,—the factor of competition would come in, is not in accordance with my experience. For instance, from 1887 to 1896 there was no overproduction of coffee, and sellers certainly did not compete with one another to reduce prices. It was the buyers who competed, and prices remained at the same high level for ten years Another supposition is that producers make a profit on a 1s. 4d. rupee. At the prices of the last ten years we, coffee producers, could do so, but prices have fallen heavily this year, and the chances of making a profit, even with good crops, is becoming finer by degrees and most unbeautifully less. South American countries have enjoyed an exchange ranging from the equivalent of 6d to 1s. per rupee, and have found production so profitable that they have doubled the stock of coffee in the world in two years and reduced the price in a corresponding degree. They could not have done this with anything like the equivalent of a 1s. 4d. rupee. Then as to the question whether tea could stand a duty of 6 per cent. with exchange at 1s. 1d. Tea was so profitable at 1s 1d. that, as Sir John Muir mentioned before the Currency Committee, large sums were invested in the extension of planting. It may be presumed that men who saw their way to a good profit, in spite of a large increase in production, would not be afraid of a 6 per cent. duty. Speaking for coffee planters, I can say that the difference between exchange at 1s. 1d. less 6 per cent. export duty and a 1s. 4d. rupee, that is, between Rs 1,735 and Rs.1,500 for every £100's worth of coffee sold, would be a very welcome help to assist them to tide over the depression of prices caused by Brazil till reaction sets in. Lastly, it is no doubt true that export merchants with a big margin of profit might force a foreign market; but we have evidence before the Currency Committee from some of the largest export merchants that the ryot is so wide awake to his interests, and the competition between the exporting houses is so keen, that the latter have to be content with very small profits. It is enough for my purpose, however, if it is allowed, that the ryot would make sufficient profit on present rates to cover the export duty, as he would not then be sensible of the heavy burden of increased taxation. Supposing there to be a margin of profit of 60 per cent. surely at least 12 per cent. would accrue to the ryot, if he is so wide awake as the big exporters tell us? I may mention that neither Mr. Acworth nor Mr. Gompertz alone originated the policy I advocated. They no doubt helped to do so, but so did several others who take a leading part in the affairs of the United Planters' Association of South India *Quorum pars fui.*

"MONSOON" TEA.

WHERE MONSOON IS GROWN.

The famous Indian tea gardens which apply the tea direct "From the grower to the consumer"—How Monsoon is grown, picked, cured and packed, and how it became a packet tea.

THOSE solid old British houses which exert a controlling influence in different commercial lines in the trade of the world are a notably conservative element. Their enterprises may be of im-

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THIS machine has been in use for some years past on private estates in Assam, and the excellence of the tea manufactured thereby is proved by the good prices obtained, and the reports characterise the teas as being "good *tippy* teas, with strong pungent liquor, and well-twisted leaf."

The roller adapts itself to any class of leaf, and can be used, if desired, as an open top machine, or pressure can be applied as lightly or heavily as necessity may arise by means of a simple mechanical arrangement. The twist in the leaf is obtained to a degree of nicety without balling, no breakage occurs, and is kept cool throughout. The tips are not blackened by the oxidation of the juice from the leaf.

The low price of the machine will allow planters to obtain an excellent leaf roller at a very moderate figure, and thus be enabled to supplement their rolling plant, which in so many cases is insufficient.

The machine is very easily driven, absorbing about 1½ h.p. only when fully charged. The mechanism is exceedingly simple, and nothing can get out of order. All parts are made of the best material, and good workmanship guaranteed. It will take 300 lbs. of withered leaf at a time, and is easily and rapidly filled and emptied.

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mense extent, involving investments of millions of dollars and the employment of thousands of people, but no show is ever made in any branch of their business to dazzle the community with anything that could be construed as a vain glorious ambition to shine as a gorgeous or palatial establishment.

The grim old warehouses in London, Liverpool and Ceylon of the old British company, which grows, picks, cures and packs Monsoon Indo-Ceylon Tea, would never delight the eye of the lover of artistic effects. The great counting rooms in London busy with bustling activity, as they are, present very little to enchant the visitor, who has a taste for elaborate decorations or fancy furnishings. Everything is severely plain, antiquely solid, and almost reverentially staid. The Toronto depôt for the sale of Monsoon Indo-Ceylon Tea, comprising the warehouse and offices, which occupy the building at No. 7, Wellington-street west is rather plain and unpretentious in appearance, but it is a bijou of business elegance when compared with the great old parent house in London. No sign of pride is shown in the towering evidence of the immense trade and the great business solidity of the company. Warehouses, counting rooms, ships and depôt in foreign lands are regarded merely as incidents and adjuncts to the real business of the company, which is the growing, curing and packing of an incomparably fine tea. The soul of this company is in its tea gardens in India, where Monsoon Indo-Ceylon Tea is grown—and there is no concealment of the pride which inspires these growers to possess the finest and best managed tea estates, equipped with the best means to yield the best results, and to improve wherever improvement is possible, to produce a product that shall delight and hold the preference of tea lovers all over the world.

Two photographs, selected from a number of views of the tea gardens where Monsoon is grown, were re-drawn with pen and ink by *The World* artist . . . . . Much of the exquisite effect of the two scenes, preserved in the original photographs, is lost in the re-drawing. *The first view shows the pickers, all native women, in spotless white raiment*, passing through the rows of tea bushes in one corner of the great plantations, engaged in packing the Monsoon tea leaves. The contrast of the gracefully draped white figures amidst the glossy deep green foliage in the field of ripening tea, which is brought out with striking beauty and distinctness in the original photographs, is barely hinted at in the . . pen-and-ink sketch. The time of the tea picking, in the picture, is at the dawn of the day -but this fact, and the radiant tones in which nature paints the dawn of the East India morn, with the morning stars sparkling in the blushing eastern skies, are beyond the possibility of being portrayed anywhere but in a painting. *The second picture represents a group of carriers with the white metal vails full of the tea leaves*, picked by the women in the fields Over a thousand natives are employed on these estates in gathering the tea. Expert English labour is employed in the modern processes of "firing" these teas on the estates and after thorough seasoning, the tea is driven by marvellous machinery into the packages in which Monsoon is sold by grocers. This process, and the clever mechanical operation which frees the thoroughly cured tea leaves from every particle of tea dust, and makes Monsoon the cleanest tea in the market, are among the most interesting features in the careful treatment which Monsoon Indo-Ceylon Tea receives before it is sent out to delight its patrons.

The fact that all India or Ceylon-grown teas are wholesome and pure, does not imply that all are choice in flavor, or choice in any of the other nice properties which the true tea connoisseur most appreciates. An India tea, carelessly picked, and carelessly "fired" or cured, is quite sure to prove rank to the taste, and millions of pounds of such teas enter the packets of most brands, mixed with special grades, and often scented, to disguise their rank inferiority. In the tea gardens where Monsoon is grown, the leaves are picked when fully ripe and when fullest of the rich, aromatic sap of the plant. At this stage of its growth, the leaf contains no appreciable trace of tannin, which, in other teas, picked after the leaves are withered and dry on the stalks, has been left as a deposit by the last run of the sap. The picking of Monsoon Tea while the leaf is richest with sap assures the strength in flavor and body for which Monsoon is famous and the perfect process of "firing" the sap-laden leaf preserves the exquisite aroma and spirit which is developed later in the sparkling liveliness which a drawing of Monsoon Indo-Ceylon Tea shows in the cup, and in the delicious and refreshing "twang" which it leaves in the mouth. Monsoon Tea is so much richer in strength than other teas, owing to the careful and intelligent methods observed as to the time of picking and in process of curing, that less of Monsoon is needed for a cup than of any other tea, and, in the average use, a pound of Monsoon Tea goes from 13 to 20 cups, farther than its best rivals.

Like others, Monsoon Tea is sold everywhere in sealed lead packets, in five different grades, at 25, 30, 40, 50 and 60 cents., but unlike others, whose varying grades are determined by varying qualities of different mixtures. Monsoon is graded true to its own leaf. The Monsoon in the lead packets, sold by grocers at 25 cents., is just as true in Monsoon quality and purity as any of the higher Monsoon grades at 40, 50 or 60 cents. All the grades grow on the same tea bush—the choicest leaflets, nearest the tips of the bush which possess the most delicate flavors, are selected for the 60 cent. grade; the next leaves for the 50 cent. grade, another for the 40 cent. grade, and the leaves on the lower branches, a little larger and coarser than the leaves higher up, yield the exceptionally good grades sold at 25 and 30 cents. But all are picked fresh and ripe, in the same gardens, and all are cured with the same care, and the Monsoon Indo-Ceylon Tea at 25 cents. direct from the growers, is a purer and choicer tea than the packings of the tea brokers which are offerred at 30 and 40 cents., while the Monsoon grades at 40, 50, and 60 cents. are incomparable. And the reason why Monsoon Indo-Ceylon Tea is so much better than others is because, coming to consumers direct from the growers its choice quality has not been tapped to yield the profits exacted at different stages by the shippers, brokers and the packers of other package teas. These profits fairly average about 10 cents. a pound and Monsoon Indo-Ceylon Tea, while sold at the same price as others, is fully 10 cents. better in value—in quality, flavor and strength.

The Monsoon Tea Company has made a trade mark of its constant use of the quotation, "From the tea grower to the tea consumer" in connection with the sale of its product. Years ago its vast operations were confined wholly to supplying the British wholesale trade—and to this day its product is used extensively to supply the body and flavor for most of the mixed teas sold in Canada. A few years ago the Monsoon Tea Company decided to assure tea consumers of the certainty of getting Monsoon Indo-Ceylon Tea in its original and incomparable purity, by packing its own tea for retail consumption in special packages of its own, under its own name and brand. It uses its own grown high grade tea—and, reaching the consumer direct, it is able to pack a quality of tea of far higher value than it is possible for others to afford, who must first buy of the growers—or of brokers, as most tea packers do.

The steadily increasing popularity of Monsoon Indo-Ceylon Tea since its first introduction in the company's own packets, and under its own name, is due wholly to its surpassing merits as a pure, delicious, wholesome and satisfying tea. The results of the first efforts made by the company to reach the consumer gave promise of the great demand which has since set in for Monsoon, and urged the extensive efforts for its general introduction which are now being made to bring Monsoon into every Canadian home. A short time ago the packet department was made a special branch of the great business, and by means of immense sample distributions of the tea and energetic supplementary work, the packet sales have increased beyond all expectations

The natural hesitancy of retail merchants to increase their stock of package teas which the addition of Monsoon Indo-Ceylon Tea when it was first introduced has been almost overcome entirely everywhere by the demand from the people who, having tried Monsoon, or heard it praised, insist on having it, and who quickly judge a dealer's impartiality by his readiness to supply what they ask for. And Monsoon is now winning the golden favor of the dealers themselves because it is proving a tea of which customers do not tire, and which is growing more popular as its choice qualities become more generally known.

The head offices of the company which supplies Monsoon Indo-Ceylon Tea are in London, England, with immense warehouses in London, Leverpool and Ceylon. In Toronto its warehouse is at 7, Wellington street, West.

TEA, &c., COMPANIES.

Imperial Tea Company, yield to 30th ultimo 2,527,680 lb., as against 2,037,280 lb. to the same date last year, increase 490,400 lb; British Assam Tea Company, yield, 481,520 lb., as against 386,720 lb., increase 94,800 lb.

The Wynaad Tea Company, Limited.—The Directors, in presenting to the shareholders the profit and loss account and balance-sheet for the year ending April 30, 1898, have the pleasure to report that the Peringodde Estate, purchased from Mr. R. K. Walker, has been duly transferred to the Company, and that, on the other hand, the sale of the Nelimunda Estate, sanctioned at the Extraordinary General Meeting, held on May 27 last, has been carried out and the purchase money, Rs.45,000, remitted to London. The operations during the past season have mainly consisted in the erection of the tea factory, the cultivation and extension of the acreage under tea, and the up-keep of the company's coffee and cinchona. The company is now provided with a first-class factory, fully-equipped, and capable of turning out 250,000 lb. of tea per annum. The crop of coffee and cinchona harvested during the season 1897-98 has only yielded a net income of £1,071 17s. 9d. a small amount of pepper, and a first shipment of tea, making up the total to £1,093 11s. 2d. Prices of coffee and bark have ruled much lower than in previous years; the coffee crop only amounted to 11½ tons, and realised 64s. 3d. per cwt. net. The amount charged to revenue account being £2,723, there is a loss of £1,629 13s. 10d. carried forward to the debit of profit and loss. Under these circumstances the Directors regret they are unable to recommend a dividend for the past season. The prospects for the season 1898-99 are much brighter, the coffee crop, estimated at 35 to 40 tons, has been sold to arrive at 78s per cwt. cost freight and insurance, and the pepper crop, chiefly from Peringodde Estate, estimated at 15 to 20 tons, at £45 10s. per ton, landed terms; besides which regular shipments of tea have now begun, and 50 chests are advised as being shipped this month The Directors, therefore, hope to have a balance as the result of the 1898-99 season to the credit of profit and loss account. Owing to the large outlay on the factory and on the young tea on Cootacovil and Chundale debited to capital account, together £4,521 11s. 11d. the company is still considerably in debt, after deducting the amount of about £3,000, realised by the sale of the Nelimunda Estate. The Directors are anxious to reduce the debit balance as soon as possible by the issue of the remainder of the preference shares, amounting to 3,937, reserving the issue of the balance of the ordinary shares, numbering 6,552, for a later period. The above-mentioned heavy outlay is now drawing to a close, and as the

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area under tea, which comprises 580 acres, is gradually coming into bearing, the annual returns should show a gratifying increase during the next few years. The Directors trust that the shareholders, who have done so much for the company in the past, will come forward once more to take up the remaining preference shares, the intrinsic value of which is about £2, taking the value of the company's property cultivated and available for cultivation at over £30,000. Under the new arrangement with the Ceylon Tea Plantations Company, Limited, Sir Willium Johnston has succeeded Mr. F. A. Labouchere as Secretary, and the London expenses will be considerably less than during the past season.

The fourth annual general meeting of this Company was held at the company's offices, 20, Eastcheap, E. C, on Monday the 19th ultimo. The chair was occupied by Mr. James Labouchere, chairman of the company.

The Secretary having read the notice convening the meeting,

The Chairman, in moving the adoption of the report and accounts said: Gentlemen, I am sorry to see so few shareholders here to-day, but I trust that on the other hand it is a proof they have nothing very much to complain of, because, as a rule, shareholders only come in numbers when there are important items to be discussed. The report having been taken as read, the chairman explained that there were only really two great facts to register, one of them being the acquisition of the Peringodde Estate from Mr. Walker, and the other the sale of the Nelimunda Estate for 45,000 rupees—about £3,000. Both these moves on our part have been dictated by the policy that we should try to get our managing director in India to be interested to the greatest possible extent in the success of the company, and we have been able to do that in a very satisfactory manner by securing the Ceringodde Estate for £2,5000 in shares. The Peringodde Estate being situated between the two places where tea has been opened, we selected that estate to build the factory, which is now in the centre of our tea growing, and which will obviate the necessity of making a second factory on the Chundale Estate. The Nelimunda Estate was sold because we wished to reduce as much as possible the risk arising from the cultivation of coffee. As a result we have reduced our acreage of coffee, but we have still coffee enough to bring us in a fair income in fair seasons, yet not too much to risk a large loss if there were a failure of the crop. We have made enormous progress in the planting of tea, having planted altogether 580 acres, which is very good work in so short a time. On the other hand, we have not attained this result without a comparatively heavy outlay, although the cost of the tea per acre has not been high. On account of the amount of money that is due by the company we have decided to stop any further extension of tea for the present. But this question of further outlay is entirely subordinate to the necessity of finding further capital. In looking over the accounts you will see that we had a very poor coffee crop last year, the amount obtained being £1,093 11s. 2d., although the expenditure was no more than that of former years. This has raised the debit to profit and loss account to £2,634. It is with a view of reducing this debit balance and the large amount now due for the building of the factory and the opening out of the tea planting that the Directors are anxious to issue the remainder of the preference shares. We have no definite plan yet to lay before the shareholders, but it is evident that either these shares will have to be taken up, or, as it has been suggested, the preference shres at 10 per cent. be altered to 6 per cent. cumulative preference shares. This plan is especially advisable because we are now getting into smooth water, for besides the coffee, cinchona and the pepper we have on the property, we should have every year an increasing supply of tea. The first bill of lading for 3,970lb. is now to hand, and the production of tea for October amounts to 5,1691b. The results up to the present are very satisfactory, and that when we meet in a year's time we trust we shall have a good report to show. The directors have sold the present crop of coffee, estimated at 35 to 40 tons to arrive, and have also sold the pepper crop, chiefly from the Peringodde Estate, estimated at 15 to 20 tons, so that with this and the shipments of tea we shall have a much better result to show for the current year.

The motion was seconded by Mr. Sanderson, who said that the company were giving the proposal to alter the character of the shares their very serious consideration. They proposed to alter the ordinary preference shares to 6 per cent. cumulative shares. An action of this kind would put their company on a much better financial position. Before any definite steps were taken the shareholders would be called together.

The Chairman then moved the re-election of Mr. Chas. M. Miller as a director. This motion was seconded by Mr. R. M. Inman, and carried unanimously.

The auditors, Messrs. Lovelock, H. W. S. Whiffin, and Dickinson, were then re-elected.

Mr. Sanderson then moved a vote of thanks to the manager and staff in India for the way in which they had done their work during the past season. They had had great difficulties to contend with in building the new factory, and he thought that they thoroughly deserved a hearty vote of thanks for the efficient way in which they had met these difficulties. This was seconded by Mr. R. M. Inman, and unanimously adopted.

The meeting concluded with a vote of thanks to the chairman.

Declaration of Dividends. The directors of the Assam Frontier Tea Company (Limited) have declared an interim dividend of 3 per cent on the preference shares.

The Makum (Assam) Tea Company (Limited) has declared an interim dividend of 2 per cent. (being at the rate of 4 per cent. per annum) on account of the season 1898.

The Board of the Borelli Tea Company (Limited) announce a dividend of 2½ per cent. on the preference shares.

The directors of the Rajmai Tea Company (Limited) announce an interim dividend of 5 per cent. on the ordinary shares.

The directors of the Moabund Tea Company (Limited) announce an interim dividend of 2½ per cent. on the preference shares.

The Board of the Bargong Tea Company (Limited) announce interim dividends of 3 per cent. on both ordinary and preference shares.

MARKET REPORT.

COFFEE.

Messrs. Wm. Jas. & Hy. Thompson's Report of the Colonial Markets for the week ending December 21st, 1898, states:—

Bank rate 4 %. Bombay Exchange closes at 1s 4 5/16d. Brazil Exchange 7¾d. Rupee paper 3½ % 62⅜. Silver 27⅜d. per oz.

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10, *Residency Road,*
BANGALORE.

This market has shewn little alteration since our last, the slightly firmer tone for better kinds being maintained, while medium and old imports were dull of sale at irregular prices. Brazil markets steady.

Public sales closed for the Christmas Holidays on the 16th inst., and will be resumed on 5th January.

Daily receipts averaged 5,400 bags in Rio, and 14,000 bags in Santos

Futures have been steady, and at the close shew an advance of 3d. to 6d. per cwt., viz. :—Good average Santos in Havre, March delivery, fcs. 39.50, in Hamburg pf. 32¾, and No. 7 low ordinary Rio in New York $6.05.

To-day's London official quotations are :—

	Dec.	Mar. '99.	May.	July.	Sept.	Dec.
SANTOS	... 31/3	32/3	32/9	33/	33/9	343/

We quote :—

Ceylon, mid. to good mid.	102/ @ 107/	*Costa Rica*, mid. to fine ..	67/ @ 104/
Do. small to low mid	79 „ 99	*Do* ord. to low mid.	37/ „ 64/
East India, mid. to good mid. ...	71/ „ 91/	*Jamaica*, good to fine ord.	31/ „ 48/
Do. small to low mid	57 „ 71/	*Do.* greenish to fine colory	61/ „ 120/
Guatemala, mid. to fine.	63/ „ 101/	*African*	26/ „ 28/
Do good ord. to low mid. ...	37/ „ 62/	*Columbian*, ordinary ...	36/ „ 43/
Salvador, good ord. foxy greenish ...	37/ „ 40/	*Do.* good ord. to low mid. ...	42/ „ 63/
		Do. mid. to fine ...	65/ „ 102/

Receipts in Brazil to 21st December, compare as follows with previous years :—

	1898-99. Bags.	1897-98. Bags.	1896-97. Bags.
RIO ...	1,675,000	2,618.000	2,087,000
SANTOS	3,599,000	4,285,009	3,500,000
	5,274,000	6,903,000	5,587,000

Messrs. Wm. Jas. & Hy. Thompson's report of 21st ult. states :—At the auctions held yesterday the large supply of 4,911 bags was offered, but with a slow demand for almost all kinds a dull tone prevailed, and only about 1,200 bags were sold at a general decline of about 1s. per cwt. Of 486 bags Ceylon only 25 bags sold.

We quote—Trinidad, middling to fine red 74s. to 78s. 0d., gray and mixed red 75s to 76s ; Guayaquil, Caraquez 72s. 0d. to 73s. 0d, Arriba 76s to 81s. ; Ceylon, middling to fine 73s. to 79s. Stock 95,992 bags, against 93,619 bags last year.

TEA.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated December 22nd, 1898, says :—

QUANTITY BROUGHT TO AUCTION IN LONDON

FROM 1ST JUNE TO DATE.

	Indian.	Ceylon.	Java.
1898-1899.	930,504 pkgs.	660,714 pkgs.	25,269 pkgs.
1897-1898.	918,820 „	683,126 „	25,023 „

17,151 pkgs. Indian
17,613 „ Ceylon
— „ Java
} Total 34,764 packages were offered in public auction this week.

Duty payments and exports from Great Britain since the 1st Jan. are shown below. Home Consumption of Indian Tea is very encouraging. Exports of both Indian and Ceylon show steady progress

INDIAN. Monday's auction was the closing public sale of the year. With a good general demand, prices were rather dearer, especially for Teas for price and good liquoring invoices. The official Wire gives exports to U. K. for first half of Dec. as lbs. 5,710,000 against lbs. 8.150,000, making total to U. K. from 1st April lbs. 116,757 000, against lbs 115,270.000 same period last season. Taking into consideration the great increase in deliveries of Indian Tea. together with the small increase in shipments, the position looks very strong, while the fact that duty payments on all Tea up to 20th inst are lbs. 1,102,765 over same time last year tends to add further strength to the position.

Ceylon. The last public sale of the year was held on Tuesday. Prices showed some irregularity while slight concessions were occasionally made to buyers. Private telegraphic advice gives exports to U. K. for first half of month as lbs. 4,600,000, against lbs. 3,800,000, and estimates total quantity for the month as lbs. 8,750,000, against lbs. 9,500,000 actually shipped in December last year.

Average for the week 8d., against 8·18d. same period 1897.

Ceylon Tea sold on Garden Account, 1st Jan. to date 1898, 1,077,586 pkgs, av., 7·76d. 1897, 1,049,826 pkgs., av. 7·82d.

		1898.	1897.	1896.	1895.
PEKOE SOUG.	(Ordinary leaf ; fair liquor)	6½d.	6½d.	6 d.	6½d.
PEKOE	(Ordinary leaf, little twist ; fair liquor)	7½d.	7½d.	7¼d.	7⅝d.
PEKOE SOUG	(Rather bold leaf, indifferent liquor,	5¼d.	4½d.	4¾d	5¼d.
PEKOE	(Somewhat bold leaf ; indifferent liquor)	5¾d.	5¾d.	5½d.	6 d.

Movements of Tea in United Kingdom from 1st Jan. to 30th Nov., as shown by Custom House Returns.

	IMPORTS.			HOME CONSUMPTION.			EXPORTS.		
	1898.	1897.	1896.	1898.	1897.	1896.	1898.	1897.	1896.
Indian	...119,520,528	115,225,021	109,310,676	121,517,853	114,330,690	111,693,135	6,891,747	4,839,804	3,627,775
Ceylon	... 90,816,321	89,342,340	88,091,956	76,657,021	79,273,409	74,024,542	10,799,072	9,589 989	7,417,677
China	... 24,818,037	26,232,319	23,953,526	13,687,442	16,120,525	18,405,611	14,642,982	18,150,346	17,944,228
Other Countries ..	7,102,095	6,364,973	7,124,671	4,511,130	3,793.987	4,510,330	1,121,071	908,275	976,847
Total lbs. ...	242,256,981	237,164,653	237,480,829	216,373,446	213,518,611	208,633,618	33,454,872	33,488,414	29,966,527

Analysis of above export of Tea from U. K. during last two years (not including transhipments).

	INDIAN.		CEYLON.		CHINA.		OTHER COUNTRIES.	
	1898.	1897.	1898.	1897.	1898.	1897.	1898.	1897.
Countries in Europe ..	3,863,673	2,372,639	6,302,803	5,529.363	8,561,509	10,851.979	614,656	684,875
United States ...	582.950	577,788	1,177,974	1.503,316	935.574	2,184.968	157,531	52.216
British N. America ...	1,331,137	1,024,045	1,943,594	1,467.065	1,058,447	1,611,025	118,025	12,246
Other Countries ...	1,113,987	865,332	1,374,701	1,090,245	4,087,452	3,502,374	230,859	158,938
Total lbs. .	6,891.747	4,839,804	10,799.072	9,589,989	14,642,982	18,150.346	1,121.071	908.275

PUBLIC SALES FOR SOUTH INDIAN TEA.

(AVERAGE FOR ALL INDIA 7·78d.) *December 22nd.*

GARDEN.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust, and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price.
Travancore ...	346 p	6·66												
Carady Goody ..	74 p	6¾	9	7½	43	5¾ 6½	14	8¼	..				8½ c	4¾ 6¼
Isfield T Co Isfield .	114	6	..	..	50	+6	35	+6¼	29	5½				
Travan T E Co Pa..	158 p	7¼	31	6½	33	5¾	60	7¾ 9½	15	5½			19¼ c	5¼

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

VOL. IV.] MADRAS, SATURDAY, JANUARY 21, 1899. [No. 3.

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ADVERTISEMENTS.—The charge for line advertisements is 4 as. per line for the first, 3 as. for the second, and 2 as. for the third and succeeding insertions. Five-line (or shorter) advertisements from Subscribers will be inserted for three issues for one rupee; non-Subscribers will be charged two rupees.

DOMESTIC OCCURRENCE.—The fee for inserting a domestic occurrence will be *One Rupee* for each insertion, payable in advance.

N. B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 27th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Please note the change of address.

North Mysore. *December* 10. *Weather.*—Has until last three days been cloudy and unsettled. *Plant Diseases.*—Leaf disease in some parts severe. *Crops.*—Are well over estimates and there is a good promise for next year. Crop carts are somewhat scarce this year owing to the absence of Vellore cartmen. *Gram*, *Rice* 12-13 seers per Re. 1. *Gram* 12 seers per Re. 1.

Coorg. Polli Betta, 18*th January.*—*Weather.*—Fine, clear, cold. Some chance of drying coffee now. *Crops.*—Picking still in full swing, except in a few cases where it has been stopped to allow crop to ripen. Estimates have in several cases been already passed. *Plant Diseases.*—Condition of coffee generally good. *General Health.*—Good. *Labour.*—Sufficient.

THE INCREASE OF SALES.

All planters are concerned in attempts to increase the sale of the particular product or products that they cultivate. Ceylon and Northern India tea men are daily agitating this matter, and lately South Indian Coffee-planters have taken it up. Some have suggested that the tea and coffee industries might combine, others regard them as rivals, whose interests must of necessity clash. If, however, the subject be keenly discussed by both tea and coffee planters alike, it may well be that some method of working will be found that will be advantageous to both. For ourselves, we should urge the importance of (1) reducing the cost, (2) improving the quality :

i.e., adapting it to the actual requirements of important markets, (3) increasing the demand in present markets, and (4) opening out new markets. All these points apply to tea as well as to coffee. For convenience, we will merely touch upon the two last in our present issue. As a general rule, theorists say, begin your improvements at home, while practical men often prefer to make their experiments at a distance, so as to reduce the amount of criticism in case of failure. There is no reason, however, why the demand for Tea and Coffee should not be cultivated in India as well as in other countries. Planters may improve demand at home as well as abroad, in fact. It has been widely stated that rubbish is palmed off on the poor native as tea, and parched rice as coffee. Now in considering statements of this kind, when put forward as a hint that all that is necessary is to substitute the right article for the wrong, the genuine for the false, we must not overlook the question of price. Can the planter supply real tea at the price that the native now pays for rubbish ; can genuine coffee be retailed at the price now paid for parched rice sold under the name of coffee? Of course, Government might and should, interfere to protect the poor by means of an effective Adulteration Act, properly applied. But put this aside for the moment: would it not be well for planters to find out the rates at which so-called Tea and Coffee are retailed in Indian petty bazaars with a view to ascertaining whether they themselves could place a pure article—of however low quality—on the market at similar rates? The taste of the lower classes cannot be "educated," it is with his small means alone that we have to deal. The safest assumption is that he cannot afford to pay more than he pays now, be the quality of the article offered him what it may.

Some interesting remarks appear in the *Indian Sportsman*, and we give them elsewhere—though we by no means agree with all our contemporary says. As to the utility of the middleman there can be no doubt ; all that has to be guarded against is abuse of power or of trust on his part. He must be held in check. Should any of our readers hold the belief that the middleman is unnecessary, and that the planter should place his produce direct in the hands of the consumer, we would merely ask him to study the question as a part of the much larger question of the Division of Labour. If once it were admitted that planter and consumer could trade together to the best advantage, we should have to argue also that every man would be the best producer of his own requirements, and we should come back to the old, old example of the pin-maker. Division of labour is as much necessary in trade as in the cultivation of a tea estate. There is room for the middleman, and there is need for his employment. A man may be an excellent planter but a poor salesman, or a connoisseur in tea but a bad buyer. Between the excellent planter and the consumer or connoisseur the middleman is at work, and if he works well and honestly all parties profit, even if all be not at all times satisfied. Whether the middleman be independent, or in the direct employ of the planter, or retained by the consumer, is a point of detail. The planter is a specialist, the middleman should be a specialist. Some consumers are specialists in their way, but the onus of finding out the requirements of each and all falls upon the middleman. There is a great deal to be said in support of a system of "sampling" on the part of planters, because samples enable the middleman to test demand *practically*. Qualities are approved or disapproved, and according to the opinions expressed the requirements of a particular market are gauged. There is little to be said in favour of the idea of planters starting their own tea and coffee shops in distant places. This plan does not dispense with the middleman. It merely substitutes one for another. You may go past the wholesale grocer, and even the retail grocer, but you must have a staff to sell, and the possibility—perhaps, indeed, the probability—is that the staff would take such advantage of inexperienced and absentee employers that the profits that would have gone to the grocer would be fully absorbed elsewhere.

Although there is much in the *Indian Sportsman's* remarks that appears to us out of place, we should like our readers to study them carefully, and to consider the different aspects of this question before coming to a decision. Advertisement is a great thing, but it will not sell an unsuitable article in any large quantity. As regards home and other markets, the requirements of each must be ascertained and met. That is the first principle of the problem of increasing sales. Offer the right article at a fair price, and rely upon it there will be a demand. As regards the question of middlemen, planters should certainly co-operate, not perhaps for the purpose of transacting all their own affairs from seed to cup —for this is altogether too large an order for the present— but for the purpose of gaining the strength that comes from union. This gained, they can dictate terms to some extent, instead of being always dictated to. They can go past *some* middlemen ; they can select their own channels for the conveyance of goods to market, and they can no doubt effect economies in the cost of transit. If the thing could be done, we should like to see a huge scheme of Co-operation carried out ; but it cannot, and we would urge upon planters that even such a scheme does not mean the entire abolition of the middleman It merely means the substitution of "mutual" principles for those of ordinary trade. It would be impossible for planters to conduct every stage from the estate to the consumer's house. The middleman must be employed, be he grocer or be he coffee roaster, or tea packer. As between a *small* co-operative scheme and the use of wholesale and retail grocers as middlemen, the advantage of economy lies, we feel sure, with the latter—at least as regards trade outside India. In India again, the *Native* middleman must be taken into account, for he offers cheaper distributing machinery than any European co-operation could influence. The increase of sales can, for the present, be better effected by co-operation with reliable middlemen than by co-operation among planters alone. If South Indian planters would manifest a greater desire to discover the requirements of markets, to reduce cost to a minimum, and to adopt the most approved methods of cultivation and manufacture or preparation, they would very soon

reap the fruits of this policy. Many of them are doing so already, but there are many others who stand apart from these.

POLLENIZATION.

We did not comment at once upon Mr. G. R. Oliver's letter on Male Coffee Plants, which appeared in our last issue, for we wished to allow our readers time to make their own remarks. Apparently, Mr. Oliver has still lingering doubts as to the utility of male plants. He may dismiss them. In the plant world as in that of human beings, sexual laws prevail. There must be male as well as female, and the one without the other cannot prosper. There are cases, of course, where the two sexes are combined in one plant; there are others where they are separate. There is none where one sex can continue the species alone. In one way or another the two are brought together. We hear from California of a large French prune orchard, where the plants grew well for seven or eight years, yet never fruited. Bees were introduced, and a year later there was fruit on the trees. To test the matter more closely, one expert wrapped up some of the limbs on pear trees, so that the bees could not reach them. There was no fruit whatever on those limbs, and no trees that were guarded against the bees. Then, again, a row of French prune trees was planted at one side of a twenty acre orchard. Never a fruit during seven years. At last, however, a row of Silver prunes were planted directed alongside, and as soon as these bore fruit, and not before, the French prunes also bore fruit (for the first time). This points to a distinct pollenization of the blossoms between the two trees, a coming together of the sexes, in fact. Just as clear is the lesson to be derived from the following experience. English filberts were planted. They grew well, but did not bear. The male blossom came out in the autumn, the female not till the spring, by which time, of course, the male blossom had fallen off and dried up.

There is room for further study of the sexual life of plants, and as tea and coffee planters in India have excellent opportunities for conducting investigations and experiments, we would commend the subject to their very earnest attention, for it has a most important bearing on the improvement of species and the building up of disease-proof plants. It is a most fascinating subject, too, and will well repay study.

WEEDING.

WEEDING might almost be termed a neglected science. To many planters it is a new science; to not a few it is no science at all, but an irksome and often unexecuted labour. Modern agricultural science, however, recognizes that vegetable as well as animal pests have to be dealt with, and it has laid down the principles of weeding on such clear lines that no man need be ignorant of the best means of clearing them off his land. It is pointed out that the chief aim should be the stoppage of reproduction. The production of seeds must be prevented, and if the plant is a biennial or a perennial the rootstock must be killed. The Washington *Farmers Bulletin* No. 28, upon which our present remarks are mainly based, remarks that the processes by which seed production may be prevented or rootstocks killed are comparatively simple in most cases and in none impracticable. Nevertheless, when weeds have become abundant and widely distributed, the conditions under which many of them occur are such that the planter is apt to regard extermination as an impossibility. In such cases he attempts merely to reduce them to a state of comparative harmlessness. For example, one can scarcely imagine any sane man undertaking the extermination of Spanish needles, beggar tricks (*bidens bipinnata*) from some of our South Indian hills. But a man may at least attempt to reduce this weed to subjection within a certain area, and it may be useful to him to know that it is an annual, propagated by seeds, which are to some extent distributed by animals, and that prevention of seeding is the most effective method of eradicating it. Within the limits of an ordinary farm any species of weeds can be subdued and controlled: within the limits of a tea or coffee estate a great deal can be done to mitigate the evil effects of weeds. The most useful element for the destruction of seeds is fire, but even where this cannot be resorted to a great deal can be done by careful cultivation. There are some weeds that are perhaps beneficial rather than injurious, and that should therefore be allowed to grow in moderation. There are others, however, that are entirely harmful to either Coffee or Tea, and that should therefore be ruthlessly exterminated.

A writer in *Indian Gardening* refers to the Giant Polygonum as being as obnoxious as it is useless, and as far more destructive than "sorrel" and passion flower. He says that it has got to Nadivattum, where it has spread royally. Can any correspondent tell us what plant this is? Is it the *Polygonum pennsylvanicum* (pink flower) or the *polygonum convolvulus* (white flower) or some other variety? Is it an annual or a perennial, when does it flower, and where does it particularly flourish? Presumably the best method of eradication is by preventing the production of seed, but without fuller information it is impossible to say what is the best way of carrying this out.

RUBBER AND COFFEE.

Mr. W. Rhodes James, of Coonoor, has asked the Editor of the *Ceylon Observer* if he can recommend any short description of Rubber cultivation, more especially as regards Castilloa in conjunction with coffee as a possible shade?

Hevea is, Mr. James understands, a surface-feeder and would not therefore suit coffee; regarding *Castilloa* the information especially wanted is:—

Suitability as shade for coffee.
Distance for planting.
Returns per tree at 3,000—4,000 feet elevation.
Has it been tried successfully as a sole product?

Our contemporary remarks on this:—Our compilation of available "Rubber" information for the planter is in the printer's hands. Castilloa is just as much a surface-feeder as Hevea and we have the authority of the Director of the Botanic Gardens for saying this; and neither of these rubbers will do well above 2,000 feet.

This, however, scarcely tallies with information derivable from other sources. The *Castilloa elastica* is a native of Panama, but is also indigenous to Mexico. In Panama it grows in damp wooded ravines along the edges of streams. In Mexico it is chiefly found along west coasts at altitudes running from 1,200 to 1,500 feet, and principally by the river

meadows. Messrs. J. P. William and Brothers, of Heneratgoda, Ceylon, in their "New Product Circular No. 32" described the tree as thriving from the sealand up to 3,500 feet, and remarked that inundated places should be avoided, and that shelter is required in strong windy situations. The information most likely to be of use to Mr. Rhodes James, however, comes from Mexico, where it is common to prepare the ground much the same as for coffee. Indeed, the impression that rubber grows in swamps is described as entirely eroneous, *Castilloa elastica* "requiring practically the same kind of ground and conditions as coffee." From 200 to 350 acres are planted to the acre, and at the age of six years the rubber tree will attain a diameter of from 12 to 15 inches and a height of 25 to 40 feet, and will yield six pounds of milk per tree, giving about 2½ lbs. of dry rubber per tree. This increases to about 3 lbs. when full growth is attained. After the sixth year, little expense and care are required further than to gather the milk and cure the rubber, so that the planter may expect a net income of from 200 to 450 dollars per acre per annum. Another report gives a much lower estimate: 200 trees to the acre, 1 to 2 lbs. of rubber per tree per annum, deducting freight to market, net returns 100 to 200 dollars an acre by the seventh year; by the fifteenth an average yield of *5 lbs.* per tree.

There is probably not much information available that would afford a clear guide to Mr. James as to the suitability of the *Castilloa* as shade for coffee (beyond the fact that it requires a similar soil), or as to the cost of planting and the returns *in India*. If either he, or any other planter, desires more detailed information on any point, we shall be glad to furnish any that is within our grasp. We have refrained from commenting much on Rubber cultivation hitherto, under the impression that few, if any, planters in Southern India were taking more than an experimental interest in the matter. If others besides Mr. James are going beyond this, or even contemplate doing so, we shall be very glad to go deeper into the subject in future issues.

PEPPER.

Several papers that we have recently published have foreshadowed an important rise in prices of Pepper. This week's advices from London mark another advance, and one that should strike planters' attention. Considering that it was holiday time, the "boom" was remarkable. There is probably a good deal of speculation at the back of it, but none the less will shippers rejoice to see what has occurred. After selling during the week at 4 11/16d. usual terms, Tellicherry Black rose to 4 13/16d. per lb., c.i.f., delivered weights, and 25 tons were sold at this figure for January-February steamer to London. Granted, too, that speculators are at work, there is a solid foundation for their operations. The *London Commercial Record* goes the length of saying that there can hardly be two opinions about the future of Pepper. With declining stocks everywhere and short crops in almost all the pepper-producing countries, the only possible conjecture it can arrive at is that the value of all descriptions of pepper will shortly experience another improvement. Reports from the Straits are unanimous in predicting a falling off in supplies. Lampong is also reported short, and Tellicherry speaks of late unseasonable rains, which have done great damage to the growing crop, and thinks that, at the outside, a total yield of about 3,500 tons may be expected. The *Grocer* has taken a somewhat similar view, and although pessimistic reports from producing centres are regarded with suspicion by London operators there are certain facts that cannot be disregarded. Thus the *Record* says:—"We cannot close our eyes to the fact that such unusual and heavy rains as have visited the Indian Pepper districts in November, must have caused considerable damage to the young crop. An estimate of 3,500 tons growth only appears to us, therefore, by no means improbable." Another fact, which in time may prove of the greatest importance, is, it is observed the spreading of the plague towards those pepper districts. "If the Government should fail in arresting the plague, its appearance in those regions will have a most disastrous effect on the Native population, inasmuch as it will create a great difficulty in gathering the crop and carting it to the usual export ports. This is being recognised in India already, and Native dealers and speculators are laying in as much stock as they possibly can in anticipation of a boom. In this belief of an early rise they are furthermore supported by a strong demand from the Straits, which, in itself, is a proof of the shortage of the crop there." Our contemporary adds:—"Native capitalists in India have once more adopted their old tactics of buying up all they can, and holding their stocks—if need be for years—waiting patiently until buyers are forced to pay the profit they demand." As there is likely to be more demand, the following figures showing the exports from the usual ports may prove of interest and value to our readers:—

	To Europe.	To India.
1896.		
January to November	about 2,600 tons.....	about 3,200 tons.
1897.		
January to November	„ 4,800 „	„ 2,200 „
1898.		
January to November	„ 1,350 „	„ 3,450 „

A close competition between India and Europe is likely to arise this season, and higher prices will probably result. This is good news for pepper growers, and should satisfy them that even short crops are likely to prove very profitable this year.

THE U. P. A. S. I. SECTION.

[Under the Control of the Secretary, U P. A. S. I.]

In the Board of Revenue's Report on the operations of the Department of Land Records and Agriculture during the year 1897-98 there is the following paragraph regarding Entomology:—"At the instance of the United Planters' Association, relying on the success of Hawaiian and American experiments for the extermination of scale-pests, Government decided to give a grant-in-aid of the deputation of a planter, in the absence of a skilled Entomologist, to Australia, to collect and bring to India a consignment of lady-birds which, it was hoped, would prove destructive of the scale-pest on coffee. Mr. Newport proceeded to Australia late in the year and appears to have received all possible aid and advice from the Australian authorities in connection with the collection of lady-birds; but unfortunately the consignment he brought back failed to survive the voyage."

* * *

In its review on the above report the Madras Government observes: —"The Government aided with a grant the experiment conducted by the United Planters' Association of bringing from Australia the species of Lady-bird likely to be destructive of the scale-pest on the coffee plant. It is much

to be regretted that the consignment failed to survive the voyage."

***

Yet another remark on the same subject. In the Entomologist's report that is included in the Annual Report of the Queensland Department of Agriculture for the year 1897-98 we read :—"The part taken, from the time of its inception onwards, by this Branch of the Department in furthering the knowledge of useful insects has been specially recognised during the year by the arrival of Mr. Howard Newport, a duly accredited agent of the Government of India and of the Central Indian Planters' Associations, to whom had been committed the duty of introducing scale-eating beetles to the peninsula as a means for contending with the various pests inimical to the successful growth of the coffee therein. Instruction was imparted to this officer—whose zeal and ability specially qualified him for the work entrusted to him—as to the localities where the various insects in quest were procurable, their habits, the means to be adopted for obtaining them, as well as regarding their generic and specific determination. And Mr. Newport having already left this colony in the possession of a large number of living Lady-birds, including *Cryptolæmus Montrouzieri*, *Orcus australasiæ*, and *Rhizobius ventralis*, as the outcome of his assiduous labours prosecuted continuously during several weeks in the face of somewhat adverse conditions, there are good grounds for anticipating the ultimate success of his mission."

***

Unfortunately, that success was not to be! But there is time yet to make up for past non-success.

***

In the Queensland report there are two interesting paragraphs about the cultivation of Coffee in those parts The Overseer of the State Nursery at Kamerunga states that considerable excitement has been evinced in regard to this plant during the year. It was feared the dreaded leaf disease had made its appearance in one portion of the district, but from the Entomologist's Report on that district there is no sign of that disease. The Overseer proceeds :—"There is one disease, however, at this Nursery as reported last year, and that is the drying of the pulp on to the parchment. This prevents the berry from being properly pulped when first passing through the pulper. Liberian and Maragopipe varieties are quite out of the question, they both being of peculiar growth and subject to the pulp adherence disease. I fear the climate conditions below the Range are too forcing Inquiries have been received from all parts of Australia regarding this plant by persons wishing to experiment. Queensland coffee yields a small berry, but is said to have a better flavour. Considerable areas have been planted in parts of this district, and several coffee pulpers have also been introduced."

***

And in the Annual Report (dated 30th June 1898) itself, there is the following :—"The interest that has of late years been shown in this product is now developing itself, principally in the tropics, by the establishment of plantations by private individuals and by joint stock Companies. Though the advance in the area is not yet great, it is sufficient to show that there is confidence in this product. The statistics for the last two years are :—

	Area under coffee.	Production.	Average per acre.
1896 ...	138 acres	9,707	70·34 lb.
1897 ...	311 „	81,614	262·42 „
Increase	173 „	71,907	

Though the average return per acre is here given, it is not quite fair to strike an average in connection with the cultivation of coffee, because upon the area under this plant, there is much variety in the various stages in which the trees thereon are with regard to their maturity, and, moreover, many of the plantations, although planted out, are still in their infancy. Of the total area under coffee, some 275 acres have been planted in the Northern district, 29 acres in the Southern, and 7 in the Central. It will thus be seen that the Northern district greatly preponderates as regards area, and will no doubt continue to do so. Statistics are not yet available as to the profit to be obtained from these plantations, sufficient time not having yet elapsed to decide this matter from a commercial view, but, so far as is known, those whose plantations are sufficiently advanced to return a partial if not a whole crop are apparently satisfied with their lot, and nothing has yet been heard of the abandonment of the cultivation of this plant. Coffee has been grown in isolated parts for many years, and at Mackay one grower has for a long time placed his product upon the market, but it is only now that definite steps have been taken to establish plantations upon a commercial scale.

COFFEE IN QUEENSLAND.

WHEN, in the *Cairns Argus*, an illustration of apparently large sized coffee bushes, in the neatest and primmest of rows, struck our attention, we began to think that coffee was something more than a plaything in Queensland. A neat little shanty in the background might be the planter's bungalow, or something less pretentious ; but about the field of coffee with ne'er a shade tree except one in a remote corner there would be no mistake, for the word "Coffee" was struck right through one end in letters ⅜ of an inch larger! It was, in fact, an advertisement of "Mount Graham Coffee" that attracted us—describing this coffee as of the purest quality grown by D. R. Lewis, at his Mount Graham Coffee Plantation, Russell River, North Queensland and manufactured at his establishment, La e Street, Cairns. Here is an excerpt :—

THE Coffee is of the finest **Aroma and Flavor.**

"UNIVERSALLY USED throughout North Queensland, and pronounced Superior to all other Coffees."

"There is no better or Purer Coffee in the World than Lewis' Mount Graham Coffee."

The following particulars with reference to the above estate are given by a special reporter of our Cairns contemporary and may interest some of our readers :—

During the past few years the cultivation of coffee has had an ever increasing amount of attention paid to it in the Cairns district. True, the area under coffee at present is not great, but it is gradually growing and as the district contains a practically unlimited area of country adapted for coffee growing there are not wanting enthusiastic planters who aver that coffee growing is destined in the course of years to develop into the principal agricultural industry in this part of North Queensland. Climate, soil and rainfall are all eminently favorable to coffee growing. The greatest disabilities the planters have had to contend with so far have been a dearth of suitable labor and a fairly general ignorance as to the proper methods of preparation for market. Nature does her share, as the excellent raw produce attests but until an expert has enlightened the struggling pioneers the second disability will remain It is understood that the petitions of the farmers have roused the Government to a sense of the necessity for an expert to advise and instruct the growers as to the best means of preparing

their coffee for the market and that negotiations are now in progress with a gentleman in India well versed in coffee, with a view to securing his services as a coffee expert.

THE MOUNT GRAHAM ESTATE.

Coffee holdings are to be found in various parts of the extensive district of which Cairns is the commercial centre. At Kuranda and Myola on the Cairns-Herberton line, at Hambledon and on the Lower Russell. All these small holdings have been more or less successful but those in the Russell District, owned respectively by the DeMoleyn Bros. and D. R. Lewis can safely claim to be the estates on which coffee growing has been carried out on the most comprehensive scale. It is with Mr. Lewis's estate, colloquially known as Mount Graham, that we purpose to deal with particularly just now.

PIONEERING.

It is now some 15 years ago since Mr. D. R. Lewis, perhaps better known locally as "Coffee Lewis" took up land at Mount Graham on the right bank of the Lower Russell, armed with some slight knowledge of coffee growing and manufacture gained in Ceylon and an indomitable determination to win, Mr. Lewis set himself the uphill task of growing coffee at a profit at Mount Graham. A visit to that picturesque estate and to his factory in Lake Street will give a fair idea as to how far he has succeeded.

The Mount Graham Estate consists of about 260 acres of which 85 acres are cleared. Of the cleared area, 25 acres is under coffee, and 20 acres more is in readiness to receive new plants, while an orchard occupies about 10 acres more. I had always been lead to believe that a sheltered situation was the prime essential in choosing a site for a coffee plantation. Mr. Lewis evidently held that opinion when he chose Mount Graham, for no better sheltered spot could well be conceived. The estate is situated on the inward slopes of the coast range immediately overlooking the tortuous, sluggish Russell. The buttress of hills protects it most effectually from the prevailing South Easterly blow and an accommodating spur running out at right angles from the main range performs the same motherly office when the "Northers" prevail. The coffee trees are planted on the slopes of the hill, the diagonal method of planting having been adopted. It is claimed for this method that it gives the maximum number of plants to the acre - about 24 more trees to the acre than the usual plan. The land, originally dense tropical scrub, is not thoroughly cleared. Here and there a stump or a log may be seen among the coffee trees which Mr. Lewis claims assist to shelter the tender plants. At the outset Mr. Lewis planted three acres, say 2.500 plants, and that area has been gradually augmented every year until now there are about 25 acres under coffee, fully one half of which is in full bearing. Some three years elapses after planting before the coffee plant returns a crop. Mr. Lewis pins his faith to the Arabian variety of coffee (best Mocha) and cannot see any virtue whatever in the Liberian variety.

MANUFACTURING.

For some years past Mr. Lewis has been manufacturing his own coffee at Mount Graham, with machinery procured for the purpose, and so far has found a ready demand for all his produce. The Mount Graham coffee tins may be seen as far down the coast as Rockhampton and as far west as Hughenden The manufacturing appliances at Mount Graham are a tribute to the ingenuity and the perseverance of Mr. Lewis. The motive force is supplied by a large water-wheel. the water being lead down a gully by a long section of troughing. From Mount Graham the manufactured article has to be ferried across the Russell and then packed to Aloomba whence it comes into Cairns by the tram But this system entails a considerable loss and inconvenience, so Mr. Lewis has determined to do all his manufacturing. in future, in Cairns. The newest and most improved machinery is already in position in his Lake Street premises and the coming crop will be treated in Cairns.

LABOR.

The Labor difficulty in connection with the growth of coffee is a topic on which a good deal has been written and spoken of late. An impression prevails in many quarters that coffee growing can never assume vast proportions in North Queensland as an industry on account of the dearth of cheap labor to pick the crop. Mr. Lewis. like most of the coffee growers in this district found the native aboriginals both numerous enough and apt enough for all the work required of them. When the area under coffee multiplies itself four or five fold the labor problem may be a real difficulty, but at present it is by no means insurmountable.

PROSPECTS.

The decision of the Cairns Divisional Board to extend their tramline into the rich Russell country, means a lot to Mount Graham. The line will probably pass within a mile of Mount Graham and will do away with the tedious journey to Aloomba per pack-horse. This and the greater facility in the receipt of goods and the despatch of produce will constitute no insignificant advantage.

In conclusion a visit to Mount Graham besides demonstrating that coffee can be successfully grown on a large scale in the district, will also furnish a convincing object lesson as to what can be done by pluck and perseverance under adverse circumstances. The comfortable homestead established at Mount Graham is solely the result of a pioneer's hard and unremitting toil for 15 years. Certainly Nature on the Russell is inordinately kind to the coffee planter. The soil is excellent, the situation uniquely suitable and the rainfall bounteous. But Mount Graham, although perhaps the pick of the Russell country from a coffee-grower's aspect, by no means absorbs all the natural advantages of that highly favored region.

Apropos of prospects, Mr. Valentine Webster, one of the proprietors of the Co-operative Tea Gardens Company, of Colombo, who was recently in Queensland, informed a representative of the *Bulletin* that he was one of the inspecting directors of the Mackay Coffee Company, and as such had been noting the progress of the industry throughout his Queensland trip. At Cairns there was room for a big extension in the way of coffee production, although growers had yet something to learn in the way of details particularly with regard to processes necessary after the berry is picked. The Mackay Company were going in for coffee growing on a large scale, having 85 acres under cultivation. When in Brisbane he intended interviewing Mr. Chataway on the subject of protecting the industry, holding that the present duty of 4d. per lb is not sufficient to protect the Queensland grower from cheap American coffees. With 6d. per lb on tea and 8d. on packet tea Mr Webster thinks the Government should increase the duty on coffee to 6d. With regard to tea, Mr. Webster considers the soil and climatic conditions of Queensland suitable enough, but the want of labor at a price to compete with other countries renders tea growing in Queensland an impossibility. On the other hand, there is, he thinks, a big future for coffee under favorable auspices.

TELEGRAPHIC QUOTATIONS.

	12	13	14	16	17	18
LONDON —						
Bar Silver ...	27 5/16	27 3/8	27 1/2	27 3/8	27 3/8	27 1/2
Bank Rate ...	4 %	4 %	4 %	4 %	4 %	4 %
Coffee						
Nilgiri ave.(B)size..	[quiet]	[steady]	...	[quiet]	[quiet]	[steady]
Mysore do. ...	65	65	...	65	65	65
Wynaad do. ...	76½	76½	...	76½	76½	76½
Middling Ceylon ...	103	103	...	103	103	103
Stock tons ...	...	...	...	...	14,442	...
Fortnights ldgs. ...	...	...	...	...	700	...
Do del ...	...	...	...	...	300	...
Cinchona, per unit.		1*d.*				
NEW YORK.—						
Coffee—Fair Rio ...	6⅝	6⅝	6⅝	6⅝	6⅝	6¼
Futures, April ...	5·73	5·74	5·72	5·70	5·71	5·82
Silver—Commercial Bars ...	59¼	59⅜	59⅜	59¼	59⅜	59⅜

NOTES.

Mr. H. O. Newport.

Mr. H. O. Newport has been appointed a Member of the Planters' Association of Ceylon.

Coffee in North Wynaad.

Very little is heard from this quarter now-a-days. We should be glad to know if any real progress is being made in the district.

Imperial Penny Postage. The Planters' Association of Ceylon has recorded a hearty vote of thanks to Henniker Heaton, Esq., M.P., for his untiring efforts in furthering the cause of Imperial Penny Postage.

"New Crop" Coffee. In their report dated 30th ultimo, Messrs. R. J. Rouse & Co., of London, remark :—"The first shipment of new crop East India has just arrived per S.S. *Clan Mackinnon* and will probably be catalogued next week."

Rio Coffee. The *Rio News* (November 1) says : "There is no news in regard to the growing coffee crop, and 'no news is good news.' There has been much warm weather, followed by showers of rain, which is considered particularly favorable to the development of flowers and fruit."

Nilgiri District Association. An Ordinary Meeting of the Members of this Association will be held at the Masonic Hall, Ootacamund, on Friday, January 27th, at 11-30 A. M. Members wishing to propose a resolution at the above meeting are referred to Rule 7 as containing the procedure to be adopted.

The Calcutta Tea Sales. At the sales at Calcutta, on 13th instant, 15,000 packages were sold. Souchong kinds were quoted from one to two pies dearer. The market was generally firm. Recently the usual average price at the Calcutta sales has been 5 annas 8 pies. The first sales this year, however, touched 5 annas 11 pies. It is a good omen.

The London Tea Market. In their cable of 12th instant to Ceylon, Messrs Gow, Wilson and Stanton, report a steady market, with quotations unchanged. Pekoe Souchong 6½d. average 8d. Reuter states that 26,000 packages were sold out of 28,000 offered. Of Indian, 42,000 out of 46,000, the average being 8⅞d. which shews a rise of ¼d.

Ceylon Tea Estimates. A Special Committee of the C.P.A. has been appointed to consider the returns received from District Associations and to report before the 17th February, 1899 ; and the Ceylon Chamber of Commerce is to be invited to nominate two members of the Chamber to confer with the Special Committee of the Planters' Association, especially as regards the probable distribution of the crop.

Tea for Price. It is said that low price is everything in the London Tea market. That it is not so in the United States, would appear from the following remarks of the *American Grocer* that tea for price "is what every dealer is looking for, and since the imposition of the duty the task has not been so easy as previously, for 'tea for price' means that quality plays a more important part in adjusting values than ever before."

Co-operation. A "coffee-man" writes :—"Where is the money to come from ? We are too poor, and wanting in unity, and the men who have made their money will be quite content to go on as they have done. Bad exchange is not what we are suffering from so much as low prices, and extravagance in working. Hard times are ahead of us, and unless we can get our coolies to do more than two annas work for four annas pay, we shall find ourselves in a fix."

Pest-preventive measures. The Ceylon Planters' Association has resolved :—"That Government be asked to arrange for the proper Inspection and Fumigation of all Imported plants and fruits and Tea Seed on arrival at the port as the Committee considers the need for these precautions is of the utmost importance in the interests of the Horticultural Industries of the Colony. Further the Committee understands that the treatment has no injurious effects to either plants or fruit, and therefore cannot in any way check the trade in them."

The London Tea Market. The Ceylon average in 1898.—Messrs. Gow, Wilson & Stanton in their annual report say :—"The Ceylon crop has been a very fair one and fully up to the average in quality, although some slight disappointment is generally expressed by growers in reference to the quantity, which has fallen somewhat short of their expectations, the latest estimate being placed at 119,000,000 lb., against an outturn of 116,000,000 lb. in 1897. The average price for the year 1898 was very little below that of 1897, *viz.*, 7·76d. against 7·82d., and in 1896 8·21d."

The Currency Committee. Mr. A. L Cross writes from Edinburgh to the *Ceylon Observer* :—"Unless producers can make a big row in Parliament over the exchange question as affecting producers you may depend on it the present Government will impose a gold currency in India. The formation of the Currency Commission is simply scandalous. It is almost entirely composed of men pledged to play into the hands of the Indian Government. I wonder why the Native States of India don't make a noise about it." Imagine the Native States of India doing any such thing !

Ceylon Tea in America. Mr Finlay Acker, the leading grocer of Philadelphia, has expressed the opinion that Ceylon Tea in itself will *never* become palatable to American people. He says :—"What may be the *reason* it is hard to state, unless it is that the climate is such that people are affected by it in their taste for food. However that may be, the fact remains that Americans do do not like heavy teas, but shew almost an universal preference for the lighter kinds Only those who arrive comparatively fresh from England appreciate the merits of that class of tea generally characterized as English Breakfast."

Colombo Tea Sale. At the public sale of tea at Colombo on 11th inst., about 8,153 pkgs. = 616,715 lbs. were offered, of which about 7,016 pkgs. = 537,263 lbs. were sold. A very firm tone prevailed at the auction, especially in common leaf grades, which were keenly competed for, and showed a slight advance. Medium and fine broken were not in so strong demand. The *Times of Ceylon* states that amongst the finest teas offered were : High Forest, Middleton, St. John's, Agra Ouvah, Glasgow, and Iona. Amongst low-grown teas good invoices were offered from Farnham, Pallegodde, Knavesmire, and Razeen.

A proposed "Tea Dust Company." A Ceylon planter suggests the formation of a "Ceylon Tea Dust Company" started to purchase and

dispose of all the Dust Tea manufactured (in Ceylon Factories) for consumption within the Island. This would, he thinks, not only reflect to their credit as a laudable philanthropic move, but as a scheme which must undoubtedly in the near future prove a very remunerative undertaking. He adds that, it would be to the interest of all planters to bind themselves to sell their Dust Teas (*bonâ fide* dust only) to such a Company at say 15 cents. a lb., packed in chests and delivered in Colombo.

Costa Rica Coffee. The Director of Statistics of the Republic reports that the exports of coffee for the fiscal year ending June 30, 1898, were 297,491 bags, or 35,461,407 pounds, an increase of 2,000 bags (264,000 pounds) over 1896-97, and 6,000 bags (792,000 pounds) over 1895-96 :

	Bags.	*Pounds.*
To New York by Atlas Line	94,075	11,209,921
To England by Royal Mail Line	80,358	9,184,505
By Lyon and Cox Line	52,983	6,353,906
By the German Line	45,731	5,660,789
By the French Line	18,829	2,328,611
By other lines	5,515	723,675
Grand Total...	297,491	35,461,407

Weeds. Commenting on our recent remarks on the oxalis, a Nilgiri correspondent of *Indian Gardening* writes that "Poonac" has nothing to say to the introduction of it, the spread may be traced to the use of manure near which the oxalis has shed its seeds or bulbs. The real origin may be traced to some flower garden where it has been grown as a "pretty flower," and the commoner variety, without a flower to recommend it, has got in with other seeds. At the "Woodlands" Estate in Ootacamund the devastation caused by it may be seen ; it is in vain the unhappy owner strives to eradicate it : up it comes more vigorously than ever, all the stronger for having the earth loosened. In private gardens it has found itself a home in the turf about, quite ousting the grass. Cattle will not eat it : in time, if it spreads as it is doing, there will be little left of pasturage of any kind.

Insect Pests on the Hills. "Asphodelus" inquires in *Indian Gardening* if any one has tried sulphur for the blight known as "American." We fancy any answer to such a question must be of an unreliable character. Planters' nomenclature of pests and blights is sometimes puzzling, and we think District Associations would confer a boon on the community if they would assist in collecting a list of all known pests and blights, with such descriptions as are available and the local names. This with a view to compilation of an "official" list for general use, and the preparation of hints as to remedies and preventives. As regards "the large aphid," referred to by the same correspondent as attacking his pear-trees, he should try a weak wash of kerosene oil or phenyle, applied with a brush. Apply either in the evening or on a cloudy day. One part of kerosene emulsion to 80 parts of water : or one part of phenyle to 200 parts of water. Follow up phenyle next morning with a liberal application of fresh water, and water nurseries with a weak phenyle wash.

Coffee and Co-operation. The Nilgiri correspondent of the *Planter* considers it very satisfactory to find that coffee planters in Southern India are seriously considering the expediency, nay necessity, of offering their produce to the consumer in a condition ready for use. But he cannot understand why the Company supported by the Shevaroy P. A. should be started in London, when India offers such an inexhaustible field for its operations. The natives of this country are great lovers of coffee, and their taste at present has to be satisfied with the merest flavouring. He adds :—"Parched rice serves in India the place that chicory does in Europe : and often times the parched rice has the name of coffee without even the odour. . . . . Let the planter, instead of starting his Company in London, adopt the far more practical measure of adding to his garbling machinery a roasting, a grinding, and a canning department, and send his produce out ready for use, and the consumption in India alone will be wonderfully increased." The *curing* process is skipped !

Great Wits jump together. Co-operation in regard to the sale of coffee has been suggested. Just about the same time an Indigo Planter has put forward the following suggestions, which seem to him feasible and certain to enhance the value of indigo, and in time fix it on a firm basis. The main point is, he says :—Producers should approach the consumers, either direct or through duly appointed local agents. All producers should combine and appoint a chief agent either in Calcutta, Madras or Bombay (whichever port is most convenient for export purposes). This agent to have the entire management of the sale, export, etc., and all correspondence between the producers, sub-agents and consumers carried on by them. Sub-agents ought to be appointed in all countries where the consumers carry on their trade. He adds :—"Simple advertising will have no effect. The article must be placed in the hands of the consumers direct, and by those most interested (not by a third party), and all advantages derived from a natural dye over artificial ones pointed out to them." These are only broad outlines, but perhaps our coffee friends may find them interesting.

Coffee under Lime Trees. "Gardenia" writes to the *Planter* to state that in his district—he does not say which it is—coffee trees will, and do, grow not only when planted in close proximity with lime trees, but even when growing directly under the branches of these trees. He says :—"I have growing in my garden several gigantic lime trees, whose top branches meet, and intertwining form cool shady arbours. Under the shade of these limes I have a few coffee plants of the Liberian variety which have been producing abundant fruit for at least ten years. The leaves of these coffee plants are large, and of a dark glossy green colour, while the fruit is rather small, encasing small brown berries, which, when properly prepared, make a very delicious and most fragrant beverage. A year ago I planted a few dozens of very healthy looking coffee "pullies" on a small piece of land behind my bungalow, I had the ground well manured and properly prepared, but there were no trees on it, certainly not one "voracious" lime tree, and yet I lost every one of those coffee pullies They gradually drooped and gracefully faded away."

The Depression in Coffee. Following up our remarks in last issue, we note with pleasure that a more hopeful view is beginning to be taken in quarters that more recently ranged on the side of the pessimists : but the change is partly attributable to fresh talk of an American

duty on Coffee. The *American Grocer* remarks, for instance, that "As there is renewed talk of a duty on coffee, we may see a repetition of the movement last spring, when deliveries exceeded 900,000 bags in one month. Very heavy purchases have been made recently by parties who have talked bearishly on the general situation, possibly in anticipation of a duty being levied. The total sales in November for future delivery on the Coffee Exchange, were 306,000 bags. The lowest price was 5·15 cents. for November, and the highest 6·20 for October. The lowest official spot quotation for No. 7 was 5⅞ cents.; highest, 6⅜ cents: average for the month, 6⅛ cents.; Padang Interior, 24½ @ 25¼ cent; fair to good Maracaibo, 7·94 @ 8.65 cents. There is much in the above to encourage a liberal carrying of stock. Light receipts in Brazil, good consumptive demand, possibility of a duty, low prices are all in favor of keeping the stock of raw coffee in good volume."

The Wynaad. A writer in the *Planter* has been "booming" both North and South Wynaad, and although, unfortunately, the P. D. has played the mischief with certain names, the following brief extract may be taken for the benefit of our readers:—"South Wynaad contains a number of very fine coffee estates, some of which, over 36 years old, are now maturing phenomenal crops, while the tea, which has been opened almost entirely upon lands once covered with coffee bushes, has been pronounced on competent authority to be equal to anything of the same age in Ceylon. Assam Hybrid, Indigenous Manipuri, Jettinga, and Longai being so far most in favour; and as the experience hitherto acquired in Wynaad has demonstrated that tea will flourish luxuriantly, if well planted, upon lands originally under good coffee, a vast extent of land suited for tea is available, both of the class described, and of "bamboo jungle" which appears equally well adapted for the profitable growth of tea. Vargiter, [*sic*] which is the oldest planting centre in South Wynaad has its church, club, hospital, dispensary, kutcherry, and other Government buildings. It can also boast of a race course and cricket ground. Madras can be reached within 36 hours. Ootacamund in less time, and the Coast by Pony Jutka in from six to eight hours."

Leaf-disease in Africa. Coffee leaf-disease has found its way to Africa. The *British Central Africa Times* says:—Some of the Liberian coffee trees at Mbweni bear the unmistakable stamp of the well known coffee leaf disease (*Hemeleia vastatrix*). The disease is a fungus which first attacks the under side of the leaves causing spots or blotches at first yellow but subsequently turning black. These blotches are, on examination, found to be covered with a pale orange coloured dust or powder which easily rubs off. The blotches gradually increase in size till at last they have spread over the leaves which then drop off, leaving the trees in a short time quite bare, in which state they are of course unable to produce crop or bring that which may have already been produced to maturity. Its ravages in Ceylon in the eighties converted hundreds of acres of beautiful Arabian coffee into withered sticks, as if a fire had raged through the fields. The whole of the Eastern world was more or less affected from Ceylon, but as far as we know this is the first actual appearance of the disease in Zanzibar The Liberian variety is not supposed to be subject to its attacks and this makes its appearance at Mbweni all the more interesting. Otherwise the trees there show a most robust and healthy growth in spite of dry weather.

COFFEE SHADE TREE.

Sun-dried Erythrina Lithosperma loppings, &c., contain per ton:—

61·50 lbs. Nitrogen.
57·38 „ Potash.
14·92 „ Lime.
13·68 „ Phosphoric Acid.

Seed cured under Messrs. Sutton and Sons' advice.

Orders should be booked early for the 1898-1899 crop of seed from the parent trees of above analysis at Rs.6 per pound containing about 2,000 seeds. *Germination guaranteed.*

Only thornless variety extant, and is not procurable anywhere save from the

MANAGER, ARIENKOW ESTATE,
Shencottah.

GENERAL ARTICLES.

TEA COMPANY.

The Balijan Tea Company, Limited.—At a meeting of the directors of this Company, held on the 7th ultimo., it was resolved to declare an ad interim dividend at the rate of 3 per cent. upon the paid-up capital of the Company for the time being. The tea crop for this season, up to November 12, amounted to 318,705lb, as compared with 293,721lb. to the corresponding date last year. The sales up to date of 231,430lb. have averaged 9⅞d. per lb., as compared with sales in Calcutta to the end of November last year of 205,167lb, at 10 annas 9 pies per lb., equivalent to 1s 0¼d. per lb in England.

HEAVY TEA CROPS IN CEYLON.

Despite an abnormally short rainfall in 1898, certain Tea estates gave splendid yields, and some of the figures relating to these will probably interest our readers. Giving the figures for Mariawatte estate, the *Observer* remarks:—

Although the crop for the whole estate has been short, it will be observed that for the now celebrated "101-acre field," the return of made tea was actually heavier per acre than in 1897, the average being as high as 1,073 lb.! The statistics for this field are now complete for fifteen years, and we suppose nothing in the history of tea cultivation in India can approach the high average yield for that period which amounts to 1,133 lb. of made tea per acre. The return is as follows:—

MARIAWATTE ESTATE, GAMPOLA.

a. r. p.
Yield of old Tea ... 101 1 0

Year.	Made Tea. lbs.	Yield per Acre. lbs.
1884 ...	109,230 ...	1,078
18·5 ...	117,842 ...	1,163
1886	105,925 ...	1,046
1887 ...	115,996 ...	1,145
1888	106,410 ...	1,050
1889 ...	113,834 ...	1,124
1890 ..	140,144 ...	1,384
1891 ...	120,366 ...	1,188
1892 ...	119,909 ...	1,184
1893 ...	115,440 ...	1,140
1894 ...	110,448 ...	1,090
1895 ...	118,560 ...	1,170
1896 ...	113,360 ...	1,119
1897 ...	105,729 ...	1,044
1898 ...	108,423 ...	1,073

	a.	r.	p.
Yield for the whole Estate ...	458	1	17

Year.	lbs. per Acre.	Rainfall, Inches.
1892 ...	643 ...	95·74
1893 ...	817 ...	86 22
1894 ...	750 ...	72·00
1895 ...	886 ...	100·28
1896 ...	896 ...	115·41
1897 ...	926 ...	111·25
1898 ...	738 ...	79·90

As regards the Warakamure estate, Matale, the Manager, Mr. H. Storey—who only returned to Ceylon at the end of December, after nine months' absence—writes to the *Observer*:—

"In reply to your letter of 31st ultimo, *re* above estate's yield for 1898. I am sorry to say that it only turns out to be 720 lb. per acre. The unprecedented series of droughts during 1898 simply played havoc with Matale lower valley crops. If you will note my former reports, you will see that my crop depended for big results entirely on rainfall—the higher the rainfall the higher the yield. 1896 and 1897 were at least 20 inches each year above our average rainfall, and the result was for each year, respectively, 993 lb. and 1,066 lb. per acre, without manure. During the latter part of last year, I manured some 60 acres, and am still manuring, as the tea has been rather weakened by the great drought. At present the tea looks first-rate as the manured portions are beginning to show up, and I intend to keep on with it now in case of future droughts I only returned to Ceylon last week, after nine months' absence, and my 'locum tenens.' Mr. E. C. Anderson had the 'pleasure' of grappling with the drought and its results, which he did successfully."

COFFEE PLANTING IN BRAZIL.

Some months ago an interesting monograph on coffee planting in Brazil was published by J. H. de Bussy, of Amsterdam, Holland. Its author is Dr. F. W. Dafert, of the Agricultural Institute at Campinas, S Paulo, whose competence for such a discussion is universally conceded here in Brazil. The monograph is in Dutch, and we therefore make use of the following translation and digest prepared for the *American Grocer* by J F. Geisler, Ph. C., of New York.

The total amount of land under cultivation for coffee in 1895-96 was estimated at 2,245,557 hectares, and the world's product at 836,000 tons, of which Brazil produced 460,000 tons upon a cultivated area of 1,000,000 hectares. Although Brazil embraces about 8·3 million square kilometres (an area equivalent to that of Europe) and only about one-tenth of this is excluded from the possibility of coffee culture, yet economical reasons exclude nine-tenths of the theoretically available area. Of the latter, much is of poor quality, but can be made very productive through artificial fertilization, which would bring into active factors the *campos* (grass lands) and *terra exhausta* (exhausted soils).

The lands originally selected for coffee plantations were almost exclusively such whose *flora* consisted of primitive forests or wood lands. Rarely were the *campos* ventured upon. While nature of soil, amount of moisture, and climate are the prime factors in the selection for plantations, the lands should not be exposed to frosts or the cold south winds. The soil should not be wet, and must be porous and deep, to prevent injury to the tap root.

Geologically, the best coffee lands are those of recent v lcanic origin, as evidenced by the diorite, melaphyre, and porphyr rocks. To this group belongs the *terra roxa*, a dark red soil. The *terra vermelha*, a lighter red soil, inferior to the former, originated from the paleozoic and triassic ages. One of the best S Paulo soils, known as *massape preta*, is a rich humus soil. The best soils are rich in phosphoric acid and potash, containing usually 18 to 35 per cent. of the former and 10 to 26 per cent. of the latter. The fertility of the soil is usually indicated by the number, strength, and character of the trees.

The varieties of climate in Brazil are so great within the cultivated zone that Rio coffee is usually marketed a months sooner than Santo's coffee, while the crops of Braganca and Atibaia do not mature before October.

Of the varieties of coffee, the *café nacional* is the most widely cultivated. It is less productive than the *café Bourbon*. The latter exhausts the soil very quickly, and is, therefore, not very popular with planters. *Maragogipe* is a large berry of limited production and high market value *Botucatu*, a local yellow variety, known in India as Golden Drop coffee, is not much cultivated. The variety stands between *café nacional* and *café Bourbon* in productiveness. A very scarce variety of scientific interest in the *café hybrico*, with four to six berries instead of the two berries common to the other varieties.

At present the varieties cultivated are divided approximately at 75 per cent. Arabian, 20 per cent. Bourbon, and the rest between *café Botucatu* and *Maragogipe*.

The abolition of slavery in 1888 raised the cost of production of coffee and, in a measure, also the method of cultivation By the old method, as soon as a land showed a tendency toward shot crops the planter with his slaves moved to the interior, where he had acquired new lands. The primitive forest was cut down and the land planted with young trees from the old plantation, or seedling was resorted to. It required three and a half to four years before the new plantation became productive. By the new method a well-manured seed-bed is prepared and the young plants carefully nursed and transplanted two or three times, and gradually accustomed to the sun. The small trees are then transplanted in baskets in rows, carefully spaced, so as to permit the use of machines for hoeing. The careful nursing of the plants yields in one and a half years what the old method scarcely produced in four years. The land is kept free from weeds, and for this purpose is machine hoed at least five times.

To restore the amount of mineral matter annually removed by the crops the added fertilizer should contain about eight grammes phosporic acid, thirty-five grammes potash, and sixteen grames nirogen per tree. Stable manure must also be applied to the soil to get the best results.

For practical purposes the farm or plantation should be divided into two sections one for coffee cultivation proper and the other for food and fodder The ratio for practical purposes should be at least, for 10,000 trees, fifteen hectares fodder land and five hectares animal land. The manure from the latter plays an important part in the successful working of the plantation.

In gathering the crops the ground under the trees is carefully cleaned and the berries allowed to fall on the same. Double picking, to separate the ripe and unripe berries, is frequently resorted to, but is not a universal practice. The picked berries were formerly dried in the sun on mats, the operation taking several weeks. The dried berries were than shelled, cleaned, sorted, and marketed. The average yield per tree was 300 to 900 grammes, the hectare containing 900 to 1,100 trees. The maximum yield ranged between the tenth to fourteenth years, and varied from 270 to 990 kilos per hectare In the modern plantation the trees are planted in line four to six metres apart, and the soil fertilized with a mixture of stable manure and chemical fertilizers.

The preparation for the market of the picked berries is done by both the wet and dry process. Usually the picked berries are put through a decorticator, in which the ripe berries are crushed, while the unripe hard berries pass through unchanged. The latter are dried separately Since the ripe berries float and the unripe berries are heavier, this method is frequently resorted to for their separation. The berries are spread out in layers for drying, the decorticated berry requiring about five days (if dried in shell, eight days), while the green berry requires twenty to thirty days, according to the weather.

The drying process is now much improved by sorting the berries according to their size The berries are first dried in the

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[2-10-98—t f.o.]

sun for a few days, by which operation they lose about 50 per cent. of the moisture. They are then transferred to drying chambers, and the drying rapidly terminated; so that the whole operation is finished within five days, whereas the old method required twenty to thirty days. Moreover, the degree of moisture of the berry is more accurately judged during the artificial drying. Thus the blue berries contain more moisture than the green, and the latter more than the yellow.

The modern method of applying fertilizers tends to an increased production of coffee. Thus the products from fifty trees raised in the trial gardens averaged per tree as follows:—

	Planted					
	1892. gram.	1893. gram.	1894. gram.	1895. gram.	1896. gram.	1897. gram.
Unfertilised	25	35	200	90	605	560
Fertilised	40	120	780	480	700	900

For well-fertilized trees twenty years old the products should average 2·5 kilos per tree. Relative to the future of coffee culture in Brazil, there is nothing in the natural conditions to prevent either the continuation or expansion of raising coffee. The principal difficulties are in the management.

The present position of the planter is very precarious, and most of them may be compelled to sell or surrender their properties to the mortgagees. In that event the new possessors could work the plantations to advantage at the present prices A great many Italians have been imported and have displaced slave labour on the plantations. There is no likelihood of these Italians emigrating, as no other land offers any better advantages for obtaining subsistence and which condition invites further immigration. —*Rio News*, Nov. 29.

STRAY NOTES ON MANURING.

DEEP MANURING.—Our wheat, oats, rye and other grains were but wild grasses which have been bred up to their present condition by the careful labors of the intelligent cultivator. So in the application of manure we must improve upon nature's plan, for our object should be to make our soil as rich as possible with the means at our command.

We see by watching some of nature's works that the richest lands are those deep and well filled with decaying vegetable matter, as for example, the reclaimed swamp, which is one mass of decayed vegetation. These, when drained of their surplus water and allowed to absorb air and sunshine, become the most productive because they are full of vegetable matter or humus. So in applying manures we should aim to fill the ground to as great a depth as possible with vegetable matter. This applies not only to stable manures, but to green crops which we should grow and plough under, for by so doing we fill the soil with the much needed humus. This makes the land light loamy, capable of absorbing much more rain and withstanding greater drought.

Another objection to mixing manures in the surface layers is that the tendency of the valuable parts of the manure is always downward, that every rain carries it down and it soon gets below the reach of plant roots. This is the most foolish kind of nonsense, for nearly all cultivated crops send their roots down to a depth of from two to four feet, even in a stiff clay. The idea that all water in the soil is going downward is wrong, for nearly always as much and often even more water rises through the soil by capillary attraction than soaks down from above.—*American Agriculturist.*

* * * *

PRESERVING MANURE UNDER COVER.—A building for farm animals must be provided. It must be warm so that nothing will freeze inside, yet well ventilated. as good pure air is essential. It should be large enough to accommodate all of the stock kept. Different apartments or pens may be used while feeding the root or grain ration, after which the animals may be provided with a large inside yard of sufficient size to allow them free and constant exercise at will. Coarse food should be first prepared by being put through the cutting machine. It is then in fine condition for feeding All the waste is then available as an absorbent. This inclosed space may also be kept bedded down with any waste refuse, leaves, dust and a moderate amount of lime and land plaster. Enough fine bedding should be used to keep it dry and clean at all

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PACKING AND SHIPPING £3-10.

THIS machine has been in use for some years past on private estates in Assam, and the excellence of the tea manufactured thereby is proved by the good prices obtained, and the reports characterise the teas as being "good *tippy* teas, with strong pungent liquor, and well-twisted leaf."

The roller adapts itself to any class of leaf, and can be used, if desired, as an open top machine, or pressure can be applied as lightly or heavily as necessity may arise by means of a simple mechanical arrangement. The twist in the leaf is obtained to a degree of nicety without balling, no breakage occurs, and is kept cool throughout. The tips are not blackened by the oxidation of the juice from the leaf.

The low price of the machine will allow planters to obtain an excellent leaf roller at a very moderate figure, and thus be enabled to supplement their rolling plant, which in so many cases is insufficient.

The machine is very easily driven, absorbing about 1½ h.p. only when fully charged. The mechanism is exceedingly simple, and nothing can get out of order. All parts are made of the best material, and good workmanship guaranteed It will take 300 lbs. of withered leaf at a time, and is easily and rapidly filled and emptied.

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Invaluable as a Heat-, Fire-, and Water-proof covering for Withering-Houses, Fermenting Rooms, Offices, &c.

Makes a clean, fireproof floor for an upper sorting or withering department.

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times and to absorb all the liquids produced. The different apartments that may be in use should be cleaned daily and the contents added to that in the large space All will be re-mixed by the stock.

A compost thus prepared retains all of its value. No possibility of waste exists, as there is no exposure to rains to wash away its richness nor loss from evaporation or heating Being made up of all kinds of animal and vegetable matter it is the best and cheapest compost known, and always in a condition to be handled. The building is presumed to be large enough to permit the entrance of a team and wagon at any time for hauling out the manure. I anyone doubts the practicability of this method, come to my farm at any time and I will convince him of its usefulness. *O. S. Sisson. Wisconsin.*

* * * *

SUBSOILING NOT PROFITABLE. - Recent tests at the Georgia experiment station indicate that subsoiling produces no appreciable effect upon the crops.

* * * *

GARDEN REFUSE.—When I called in upon a Surey gardener recently, where there is an extensive garden that has to be manured without animal matter, the house being empty and no horses kept, I asked "how he managed to get such wonderfully fine crops of all things," and he said, "I will show you our manure heap" This I found outside of the garden, under a north wall and overhanging trees, and the accumulation of everything obtainable of vegetable nature was a huge one. No animal manure, no artificial manure, a deep sandy soil, and only natural manure such as decayed vegetable matter, yet splendid results. But then, how many gardeners are there who have to be dependent upon similar materials as manure? Chemical analysis on scientific basis would show this material deficient in phosphates and potash; root analysis shows that it is capable of remarkable results A.D. In *Journal of Horticulture and Cottage Gardener*, Dec. 8.

* * * *

MODERN IDEAS CONCERNING LIME.—Mr. D. P. Fornay, Adams Co. Pa., writes:—For many years lime was the standard fertilizer for this county. We are discarding many of our old lime ideas and there is nothing so difficult as the getting rid of prejudices. Let us look a little at some of the inconsistencies usually held as to the action of lime. A pig dies. We drag him to the compost heap, spread lime on him to "eat him up" for a fertilizer, and straightway go home and whitewash our hams to preserve them. We say "lime is not a manure but a solvent of organic matter," but when we tear down the old board fence we find that part of it not reached by lime, most effectually dissolved by the unaided action of nature's forces.

In fact, the outside shell of the board saturated with lime is the part best preserved. Here the forces of nature are evidently a more powerful solvent than lime. So we plunge our eggs in the strongest possible solution of lime, following nature, which puts a shell of lime around them to preserve them, and it does it.

Still farther, the opinion is almost universal among old Adams county farmers that lime as a fertilizer, "will not tell the first year." I have often seen its effects plain and decided five or more years after application. But if its effects are due to its ability to "act on vegetable or organic matter," ought it not be most effective when first applied in the caustic state, as it is usually called, and when it would therefore "act" most powerfully on vegetable matter and not after it has laid in the soil for a year or more and has passed into the inert carbonate or hydrate?

With these facts in mind we ought to abandon the old notions about lime and adopt the view that it is a manure, like any other plant food, and is prepared, as they are, for plant nutrition Instead of "acting upon vegetable matter" in the soil, it is acted upon by the vegetable and other acids created in the soil by the decomposition of organic matter, after it has lost its power of neutralizing their action to a great extent, and is then absorbed or assimilated by the plant, as other soil ingredients are. Hence plants with most lime in them are most benefited by it. One-third of the ash of clover is lime, and it is the best fertilizer for clover.

Why, then, are Adams county farmers turning from fresh-burned lime, as they plainly are, to the phosphate of lime? This change is going on all over south eastern Pennsylvania: First, because the latter comes already dissolved by a powerful acid for use by the plant, and second, because it contains both phosphoric acid and lime, which will make a better wheat crop than lime alone. Then there will be enough soluble lime left, after an ordinary application, to make good clover. All this is every succeeding year being more clearly demonstrated by practical experiment. This shows us the foolish wastefulness of the old plan of applying from 50 to 100 bushels of lime per acre at one application, and teaches how dearly we pay for wisdom when it must come to us through the wearisome school of experience.

HOW TO INCREASE THE SALE AND PROFITS OF INDIAN TEA.

The *Indian Sportsman* says:—There has been some discussion of late in the columns of our contemporaries on the subject of extending the sale of Indian Teas at home, and of securing for proprietors a larger share of profit than they now receive. Of course any suggestions likely to conduce to these so desirable results are welcome, if based on practical grounds; still, no advantage can result, but rather the reverse, from an imperfect understanding and argument of the matter. Thus we see some of the correspondents run amuck of the middleman and the retailer, as if these men were natural enemies, to be put down in the most summary manner; but those who argue thus forget to what an extent proprietors are really dependent on them Take away, for instance, the middleman, (although there may be several such) whom we we will call the capitalist between the seller and the retailer, and from where would come the biddings for exceptionally large stocks, when sales to meet drafts have to be made at any sacrifice. These men are *always* buyers, if they see their way to make a profit; but at times they are the *only* buyers who can absorb the large quantities offering. They buy to hold till they can sell to advantage, and so they, in fact, keep up the price of tea, for if they were compelled at all frequently to flood the retail market at low prices, the force of competition would compel the grocer to charge the public, also, exceptionally low prices, and there would thus be created a reaction to the detriment of prices at future auction sales.

Then, again, as to the retailer; he, sometimes to a small extent, sometimes to a larger extent, is also often a capitalist and where he does not buy at auction direct, he assists the middleman by relieving him of stocks when the former finds himself pressed. Obtaining his supplies, thus, at a lower rate than usual, it pays him to hold to a larger extent than the ordinary nature of his business would justify; but meanwhile his money is locked up, and he naturally expects to get a return on this account. If the retailer be a man of no capital,—purchasing only from hand to mouth,—he has to pay the price demanded by the wholesale dealer, and in consequence he has to charge accordingly; and as to competing with the retailer, you can only do so on unequal ground, for while his livelihood is derived from many items of his business, yours, if you established, as has been recommended, retail Tea agencies, would accrue from one item only, and you might find your expenses would be too great. We do not say that under peculiarly favorable circumstances, where a man could be his own agent, and thus protect himself from dishonesty or extravagance of working, as well as bring to bear the requisite energy in pushing his Business, retailing might not sometimes pay; but when the argument assumes the form of a recommendation to Tea Companies or the Tea Association at home to start shops all over the country, we feel it necessary to point out the absurdity and impracticability of such a project, and to point out also how much more desirable it is to take advantage of the already existing Agencies, and bring them over to your side.

Therefore, when people, in the desire to see an improvement of the prices received by proprietors, rush into the idea that this is to be effected by sweeping away, or even attempting to compete after it is sold with, those into whose hands tea passes at they set before themselves a task in which they are bound utterly to fail. So long as tea is grown to so large an extent as it is, and will continue to be, on borrowed money, so long must the aid of the monied man at home be a necessity, who must charge the public such a price as will leave him a sufficient profit. The intense competition which prevails, prevents the retailer from charging an excessive rate, and therefore it will be seen that, considering the number of hands through which, often, Tea passes before it reaches the consumer, the prices paid by the latter cannot, as a rule, be considered high,

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Prices firm to 9th February 1899. (Subject to such contingencies as war, fire, strikes and the like.)	Minimum Lots.	To Madras.			To Mangalore, Calicut, or Tellicherry.			To Tuticorin.		
		£.	s.	d.	£.	s.	d.	£.	s.	d.
THOMAS' PHOSPHATE POWDER, (Basic slag) 37 to 42 per cent.; phosphate of lime 80 to 90 „ „ fine meal.	10 tons.	3	12	6	3	17	6	4	1	3
SUPERPHOSPHATE, about 39½ per cent. soluble phosphate of lime.	10 tons.	5	5	0	5	10	0	5	13	9
SULPHATE OF POTASH, minimum 90 per cent. Potash salts; per 90 %, above that in proportion.	5 tons.	11	0	0	11	5	0	11	8	9
MURIATE OF POTASH, minimum 80 per cent. potash salts; per 80 %, above that in proportion.	5 tons.	10	0	0	10	5	0	10	8	9
KAINIT, 23 per cent.	10 tons.	3	15	0	4	0	0	4	3	9
Last prices per Mail **(without engagement.)**										
NITRATE OF SODA, 95 per cent. purity	5 tons.	9	17	6	10	2	6	10	6	3
SULPHATE OF AMMONIA, 24½ per cent. purity ...	5 tons.	12	5	0	12	10	0	12	13	9

All manures are of the best quality, and analyses guaranteed.

Any other Descriptions quoted on application.

Tools, Liquor, Stores, and all Planters' requisites purchased on a commission of 5%.

Analyses of samples of soils (with advice as to manuring) by Chemists of the highest repute undertaken. Net charge £3-7-6 per sample, or £11 for 4 samples.

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ESTATE REQUISITES AND MANURES.

		Rs.	A.	P.
ESTATE TOOLS—				
Round Eye Felling Axes (steel), 4 lbs weight	per doz. ...	19	8	0
Do. do. do. 2½ „ „	„ ...	13	8	0
Pick Axes, 6½ lbs. (well steeled)	„ ...	16	8	0
Bill Hooks, (Barcutties) 12″ blade, bright steel	„ ...	18	0	0
Do. Kentish, with back, steel, 2½ lbs. wt.	„ ...	14	4	0
Bushel Measures (Galvanized), Imperial Stnd.	each...	12	0	0
"Nonsuch," Watering Cans, (Galvd.) 2 & 2½ gals. Rs. 3·8 &		4	4	0
Steel Digging Forks. *Steel strapped all along handle.*				
4 & 3 pronged per doz., Rs. 36-0-0 &		33	0	0
Digging Fork Handles, ...	each...	0	14	0
Grass Knives, socket handle, steel ...	per doz...	12	0	0
Hammers, 6, 7 & 8 lbs.	per lb...	0	6	0
Lining Ropes, } abt. 600 feet	„ ...	15	0	0
Tarred Russian Hemp } „ 300 „	„ ...	8	0	0
Mamooties, Steel 10″ x 8″ & 9″ x 7″ abt. 4 lbs. wt.	per doz.	12	12	0
Do. Iron 10½ x 8½ & 9½ x 8 abt. 3¾ lbs. wt.	„ ...	7	8	0
Quintanies, Steel 15″ x 6,″ 5½ lbs. weight ..	„ ...	16	8	0
Do. 9½″ x 5,″ 3¼ „ „ ...	„ ...	12	12	0
Manure Pans, (Galvd.) 8″ deep x 18″ top x 10″ bottom	„ ...	21	12	0
Pitting Bars (Alavangoes), well-steeled points,				
3″ spade end, 45″ long, 9 lbs. weight ...	„ ...	15	12	0
3″ do. 36″ do. 6½ lbs. do. ...	„ ...	12	12	0
Pruning Knives, English make, best steel, 4″ blade	„ ...	9	0	0
Do. Saws, do. do. 14″	„ ...	18	0	0
Seamless Bags (for coffee transport to coast) 42″ x 20″	„ ...	9	0	0
Shovels, round nose, T handle	„ ...	12	12	0
Tea Transplanting Spades, steel, sharp edges	each...	2	8	0
TEA PACKING REQUISITES, Etc.—(*For Nails see opposite.*)				
Hoops, Steel ½″ (abt. 3,000 feet to the cwt.)	per cwt ..	15	0	0
Solder (Sticks) per case of 1 cwt. Rs. 50, or per lb...		0	8	0
Soldering Fluid ... per doz. Rs. 19·8-0 or per bottle...		2	0	0
Do. Irons ... „ „ 21-0-0 „	each...	2	0	0
Stencil Ink black, in tins „ „ 9 12-0 „	„ ...	1	0	0
Do. Brushes ... „ „ 6-12-0 „	„ ...	0	12	0
Tea tasting Pots and Cups ...	per doz...	11	4	0
Tea Sieves, brass No. 6, 8, 9, 10, 12 mesh	each...	6	0	0
Do. do. bottoms do.	„ ...	3	8	0
Jute Hessian for withering 40″ or 45″; to order, from per yard		0	1	9
Chests Full 24 x 19 x 19 (outside) ½ in. planks	each...	1	1	0
Half 16 x 16 x 16 („) do.	„ ...	0	13	0
Quarter 14 x 12 x 10 („) ⅜ do.	„ ...	0	9	3
Deld. Metapol., Palghat, Calicut. Any dimensions, proportionate prices.				
Lead—BEST INCORRODIBLE. 4½ oz. Per case of 2 cwts :—				
142 sheets 37″ x 22″	„ ...	32	0	0
240 „ 25″ x 19″	„ ...	32	0	0

		Rs.	A.	P.
WINDOW GLASS—per case of 100 sq. ft. (all sound) ...		18	0	0
18 x 10 (180 panes). 12 x 10 (120), 14 x 12 (85), 16 x 14 (64), 18 x 14 (57), 20 x 16 (45), 22 x 16 (41). 22 x 18 (36), 24 x 18 (33), 24 x 20 (30). 28 x 22 (23), 28 x 24 (21), 36 x 24 (17) and 36 x 30 (13).				
COIR MATTING—Per roll of 60 feet long x 3 feet wide :—				
* Machine-made Yarn :—Superior Rs. 15; Fine ...		12	8	0
* Ordinary Twill Bungalow	...	7	0	0
No 1 Estate, Double (for coffee drying, etc.) ...	..	2	8	0
„ 2 „ „ (do.) ...	...	2	4	0
Shade (for nurseries, ferneries, &c.) ...	...	2	0	0
* *Coloured stripes to order. Samples on application.*				
ASPHALTE—				
In barrels of 6¼ to 8½ cwts. gross (tare 56lbs.) per cwt. net.		4	0	0
PORTLAND CEMENT—John Bazely White and Bros.				
"Whites" Best ℔ barrel (abt. 375 lbs. net, 400 lbs. gross).		11	0	0
Sole Agents for S. Canara, Coorg, Malabar, Coimbatore, Travancore.				
COAL TAR—				
Best ℔ barrel (abt. 3¼ cwts. net, 4 cwts. gross) ...		19	8	0
GALVANIZED IRON—				
Continuous Iron. For roofing, etc.				
In rolls of 100 ft. x 2 ft. 28 G. (per ft., 6 as.) per roll ...		32	8	0
Nails 1 in. flat headed for fixing the above per 1,000 Nails..		1	0	0
Corrugated Iron (English), 24 G. 2 ft. wide ... per cwt...		11	0	0
Lengths in feet 5 6 7 8 9 10				
Sheets to the cwt. (abt.) 8·25 6·95 5·85 5·10 4·55 4·10				
Selected sheets Rs. 1/9 1/12 2/1 2/6 2/10 2/15	each.			
Iron Ridging, 6 ft. x 6 inch lap ...	...per length..	1	4	0
Bolts and Nuts, ¼″ x ¾″ ...	...per gross...	1	12	0
Rivets	„ ...	0	8	0
Washers, Iron	„ ...	0	10	0
Do. Lead	„ ...	1	2	0
Screws, 2½ in.	„ ...	2	4	0
Lead headed nails, 2½ in.	„ ...	2	12	0
NAILS—Wire, French.				
℔ 1 cwt. keg { 1″ 1¼″ 1½″ 2″ 2½″ 3″ 3½″ 4″				
{ Rs. 13/12 12/8 11 8 11/ 10 8 10/ 9/12 9/8				
℔ pound annas 2¾ 2¾ 2½ 2¼ 2¼ 2 2 1¾				
Nails ℔ lb. (*abt.*) 600 300 250 150 100 50 40 30				
Triangular Barbed Wire Nails.				
℔ 1 cwt. keg { 1″ 1½″ 2″ 3″ 4″				
{ Rs. 10/8 9/4 8/8 7/0 6/8				
LUBRICATING OIL FOR OIL ENGINES:—A blend of the finest and best oils. In drums of 5 Imperial gallons, per drum...		13	12	0
PERMANGANATE OF POTASH	per lb. ...	1	6	0
Used by the Medical Authorities for purifying wells, drinking water, etc.				

Agents for :—MESSRS. WALKER SONS & Co., LD. COLOMBO :—Tea Machinery, Coffee Pulpers, Wire Shoot Ropes, Etc.

MANURES.

Fish Guano. Steamed Bone Meal. Poonac: Castor, Mowra, Hoongay. **Saltpetre, Crude and Refined** (Nitrate of Potash.) **Nitrate of Soda. Sulphate of Ammonia. Sulphate of Potash. Muriate of Potash. Superphosphates. Phosphate Powder. Kainits Salts. Mixtures** can be made in any proportion without extra charge. **Packing** can be done to suit transport by Bullocks, etc.

Prices on application for delivery either at our Karaparumba Works, Calicut, the Calicut Railway Station, Palghat, Mettapollium, Salem, or at our godowns in Cochin, Tellicherry, Mangalore and other places. **Analyses** of manures undertaken at our Manure Works by a qualified European.

Sole Agents for :—THE 'CAMPBELL' OIL ENGINE. One Horse Power, upwards. For driving Tea Machinery, Coffee Pulpers, etc. etc., Prices & particulars on application.

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nor the profits of the middleman or middlemen, the wholesale dealer, and the grocer, be deemed excessive either.

Another proposal, equally absurd as the one just commented on, has recently been made by a writer signing himself MATT DREWS. His idea is, that direct agencies be opened by the London Tea Association in all the large towns of the United Kingdom, and that a system of "weekly auctions" be held, *in different parts of each* town, of packets of Tea weighing from 2 ounces to 5 lbs. He promises tea proprietors that the prices realized by sale, thus, to the highest bidder, will equal those obtained now by the large retailers, and that soon the demand would exceed the supply. (He does not mention the *cost* of these auctions.) We are to picture to ourselves, then, the public flocking to these several miniature Mincing Lanes of each town, and, over some hours, bidding eagerly—down even to a 2 oz. packet—for this article of domestic consumption: the lady, the middle-class housekeeper, and the poorest mechanic's wife, all combining to forsake "the grocer round the corner," and to support by their presence and their patronage "weekly auctions of packets of tea from 2 oz. to 5 lbs. or so, to be held in different parts of the town."

It is contended that if firms like Dakin & Co., Ridgway & Co., Cooper & Cooper, can and do make large fortunes, so can the Indian tea owners; but it is forgotten that whereas the firms named have made the Tea Trade a speciality, have invested probably large capital in it, and spend yearly enormous sums in advertising, each concern looking after or organizing its own business with all that energy and talent which is found among our large business men in England, the disunited Indian companies and proprietors of Indian tea could never hope to maintain even-running; apart from which they are not in a position to be able to keep their produce away from Mincing Lane, and they are not rich enough to embark in a new speculation.

The only thing, it seems to us, that *could* be judiciously done would be for each Indian Tea Co., or proprietor, to subscribe to a fund, as was done with the Tea Syndicate here, to be placed in the hands of the home Tea Association. That body should cause to be forwarded to, say, a leading grocer in each town a sufficient quantity of small samples of pure Indian tea for gratuitous distribution to the retailer's constituents and others. The grocer should also engage to keep on his counter Indian Tea (supplied to him gratis) "on brew" for a time. The merits of our pure teas would then soon become known amongst the citizens; the grocer selected would be stated as the only man in the town from whom *of a surety* pure Indian tea could be obtained. [He would take very good care to make *this* known] and he would find his advantage in a monopoly, thus, of the trade in that particular place, while competition would prevent his *over*-charging the public. Of course a *sine qua non* would be an agreement on the selected grocer's part, to sell nothing but pure Indian tea. This kind of guarantee is freely given and honestly acted upon in respect to numberless specialities in food, and tradesmen are found only too glad to sell none other than a "particular brand;" finding their profit in being recognized as the only safe persons to whom to apply for "the genuine article." The trouble required to be taken and the expense to be incurred, by the home Tea Association would be—

1. The selection and packing of some one or two hundred thousand 1 oz. packets of tea, taking care to avoid the too pungent qualities; and confining the selection for any one town to one class of tea,—a bulked quality—the nature and preparation of which mixture would be explained to the grocer, to regulate his purchases in the future.

2. The drawing up, and printing, in sufficiently large numbers, circulars detailing the merits of Indian tea.

3. The selection and appointment of a leading tradesman in each town to engage to push the sale of pure Indian tea (to the entire exclusion of China).

4. The free grant to such tradesman of a sufficient quantity of samples of tea and of tea circulars for distribution in his town.

The entertainment for some few months of a commercial traveller to carry out the objects mentioned in paras. 3 and 4.

The burthen of our argument comes to this: Indian tea proprietors cannot themselves undertake to establish their own shops for the retail sale of Tea; nor can the Tea Districts' Association do so, but they can and ought to avail themselves of existing agencies; and they can and ought to outlay money liberally (as every business man or firm has to do now-a-days) in making the excellence of their produce widely known throughout the land, even at the risk of a possible preliminary loss. The taste for our pure growths thus to a very large extent established, increased demand would arise sufficient to tangibly and permanently enhance prices at Mincing Lane. From this enhancement a speedy advantage might be expected to result in favour of all tea proprietors, greatly in excess of the sum they might have subscribed towards producing this result.

Of course it will be understood that the grocer is not to look to the Tea Association for his sale supplies of Indian tea. He will have to arrange to supply himself through recognized channels; and the only thing the Association need do is to induce him, by a liberal supply of samples and circulars, to try and secure for himself a large supply of tea drinkers as customers, who will forsake, in time, Chinas altogether for the pure article. For the Association to become (as has elsewhere been suggested) itself a retailer would not answer, and indeed could not be at all carried out;—we doubt if even a Limited Company would succeed; but there is every reason why all proprietors should subscribe rateably towards a fund, to be managed by the Association, for the diffusion of the knowledge of Indian tea amongst our brethren at home. Private individuals have been and are making effort and spending money to this end; but they can, with all their desire, effect so very very little. It needs a special organization and a considerable expenditure of money to do what is necessary; but there should be no difficulty in raising a subscription fund, from those interested in Indian tea, of at least £5,000. This would be ample to carry out the plan we recommend, and the return to proprietors, in the future greatly increased demand and price of Indian tea, all round, would far more than compensate for the temporary pecuniary sacrifice.

Will the Tea Districts' Associations here and at home take up the idea, and try to carry it out?

PRODUCE AND PLANTING.

The Russian Tea Market.—The Baku correspondent of the *Times* in a communication, in which he discusses the Russianising of the Black Sea trade, makes an interesting reference to the tea trade. He says: "Meanwhile Russia, by the creation of the Volunteer Fleet, rendered it possible to take into her own hands her trade with the Far East. This fleet, the joint product of national patriotism and of Government aid, was designed to fulfil the double purpose of commerce and defence, to serve as a mercantile marine during peace, and as a subsidiary naval force in event of war. It received an annual subvention of £81,600 from the State, and by low freights quickly increased the exports from Odessa to Vladivostok five-fold, from 6,567 tons in 1890 to 32,225 tons in 1894. During later years it has undergone a development of much interest to the British tea industry in India and Ceylon. From the first it brought back considerable quantities of tea, and it determined to increase this branch of its business by calling at Colombo. The Ceylon planters promptly took advantage of the cheap transit thus afforded, and a considerable quantity of their tea is now finding its way into South Russia, and even across the Caucasus and Caspian into Central Asia. The efforts of Russia to destroy the Indian land trade with its Asiatic territories told in favor of the sea route. Under the regulations by which the Khanate of Bokhara was included in the Russian customs' zone, the duty on tea imported from India through Persia and Afghanistan was raised, while the same article, if landed at the Russian port of Batum on the Black Sea, was passed on in transit without paying duty, and was charged by the Bokhara customs house at less than one-third of the duty levied on teas entered for consumption at Batum. Such transit tea is of an inferior green quality, and it remains to be seen whether the Indian tea exporters can recover by the Russian Volunteer Fleet, viâ Ceylon, the land trade which they have lost through Persia and Afghanistan. In 1895 the so-called 'Indian' tea that passed through Batum to the Caspian and Central Asia amounted to 800 tons; the last Consular report returns it at 1,330 tons in 1897. The trade in this low-class green tea is independent of the large question of the introduction of the finer Indian teas into Russia itself. A movement in that direction is taking place, and the Russian shipments of British-grown tea from Ceylon rapidly rose to 439,350lb in 1897, besides over one and a half million pounds of Indian and Ceylon teas from London, and an unknown quantity transmitted through German ports. Hitherto the Ceylon and Indian teas have only been used in Russia for blending. If they

could be brought into general use a vast new field would be opened to the British industry. But this would involve either a change in the Russian taste or an adaptation of the Indian teas to the Russian market. The movement may, however, receive an impulse from the expected steps towards the equalisation of the Russian duty on sea-borne and land-borne teas, as part of the revised customs arrangements incident to the extension of the Siberian railway towards China."

Indian Tea in Tibet.—Mr. Robert Laidlaw calls attention in the *Times* to the revised treaty between India and Tibet, which is subject to revision in May next, and upon which the Indian Tea Association is no doubt keeping an eye. Under this treaty Indian tea is absolutely prohibited from entering Tibet. To the very large class who are directly or indirectly interested in one of India's chief industries, one in which many millions of British capital are employed, it is very important, as Mr. Laidlaw points out, that this restriction should be removed. The Tibetans are great tea drinkers, probably the greatest in the world, their estimated consumption being from 12 to 15 million lb per annum; all of this is now taken from China, whereas, but for the "closed door," this trade would naturally be done with India, which produces a better article at a lower price. The Tibetans have now to pay a high price for a very inferior brick tea, and, as the distance between the tea districts of India and Tibet is much shorter than that over which the China tea is carried, transport would be cheaper; the change would therefore be beneficial alike to the Tibetans and the Indian Industry. "The Tibetans have free access into India and no restrictions are put upon their exports into that country," says Mr. Laidlaw. "Chinese influence alone is responsible for our not having the same privileges, and it was Chinese influence which prevented the friendly commercial mission which the Indian Government proposed and prepared to send to Lhasa in 1889. The present position is a most humiliating one. Surely the influence of Pecking cannot longer be allowed to retard British enterprise and shut our trade out of a country where the Chinese have no more right than ourselves. If our engineers were allowed to go into Tibet to unearth their minerals it would be an immense advantage to the Tibetans themselves, some gain to us, and no detriment to China, but for that I fear the time is not yet. When revising the treaty the Government should be satisfied with nothing short of equal privileges to those enjoyed by China in the east and Russia in the north. Give us an 'open door,' and in a few years Tibet will be a large and increasing market not only for Indian tea, but for many articles of British manufacture."

Nice Tea.—The competition in the retailing of tea has brought about some interesting ventures in the art of tickling the consumer. Here is a list of presents advertised by a retail tea company: Given with quarter-pound of tea, at 7d per quarter: Large tin saucepan (with steamer), pair of lace antimacassars, two large honeycomb towels, hairbrush (all bristle), good washleather, fancy china cream jug, strong wood horse, cocoa broom (red back), strong bass broom, six-pint tin kettle, good clothes or shoe brush. Given with half-pound of tea, at 7d per quarter: 8ft 6in bamboo cornice pole (rings and ends complete), large oval bath, white table cloth, clothes basket (good size). Given with one pound of tea, at 7d per quarter: Nickel lever clock, wool-bordered parlour door mat, white table cloth (large size), one yard best floor oil-cloth (two yards wide), blanket (good size). With two pounds of tea: Large oil stove. With three pounds of tea: Eight-pint copper kettle. With four pounds of tea: Pair blankets (full size). Customers may save their tea checks for any article they see in shop or window, and change them at any time.

Planting in New Guinea.—Possibly there may be an exodus of Indian and Ceylon planters to New Guinea. Sir William Macgregor says that the colony is well adapted for tea, coffee, tobacco, and cotton, and the climate is not bad, land is cheap, and there are

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Games. Everything for Tennis, Golf, Cricket and Football.

Miscellaneous. Walking sticks, Umbrellas, Travelling Requisites. Everything for Household use.

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friendly natives who may be induced to work. The fear of being eaten need not trouble settlers, for cannibalism is nearly a thing of the past.

Queensland Coffee.—Not content with her triumphs in the way of sugar production, Queensland agriculturalists recently turned their attention to coffee, as there are considerable areas of tropical coast lands suitable for the cultivation of the coffee plant. A quantity of unhusked coffee berries has just arrived from the colony for introduction in Mincing Lane. Half-a-dozen leading firms of brokers have reported upon this Queensland coffee, which they state to be well cured and dried, and to compare well with the Central American article in general quality.

What They Are Doing at Kew.—The organisation at Kew Gardens with regard to the culture of tropical plants is admirable. Special departments have been founded in the more important colonies, which keep continually in touch with the establishment at Kew on botanical questions, and especially those of economic importance, and there are, in addition to these larger Colonial establishments, a considerable number of botanical stations, first founded to meet the special requirements of the smaller West Indian Islands, and since extended to West Africa, and even to Fiji. In many of our colonies the fruit trade of late years has become of great importance, and to this Kew has paid special attention. With its aid the tree tomato, the chocho, and the cherimoyar have been transferred from the West Indies to Ceylon and India, and the debt has been repaid by sending back new varieties of bananas and mangoes. There are also many plants which are valued not for their floral beauty, but for their utility. The fibre plants, as one group about seventy in number is collectively called, of which hemp and flax are the oldest and most familiar examples, have now been carefully studied at Kew for not a few years past. China grass forms the subject of a recent article in the *Bulletin*, from which it appears that, if certain difficulties could be overcome in preparing the fibre, it would be a formidable competitor in the market with silk, flax, and the better qualities of cotton. The cultivation of rubber plants and the discovery of new sources of this material, now that the demand for it is so great, is a question which evidently has not been neglected at Kew, and some of our colonies seem likely to benefit by its studies. Besides these, a host of other horticultural questions of economic importance have been investigated—such as Bermuda arrowroot, quinine, vanila, the growth of dates, sandal wood, incense trees, even the artificial production of indigo. In all this work the indefatigable labour of the late director, Sir Joseph Hooker, and of his successor. Mr. Thiselton Dyer, seconded by the very able scientific staff of the Gardens cannot be too fully recognised.—*H. & C. Mail.*

MARKET REPORT.

The following advices are from London by the mail of the 30th ultimo. The "turn of the year" naturally caused an interruption in business, hence the meagreness of the information that is forthcoming in our present issue.

COFFEE.

The public market will remain closed until the 5th proximo. Privately there is little to mention, says the *London Commercial Record*. Futures of Brazil opened quiet, unchanged, and became easier—March selling at 31s. 1½d. and May at 31s. 7½d—but soon firmed up, and close only about 3d. below last Friday's quotations, March selling yesterday at 31s. 6d., May at 32s. 3d., and July at 32s. 6d. Closing rates are as follows:—

London	Santos.....	March delivery	31s. 6d.
New York...	No. 7 Rio	,, ,, ...	5·75 cents.
Havre	Santos.....	,, ,, ...	38¾ francs
Holland ...	Good ordinary Java.....		32½ cents.

Imports Deliveries and Stock of COFFEE in London are as follows:—

	Stock.		Imports.	
	1898.	1897.	1898.	1897.
West India ....tons	394	307	1758	914
Ceylon	71	121	328	594
East India.....	935	1108	5666	5373
Mocha	503	457	943	756
Brazil	3719	2822	4133	3821
Other Foreign.....	8886	4712	30804	24491
Total tons...	14508	9527	43632	35949

	Home Consumption.		Export.	
	1898.	1897.	1898.	1897.
West India.....tons	328	330	1373	627
Ceylon	141	200	222	397
East India.....	2468	2414	3368	2663
Mocha	751	582	184	240
Brazil	1053	1487	2336	2745
Other Foreign	9154	9099	17434	13779
Total tons...	13895	14112	24917	20451

The preceding figures exhibit—

In the Imports an increase this year of 7683 tons
Home Consumption a decrease of 217 ,,
Export an increase of ..... 4466 ,,
Stock an increase of ..... 4981 ,,

Receipts in Rio and Santos.

Dec. 28	1898-9. Bags.	1897-8. Bags.	1896-7. Bags.	1895-6. Bags.
Rio	9,000	10,000	8,000	—
Santos ...	20,000	18,000	1,1000	—
Total 5 days				
Rio	55,000	53,000	50,000	47,000
Santos ...	83,000	56,000	68,000	40,000
	138,000	109,000	114000	87,000
Since July 1				
Rio 1	755,000	2,706,000	2,181,000	1,588,000
Santos ...3	738,000	4,393,000	3,591,000	2,369,000
Total 5	493,000	7,099,000	5,772,000	3,957,000
Crop	—	10,461,000	8,680,000	5,489,000

Rio Exchange 7⅝d., previous day 7½d.

The following statement shows the movements of Rio and Santos from July 1, 1898, to Dec. 23, 1898, compared with the two previous years:—

	1898-9.	1897-8.	1896-7.
	Rio.		
Receipts.....bags	1,690,000	2,655,000	2,117,000
Shipments to Europe	490,000	917,000	523,000
Ditto United States...	1,081,000	1,524,000	1,171,000
Stocks.....	250,000	410,000	332,000
	Santos.		
Receipts.....	3,644,000	4,317,000	3,538000
Shipments to Europe	2,502,000	2,789,000	2,190,000
Ditto United States...	819,000	621,000	789,000
Stocks.....	662,000	953,000	610,000

Havre, Dec. 29—Market Steady. Santos good average, March opened at 38½f. and closed at 38¾f., May opened at 39f. and closed at 39¼f.

New York, Dec. 28.—Closing prices of No. 7 Rio were as follow:—

	Dec.	Jan.	Feb.	Mar.	April.
Dec. 28.....	5.55	5.50	5.65	5 75	5 80
Dec. 27	5.55	5.50	5.60	5.75	5.75

IN AMERICA.

The American Grocer of 12th ult. says:—There has been very heavy buying since our last by big houses. Can it be that this is in anticipation of a duty being placed on coffee? It certainly looks that way, in view of the openly "bearish" talk of the principal buyers.

The market is higher for Brazil. Fine roasting mild coffees scarce, and command figures considerably above quotations. A line of Cucuta that would grade Good in an ordinary market was sold at 10¼c to a jobber, although Good is quoted at 8¾c; but coffee that grades there to-day would not be so regarded were the average quality of the Maracaibo crop better than it is.

TEA.

IN LONDON.

No auctions have been held, and buyers await the revival of public business in the new year.

IN AUSTRALIA.

Teas are firm, and the recent large sales for export have helped to strengthen the position. Holders of Foo Chow sorts anticipate an advance. —*Leader*, December 24.

IN CEYLON.

The following is an extract from Messrs. Somerville & Co.'s annual report:—We give below the Chamber of Commerce figures for the exports of Tea for the year ending 31st December 1898. The total export for 1898 was 119,769,071 lb., an increase of about four million lb. over 1897 but notwithstanding this increase the exports to the United Kingdom were about three million lb. less than in 1897, owing to the increase of direct exports to other countries, notably Australia two millions more, America one-and-a-half millions, and Russia one-and-a-quarter million lb. The direct exports to other countries seem likely to increase more rapidly in 1899, and must exercise an important influence on the Tea Industry of Ceylon.

The quantity offered for sale in Colombo during 1898 was 36 million lb. an increase of three million lb. over 1897, and there is every prospect of a considerable increase in 1899, owing to the growth of direct exports.

QUANTITY BROUGHT TO AUCTION IN COLOMBO.
From 1st January to 31st December, 1898.

Offered.

1898	...	460,829 packages =	35,907,518 lb.
1897	...	425,582 „ =	33,788,217 „

Sold.

1898	...	348,551 packages =	27,721,866 lb.
1897	...	322,755 „ =	25,630,499 „

The average price for the year 1898 was 35 cents. per lb., against an average price of 37 cents per lb. for the year 1897.

The average price for complete Invoices offered for the year 1898 was 36 cents per lb.

IN AMERICA.

The sale of 10,192 packages of tea by the Montgomery Auction and Commission Company, December 7, showed according to the *American Grocer*, very irregular prices for new crop Formosa while old crop teas were firm at an advance of 1c. No Pingsueys were offered. Congous were very irregular.

Quotations, in bond, are: Good medium, 12½ @ 14c; medium, 11c. Amoys, old crop, good common to fair, 19 @ 19½c. A line of 507 half-chests new crop Foochow, grading superior to fine, averaged 12.95c in bond.

The quotations established for Japan were as follows: Pan-fired, new crop, in bond, finest (early crop), 18c; fine, 16½c. Basket-fired, new crop, duty paid, finest 27 @ 28c. Sun-dried, new crop, in bond, finest, 17c; fully fine, 16c.

The country greens brought full prices: New crop double half-chest rather good small extra Gunpowder, 18c; do, first extra Gunpowder, 16c; bold first Gunpowder, 15½c; half-chest plain small first Imperial, 14½c; double half-chest poor off-extra Young Hyson, 12c; Gunpowder style Hyson, 12½c; average for 86 packages, 14.48c, in bond. Another line—102 packages —sold from 11@15c, or an average of 12.41c, in bond.

Of new crop Formosa, 441 packages good superior averaged 14.55c; 529 packages on superior averaged 14.53c; 521 packages fully good averaged 14.08c; 502 packages fully good averaged 14.05c; 413 packages on superior averaged 14.16c; 566 half-chests good averaged 12.88c; 429 half-chests good averaged 13c. Quotations, in bond, are: Fine, 22c; superior, 16c; fair to good 12½c.

PEPPER.

IN LONDON.

Auctions are suspended and private sales limited.—*Black.*—The market on the spot is fairly active and occasionally in sellers' favour; Singapore has realised 4$\frac{3}{4}$d cash less interest, and 4$\frac{3}{16}$d full prompt, and Tellicherry 4$\frac{11}{16}$d per lb. usual terms. For arrival no alteration can be noted; Singapore Jan.-March (s.) has buyers at 5d per lb. after business at this figure. Closing prices are dearer. Singapore January-March 5$\frac{1}{16}$d bid, February-April 5$\frac{1}{8}$d, and March-May 5$\frac{3}{16}$d. 25 tons Tellicherry sold at 4$\frac{13}{16}$d per lb. c.i.f. delivered weights, per January-February steamer to London.

White very quiet, with prices maintained at their previous level. Singapore January-March (s.) is bid for at 8¼d, and Penang same dispatch can be bought at 7¾d per lb.

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WRITTEN BY PLANTERS FOR PLANTERS.

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DOMESTIC OCCURRENCE.—The fee for inserting a domestic occurrence will be *One Rupee* for each insertion, payable in advance.

N. B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 27th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Please note the change of address.

Coorg. Polli Betta, 24*th January*.—*Weather*.—Clear, fine and cold. East wind conspicuous by its absence lately! *Crop*.—Picking still in full swing; but has been stopped in some cases to allow sufficient crop to ripen. Crops has been ripening very well and coming in with a rush; and are turning out very well. *Plant Diseases*.—Rust is not absent; but the trees have been standing the heavy crop very well. Crops ought to be average next season under favourable conditions. Grains are cheap now. Gram at Rs. 3-8-0 to 4-0-0 per *palla*.

South Mysore. Mudigere, 25*th January* 1899.—Since my last, news has been quite as scarce as before. *Weather*.—Continues seasonable, strong East wind, cool nights, days are not hot. Thermometer seems to range between 47° and 78° for the month but the minimum was only reached one night. There has been no rain here fortunately. *Crop*.—Some places have already passed their estimates and have not finished, there seem to be general complaints that the last of crop will not ripen. A few despatches have been made to the Coast but as yet I have heard of no outturns. *Diseases*.—A trifle of leaf disease noticeable here and there, but very little. Howligays seem to have started a little of their blight. *Labour supply* has been almost excessive here this week but some falling off may be expected. There has been a rush of locals for a short interval between paddy cutting and threshing; the latter is now generally commencing, as the nights are light.

SOME WORK FOR SCIENTISTS.

AN Agricultural Chemist is to come to Mysore, an Entomologist to be employed by the Government of India. These be but small contributions towards the necessities of the producing industries of this country, yet the various Governments concerned will have to exercise considerable discretion when allotting these scientific gentlemen their tasks. It would be easy to note down a list of work that would occupy the two scientists for years to come, and, unfortunately it is to be feared that though "full-time" men, one if not both of them, will not be full-time investigators. Perhaps it is but natural that one or both of them should be called upon to undertake a considerable amount of educational work. Certainly, it is right that a band of indigenous scientists—if we may use the term—should be formed, on however small a scale at the outset. Nevertheless, we have used the word "unfortunate" advisedly, for it is decidedly unfortunate that the work of scientific investigation should not be kept entirely and strictly apart from the work of scientific instruction. For one thing, science cannot be imparted in a day. We question if there are more than a very few Indians available who have even a natural leaning towards natural science. The work of tilling the mental soil will be a work of time, and it can scarcely be hoped that the seed will be sown and the crop reaped in any but a very few instances until one expert shall have succeeded another in the work of brain-farming. We do not want to see the country flooded with students of Entomology, unless these young gentlemen are to be apt, intelligent and cautious catechumens of science. It is a fascinating field of research, this Entomology ; but it is beset with traps for the unwary, and the man who falls into these must in many cases be a menace to his fellow-men. The identification of *beneficial* insects, as distinct from pests, is a work of extreme difficulty, and a student who confuses the two may inflict serious harm upon a community if not upon the country. In the first place, at any rate, we trust the Governments of India and Mysore will let their scientists have full scope in the work of investigation, and that education of the college or class order will be a thing with which these gentlemen shall have no concern. Certainly, there is no reason why each man should not have a small band of assistants round him, that they may do detail work under his instructions and acquire a really practical knowledge in return. But the work of the investigator should be distinct from the work of the educationist.

From a planter's point of view investigation should, of course, find a special sphere of operations in tea and coffee estates. The analysis of soils, the comparison of soils and of products of the same species grown on different soils, the investigation of plant life, its diseases, the food required, the action of rain, of manures, of climate, of weather, all need to be considered. "High cultivation" is not a panacea against disease. "Good" cultivation may be, but the difficulty is to ascertain in what this "good cultivation" consists in respect to particular districts or estates or plants. Leaf disease is best tackled by means of improvement in cultivation, but when a boy becomes scrofulous from want of proper food, the physician does not administer *pâté de foie gras* as a remedy! Coffee-planters have in many instances discovered by careful experiment and more or less bitter experience, what sound, healthy cultivation means. Yet how few of them would not find their experience deficient if they were suddenly transferred from, say, the Mysore district, to the charge of an estate on the Nelliampathis. It is individual experience that is at work for the most part, not scientific knowledge, and the former alone is by no means an infallible guide. One duty of the scientist will be to sift the evidence, so to speak, of practical men, and then to lay down broad general principles of cultivation, with notes of modifications required under special or particular circumstances. The examination of soils and seeds and plants is the work of a life-time, even if a man goes no further than through the estate products of Southern India. It will not be enough to give long statements of the analysis of this soil or that. The scientist will have also to discover under what soil conditions a particular plant yields the best practical results to the cultivator. He will have to consider atmospheric and other influences also, and when he has arrived at general conclusions of the soundness of which he is satisfied, it will remain for individual planters to learn how to apply the information thus placed at their disposal.

It is to be feared that the tea industry will receive but little scientific care just yet, for Mysore is not a tea-growing province, and the "India" entomologist alone will be free to make occasional investigations in the Tea districts. Happily, we hear but little of tea-diseases, and perhaps, the want of a scientist will not be seriously felt by tea-planters just yet. Nevertheless, in no direction is there more need for scientific investigation than in that of the cultivation and manufacture of tea. The Mysore scientist is not likely to have leisure for work of this kind, and indeed it would be a pity to try to extend the scope of his operations too far. The entomologist may render some assistance in the identification of pests, &c., but generally speaking tea-planting must go on with such casual scientific aid as it has hitherto obtained, supplemented by that of special chemists employed by merchants or others. Similarly, the great producing industries of Southern India, in regard to paddy, sugar, oil seeds, indigo, &c., &c., must continue in effect virgin of the scientist. Here alone is work that would occupy a lifetime, even though it might only end in demonstrating how the applied experience of many centuries had arrived as near the truth as the scientific investigation of as many years. The subject we have selected is one that can only be treated generally in the space of a single article. The mere enumeration of details requiring attention would occupy many pages, and would confuse the reader. Indeed, each fresh item put down would reveal the necessity for further entries, so that the list might grow and grow, yet would certainly never be complete. The more the matter is considered, the more assured the deduction that not scientists alone are required, but scientific *specialists*. The botany of various parts of India and their zoology are as much deserving of study as their geology, yet to the last alone has the Government of India given moderate attention. Then again, "botany" embraces many sub-heads, each of which is enough for one man. In fact, there is work for an army of scientists in India, and there is room for the fear that the work of the few who are to be employed will suffer, not through any incompetency on their part, but because of their being called upon for work of too general a character. We live in an age of specialists ; and it is strange that in an agricultural country, ruled by a Government that has shown zeal in regard to progress in many directions, agricultural science should have been so long neglected as it has been, and should still be only trifled with.

FLUCTUATING EXCHANGE.

A FEW facts concerning fluctuating Exchange in other countries may assist our readers in the study of the Exchange problem in India. The influences at work in various countries differ very widely; the effects differ almost as greatly; but where several countries all producing similar commodities for export suffer from the violent fluctuations of Exchange, the *degree* to which each is affected is of less interest to outsiders than a general knowledge of the position. Thus, taking Brazil for example: reviewing its affairs from a very far distance, we cannot pretend to study the many intricacies with which the Exchange problem as it affects that country must necessarily be beset. Considering it, however, as it affects the coffee industry, we can at least draw attention to a few of the chief points, and suggest a broad comparison between the circumstances of coffee-planters in Brazil and in India. The vast difference that there is between the magnitude of the industry in the one country and its size in the other, need not be dwelt upon. What we wish to point out is that, as a country, Brazil has suffered for some years from a currency depression such as affected India from 1873 to 1893. Brazilian figures are, indeed, even more startling than those relating to India; and just as in the one country a reaction has set in, and Exchange begun to rise so, too, in the other; though the upward movement in Brazil is still more recent than that with which Indian coffee-planters are familiar. Of the year 1897 we read in the *Brazilian Review*, to which we are indebted for some of the figures quoted in this article, that the course of Exchange during the year was an almost uninterrupted record of depreciation. Our contemporary regards this as, under the circumstances, inevitable and irremediable. The figures given show oscillations of a violence unknown in India. They are as follows:—

1897.	Average.	Maximum.	Minimum.
	Pence.	Pence	Pence.
January	$8\frac{45}{64}$	9	$8\frac{3}{8}$
February	$8\frac{17}{32}$	$8\frac{7}{8}$	$8\frac{1}{32}$
March	8	$8\frac{1}{2}$	$7\frac{13}{16}$
April	$7\frac{51}{64}$	$7\frac{15}{16}$	$7\frac{5}{8}$
May	$7\frac{5}{8}$	$7\frac{13}{16}$	$7\frac{1}{2}$
June	$7\frac{43}{64}$	$7\frac{27}{32}$	$7\frac{9}{16}$
July	$7\frac{15}{32}$	$7\frac{3}{4}$	$7\frac{5}{16}$
August	$7\frac{7}{16}$	$8\frac{1}{4}$	$7\frac{1}{16}$
September	$7\frac{39}{64}$	$8\frac{1}{32}$	$7\frac{1}{4}$
October	$7\frac{11}{32}$	$7\frac{17}{32}$	$7\frac{1}{4}$
November	$7\frac{7}{64}$	$7\frac{11}{32}$	$6\frac{7}{8}$
December	$7\frac{3}{32}$	$7\frac{7}{32}$	7

Thus, the extremes for the year were:—maximum, January 9*d.*; and minimum, November $6\frac{7}{8}d.$ The average rate for the first half-year was $8\frac{3}{64}d.$ and for the whole year $7\frac{45}{64}d.$ We have only to add that by January, 1897, Brazilian Exchange had rebounded from $7\frac{7}{8}d.$, the lowest figure in the previous month, to 9*d.*!

A comparison between India and Brazil is impossible. Nevertheless it is interesting to set the two side by side, for there are several points of resemblance in the conditions to which these fluctuations of Exchange have been traced or attributed. This will be seen from the following brief summary in regard to Brazil. The depreciation of the currency there is attributed to two distinct causes: excessive emissions and an adverse balance of foreign payments. The first of these two factors is said to have exhausted its efforts, but the second is still at work. In the interests of the Government an enhanced exchange is advocated, and the Government appears to have tried various measures of artificial inflation with more or less success. The sudden rise in January, 1897, was due partly to such measures; but by March the oscillations were as violent as before, and by September a period of 'rot' had set in. This year there has been a recovery, but violent fluctuations are still usual. The balance of trade continues in an unstable condition, and the fall in the price of coffee naturally helps to bring about a preponderance of imports over exports, when comparisons *of values* are instituted.

Seeking a fresh illustration in Guatemala, we find that in 1897 the highest and lowest rates of exchange on London there were as follows:—

	Highest. Per cent.	*Lowest.* Per cent.
January	136	125
February	145	138
March	135	126
April	136	134
May	140	135
June	143	140
July	158	146
August	175	162
September	182	175
October	200	185
November	200	182
December	182	132

Much steadier than in Brazil through the greater part of the year; but note the violence of the oscillations between November and December, from 200 to 132; and the range from the maximum figure of the year, 200, to the minimum 125. It is scarcely surprising to hear of one important bank having suspended payment; for the banks are closely connected with the planting industry, and the ruin of the latter means at least serious damage to the former. There are, of course, influences at work against the planter quite unconnected with the Exchange question, but with these we have no concern now. Our aim, indeed, has been to state facts, not to draw deductions from them; and to show that India is not alone in feeling the hardships of fluctuating Exchange. In one sense, the sufferings of others need be no concern of ours; but in a broader sense, the Exchange problem is international, not national, so that it is desirable that planters should watch its bearings in other countries as well as in India.

LADY-BIRDS.

If interest in this subject has not subsided, our readers will be glad to learn that the *Rhizobius ventralis* has proved its utility in California, where it has been found to attack all the scales of the *Lecanium* family. Imported in June 1892, it increased slowly at first, but more rapidly in the spring and summer of 1893, when the number increased to many millions, and the insects destroyed the scale on the trees wherever they were placed. In September 1893, distribution began, and by about the end of the year 453 colonies of from 25 to 50 beetles each had been sent out, and there were more than 500 applications on the file. The description given of the insect is as follows:—"jet

black, but covered with short fine hairs that give it a dark gray appearance. The male measures one-eighth of an inch in length, and the female three-sixteenths of an inch." Another friend that Mr. Newport tried to introduce was the *Orcus Australasiæ*, Boisd. The female is nearly one-fourth of an inch in length, deep blue in colour, with six orange-red spots on the wing-covers. The male is similarly marked but smaller. As far as can be judged from the reports that have been received, the *Rhizobius ventralis* would probably be the most efficacious destroyer of *Lecanium viride*. It multiplies rapidly indeed. Professor Koebele estimates that a single pair of rhizobiids could produce 15,000,000,000 on a single year. After having practical experience that went far to support this estimate, Professor Cook asked—"why will people spray or fumigate when we can get so easily the *Vedalia* and these rhizobiids." Of the pest in one district he says—"The lemons, oranges, limes, abutilons, oleanders, olives, pittosporums, habrothamnus, etc., were foul with the black scale in spite of all effort to keep them clean by spraying." Of the present:—now, "thanks to the rhizobiids, they are entirely clean and thrifty." Surely, then, the Lady-bird question should not be dropped by planters out here.

THE BRITISH TEA DUTY.

A Ceylon planter has put together a few reasons why the producer should not agitate for a reduction of the Tea Duty in Great Britain? In the first place, he does not think that the consumption, *per capita*, in England can be increased, and he utters a warning that if it could, "the abuse of tea might seriously affect the industry." Yet we hear nothing of "abuse" of tea from Western Australia, where the consumption *per capita* is double as much as in Great Britain. Then, it is said, the reduction of the duty from 6*d*. to 4*d*. per lb. did not affect the price of tea. If that be so, why fear that a further reduction of duty would affect the price of tea and thus stimulate consumption, were stimulation possible. The above correspondent appears to contradict himself when he points out the steady increase in the consumption of tea in the United Kingdom and adds:—"But the increase is more due to the cutting of prices of the blenders—who knock out our teas to suit their blends rather than to the blends suiting the tea,—instead of the decrease in duty, the latter fact enabling the blenders to cut the trade finer as the duty locks up one-third less money than previously." He sums up his opinions by saying that the only result he sees if the duty on Tea is reduced to 2*d*. per lb. is that the blenders will lower their blends by 2*d*. per lb., and being a few, against thousands will knock down the prices of teas another 1*d*. and make more money than they are now doing. He says:—"We want the wholesale country tea dealers to realize that the blenders are doing them out of their legitimate profits, then perhaps they will come into the tea market in London and make a more open market of it than it is now. With the Colombo market yearly expanding, we may hope that the reduced quantity sent to the London market may tend to harden the markets generally in the world. But it will be a hard fight for Ceylon; for, with present prices and high exchange, a goodly number I fear of estates round Kandy and other parts of the island will show no profit this last year, and I think these old districts want more help even than distant Uva and should have railway rates reduced generally and all grant-in-aid and private cart roads taken over by Government. This would help the planters most. This latter will require no increase of staff as Government do the work now, but only supply half the funds." We agree with his conclusions about the reduction of the Tea duty, though not with his method of arriving at them. The small increase that would probably be shown in demand would be counteracted by the fact that China teas of the lowest quality would gain a greater advantage than would fall to their Indian rival. A period of high duties makes for improvement of quality, a period of low duties makes for increase of quantity. The "happy medium" is just about where matters fiscal are now, and there the Indian tea planter should be glad to see them stick.

COFFEE IN DISTANT LANDS.

III.

Cuba.—Mr. Robert I. Hill, of the U. S. Geological Survey, has written a book on the West India Islands. As regards Cuba, he looks forward to coffee becoming a large and flourishing industry if Cuba should be properly developed. The mountain sides and hill lands of the east are especially favourable for coffee, and a quality as excellent as that of the famous Blue Mountain coffee of Jamaica can be readily grown. There is still considerable coffee grown, but all is consumed locally. The mountains about Santiago are admirably adapted to coffee and fruit production. The eastern end of Cuba is one of the finest regions for coffee culture in the world, particularly that portion of the island from Santiago to Guantanamo, and from Cape Mayci to Baracoa over on the northern side. Mr. Hill believes that if Americans ever possess this island, its ores, fruits, healthful climate, and fine mineral springs will make it one of the richest countries in the world.

The mountains of the Antilles are composed of unconsolidated clay and pebble, which yield a wealth of vegetable products to their very summits. "They are the fruit and coffee lands of unlimited possibilities." Of the 45,000 square miles of Cuba only 10 per cent. is cultivated, 4 per cent. forest land, and the remainder, for the most part, unreclaimed wilderness.

Martinique.—The "Liberian" and "Mocha" are extensively cultivated, but exports are small.

Mauritius.—Coffee was grown for many years in this colony, and beans of superior quality were produced. Sugar took its place, however, and although there was a revival for some years previous to 1877, a fungus disease subsequently appeared and destroyed, first, the plants, and, ultimately, the coffee-planting industry of the island. Mr. John Horne, F.L.S., Director of Forests and Gardens, reported in 1886 that Liberian Coffee had been tried in Mauritius but that those who were growing it there seemed to be unfavourably impressed with its growth. He observed, however, that a cross between it and the local variety of the Mocha coffee called "café le roi," possessing the dwarf habit of growth and the fruitfulness of the latter, with the hardness and large fruit of the former. As Mauritius has imported coffee for many years past, we may fairly exclude it from the list of producing centres that compete seriously with India.

Mexico.—Coffee is being cultivated in Mexico with such energy that the country promises to become a very important factor in regulating the proportion of supply to demand.

Any information regarding coffee cultivation there is consequently of exceptional interest.

From an official report dated 1896, we gather that the cultivation of coffee in Mexico dates from the commencement of the present century, and it has long been known that many districts in various parts of the country are probably as well suited to the growth of the plant as any in the world. The unsettled state of the Republic, however, retarded progress in this as in many other respects, and it is only of late years that the capabilities of the country as a coffee producer have attracted the attention that they undoubtedly deserve.

The almost total failure of the coffee plantations in Ceylon and all Eastern countries, and a few bad coffee harvests in Brazil, together with the fall in silver and the consequent reduction in the price of land and labour in Mexico encouraged planting there, and the profits which have already been obtained seem to justify a further extension of the industry. We gather from the report under notice that a considerable area in various States in Mexico is suited to the growth of coffee, but as many conditions are required to ensure its profitable cultivation, great care should be taken in selecting the site of the proposed plantation.

The following are, says the report, the principal points to which attention should be paid:—1. *Soil;* 2. *Climate;* 3. *Communications;* 4. *Labour.*

1. *Soil*—The coffee plant can be cultivated on various descriptions of soil, but it thrives best on light, porous loam of considerable depth, which has not before been brought under cultivation. Clay land should generally be avoided as unsuitable.

In Mexico the best land is generally covered with virgin forests, and clearing it is the first operation the planter has to undertake. A rolling surface is to be preferred as it affords greater facilities for drainage, but very steep slopes are not as a rule to be recommended.

2. *Climate*—The best temperature is one varying between 65 and 85° Fahr., which can be obtained in nearly all of the States in the Mexican Tierra Caliente. Frost kills the plant, and fierce rays of the tropical sun if untempered by abundant moisture are almost equally injurious. Most authorities on the subject agree that coffee thrives best where the rainfall is at least 100 inches per annum, and where it is pretty evenly distributed throughout the year. It should be noted, however, that coffee has been and is cultivated with some success in districts (such as Cordova in the State of Vera Cruz) where the rainfall is far less. Immunity, or at least protection, from high winds is very desirable. An eastern exposure is to be preferred where the weather is generally cloudy, and a western in a sunny climate. Some writers attach great importance to the height of the plantation above the sea, and assign limits of altitude for the choice of a site. It has, however, been shown by experience that suitable climatic conditions are to be found at a wide range of elevation, and that coffee of the highest quality can be grown almost at the sea level. In selecting a site for a plantation too much attention cannot be paid to soil and climate, and it has always been found to be good policy to give even a comparatively high price for land where these were thoroughly satisfactory.

3. *Facilities of Communication* are also of great importance. Railways have been much developed of late years, and their extension is being carried on rapidly. Still, some districts which would otherwise be very suitable for coffee planting will probably for some time be too inaccessible to be recommended.

As freight is generally cheaper by water than by land, a navigable river in the neighbourhood of the plantation is to be preferred even to a railway. In many parts of the country roads can scarcely be said to exist, and the necessity for railway or water communication to within a moderate distance of the plantation is even greater than it would be in more advanced countries. It must also be borne in mind that the cultivation of coffee is almost always combined with that of other crops, some of which are very bulky and cannot easily be disposed of without facilities of transport.

4. It is very desirable to settle in a district where *Labour* is easily obtained, and although some authorities maintain that imported labourers are more easily controlled, the expense of introducing them is considerable, and many practical difficulties have to be overcome.

The wages paid vary in different districts, but the average rate for the whole country was officially estimated in 1892 at 37 c. Mexican currency (or 9½*d*) per diem. Since that date prices have certainly risen, and the daily wage is now generally placed at about 50 c. (1s. 1d.). Both employers and employed frequently prefer piece-work to a daily wage, particularly for such work as clearing land before planting the coffee.

The Mexican labourer requires careful handling if the most is to be made of him. A rich soil and a tropical climate supply nearly all his requirements, with little effort on his part, and he will not easily submit to harsh or unfair treatment from his employer.

For the present, the above must suffice, but we shall revert later to the subject of Coffee Cultivation in Mexico.

Panama.—The coffee exported during 1896 was valued at £987,192. Growers felt a certain degree of uneasiness on account of the depression in prices which has been experienced since the early part of last year. This depression is attributed to the enormous amount of coffee exported from the Brazils.

Peru.—Reports from Callao state that the cultivation of coffee is on the increase there, and that it bids to become one of Peru's staple articles. The latest figures available show that the export for 1896 was about 1,066 tons.

The Philippines.—The first large coffee-plantation in the Philippine Islands was established in 1826, seed having been originally imported from Brazil. About fifteen to twenty years ago there was a rapid development of production, but still more recently it has been neglected. The *North Borneo Herald's* correspondent remarks that this is probably due to the revolution, for the coffee is of good quality, some of it excellent.

He points out that coffee requires some capital on the part of those who undertake it. It takes the trees four or five years to begin to bear. Those who are able to make the necessary advances have prospered greatly, and, especially about Manila, have become rich.

The exported coffees formerly went exclusively to France, but are now scattered well over Europe, usually through Singapore. They are of two sorts, the Manila and the Zamboanga. The first is grown about Manila, chiefly to the south and east of Manila Bay. It has a small berry and is more highly prized than the other. The Zamboanga coffee is produced in the south, principally on Mindanao and the Sulu Islands. The berry of this variety is larger, but less care is used in its preparation. It goes directly to Singapore.

THE LABOUR QUESTION.

WE give to-day a general summary of the decision of the Government of India with reference to the report of the South of India Planters' Enquiry Committee. This decision would appear likely to be in the main fairly satisfactory to planters, but it is perhaps safer to reserve comment until the full text of the resolution is received. Much will necessarily depend now upon the manner in which the proposed amended Act is drafted by the Madras Government. We trust that the work will be taken in hand without delay, and that every effort will be made to enable the Government to frame a law that shall be fair alike to the just employer and the honest cooly. Safeguards against dishonesty on the part of the latter will doubtless be counterbalanced by safeguards against injustice on the part of the former, not because such injustice need be feared, but simply to give a proper tone of impartiality to the new Act.

MANURING OF TROPICAL PLANTS.

Mr. John G. Hamilton's recent remarks on Manures having failed to attract criticism or remark—most probably because all writers on the subject were requested to sign their names—we now propose to give some interesting papers on the subject of manuring, taken from a German source. German scientists have conducted exhaustive experiments in regard to the properties and components of soils, and the use of artificial fertilisers, and the following articles reproduced from a pamphlet issued by the Verkaufs Syndikat der Kaliwerke, Leopoldshall-Stassfurt, will be found to contain much that is of value and interest to planters in India.

INTRODUCTION.

One of the most important conditions for the healthful growth of every plant is the presence in the soil of the essential plant-food ingredients in such a form as will ensure their ready assimilation by the plant.

These plant-food ingredients were originally present in the soil in large quantities, although not readily available. The decomposition of these materials takes place more rapidly in tropical and sub-tropical than in temperate regions.

For this reason, the natural production of the soluble ingredients in tropical soil, corresponds very closely to the quantities of plant-food ingredients removed by the various crops, and, as a general rule, the necessity of restoring these materials by artificial means arises sooner in temperate regions than in the tropics.

On the other hand, the restoration, by natural agencies, of plant-food ingredients consumes more time in temperate regions, on account of their slower transformation into a soluble state; the soil is relatively more rapidly exhausted in the tropics, and only by artificially supplying it with the necessary plant-food ingredients can such rapid exhaustion be prevented.

Moreover, complaints about "worn-out" soils are more frequently heard in the tropics than in temperate regions, because, in the latter, rational cultivation is in its prime, whilst in the tropics it is, with very few exceptions, still in its infancy; in other words the system of continuous cropping is still the leading principle of agriculture in the tropics.

On account of the immense tracts of new land available in the tropics, this system could be followed, to a large extent, without much damage, for as soon as a soil became worn out cultivation could be begun anew on a virgin soil.

For various reasons, this system cannot be so easily put into practice at the present time, and the planters in the tropical and sub-tropical regions are accordingly compelled to resort to a rational system of fertilisation, and to supply their fields artificially with the necessary plant-food ingredients that have been withdrawn by continuous cropping for many years. As, however, a system of rational cultivation has been but recently begun, agricultural experiments, which are so necessary to its success, and which have been so useful in temperate regions, are hardly as yet in an advanced stage.

The system of making agricultural experiments owes its development to the recognition of the fact that only through such can we discover the right methods to be pursued in bringing back soils to their former state of fertility.

Therefore the results obtained from such a system of rational cultivation in tropical regions, although yet few in number, are of great importance, not only in encouraging planters to follow new methods, but also in inducing them to cultivate anew old soils that were formerly regarded as unproductive.

PART I.

GENERAL REMARKS ON TROPICAL MANURING.

Every planter knows that the plant-food ingredients, even in the best soils, will disappear in the course of time. The plants will become less vigorous in their growth, and the yields will consequently diminish in proportion, even in spite of the fact that they may be received the best of care otherwise.

This result is due not only to deterioration in the physical condition of the soil, but also to the loss of certain plant-food ingredients, the presence of which is absolutely essential to the growth of crops. Plants require a large number of elements for their proper nutrition, which are gathered from the air, the soil, and the water in the soil, by means of roots and leaves. The substances taken from the air and the water, are already present in sufficient quantities, and besides this the earth contains sufficient supplies of those mineral substances which the plants only require in smaller quantities. On the other hand, the supply of the most important plant-food ingredients, *i. e.*, nitrogen, phosphoric acid, and potash, is limited in most soils, as these elements have been principally removed by continuous and vigorous cropping. The three ingredients just mentioned must therefore be artificially supplied sooner or later. In addition to the three substances mentioned, there is also lime and sometimes magnesia. These, however, need only be supplied in certain soils which are deficient in those ingredients.

The object of fertilisation is to supply to the soil, in an assimilable state, those ingredients in which it is deficient. Fertilisers may be divided into several groups, according to their composition and to the effect they produce.

A.—NATURAL FERTILISERS.

Under this heading are included those materials of a vegetable nature which are obtained from the refuse of the kitchen, the excrement of animals, &c., and which contain the ingredients necessary for the growth of plants.

Stable manure plays an important part in agriculture in the countries of the temperate zones, but in tropical regions it is very seldom available in sufficient quantities, owing to the fact that the dairy industry in itself is not much developed; also because the greater portion of animal excrement is lost, the animals, as a rule, not being fed in stables. The manure that is collected consists of only dry dung. The urine, which is much richer in nitrogen and lime, can only be saved through absorption by means of straw and litter, and, of course, this method cannot be practised, unless the animals are fed in stables. Well-prepared stable-manure, in addition to the large percentage of plant-food it contains, exerts a beneficial influence on the mechanical condition of the soil, on account of the litter with which it is mixed. The addition of humus is one of the greatest importance in increasing the productiveness of soils, as this substance is very rapidly consumed in tropical climates. When dung and urine are gathered without litter, a mixture is obtained which contains plant-food ingredients in an effective form. The application of liquid manure offers many advantages, but, on the other hand, the difficulty and expense of collecting and applying this material should not be lost sight of.

In order to utilise all of the refuse substances, composting may be resorted to, and composts form a very valuable fetilising mixture. The addition of earth, mud, lime, marl, &c., is absolutely essential, in order that the decomposition of the mass may be accelerated. Most planters are familiar with the rules for making composts; it should, however, be mentioned that the fertilising value of the compost can be increased by the addition of potash salts and phosphates, say 65lb. to 110lb. of muriate of potash and 110 lb. to 150lb. of some phosphate to every 35 cubic feet; these should be well mixed and applied between the various layers. If the compost is to be applied to tobacco or sugar-cane, sulphate of potash should be used instead of muriate.

Composts are most advantageously employed in the setting of young trees; for this purpose 5¼ to 26½ quarts should be put into each hole, and mixed with good soil. This method ensures more certain growth and a more rapid development of the trees.

As stable manure is not available in sufficiently large quantities in the tropics to make it an important factor in the fertilisation of crops, the preparation of composts is only possible in a few cases. The planter must, therefore, turn his attention to other materials, and first of all to the residues obtained in the manufacture of commercial products from oil-fruits In this connection may be mentioned cakes made from soja beans, from earth-nuts, castor, palm-kernels, cocoanuts, cotton-seed, olive-oil, sesame, &c., which form important articles of commerce in several countries, and whose great importance in tropical fertilisation is evident. In their effect they occupy a position midway between stable manure and artificial fertilisers. These cakes should be really classed as nitrogenous fertilisers, on account of their large percentage of nitrogen (2.5 to 7 per cent.) and small percentage of phosphoric acid and potash. The organic nitrogen contained in these fertilisers is very rapidly and completely brought into use, corresponding in this respect to the rapid decomposition characteristic of the tropics. Other and similar residues are leached indigo plants, coffee-shells, &c

But even these materials are by no means present everywhere in sufficiently large quantities to satisfy the demands of fertilisation without considering the fact that these substances, especially the oil-cakes, can be employed more rationally and advantageously in feeding cattle. It should, therefore, be the object of the planter to provide a substitute which has no limit placed upon its application, and this substitute is presented to him in the shape of green manuring with potash-phosphate fertilisation.

Leguminous plants furnish the humus required by the soil, and at the same time gather nitrogen from the atmosphere in sufficient quantities. In this way nitrogen is obtained more cheaply than by any other means, and it is, moreover, more valuable in this form than in stable-manure. When green manuring is employed, potash and phosphoric acid should be provided artificially by means of potash-phosphate fertilisation.

"Leguminous plants promote the formation of dew, keep the earth moist, prevent the growth of weeds, loosen the soil, and supply nitrogen to it, accelerate the decomposition of the mineral ingredients contained in the young grain, increase the amount of humus, and properly regulate the fermentation of the soil." (Dr. Stutzer.)

Green manuring ensures the best results on light and sandy soils.

Leguminous plant should be sown in the beginning of the rainy season, and ploughed under about two months later.

Among the Leguminous plants suitable for the tropics may be mentioned indigo, earth nuts, soja-beans, and cow-peas (Dolychos).

As mentioned above, leguminous plants are fertilised with potash and phosphoric acid, and these ingredients are also beneficial to succeeding crops.

The natural fertilisers previously referred to do not satisfy the demand, for, aside, from the limited production of one or the other of them, not one contains the plant-food ingredients in sufficient proportions, and consequently the addition of so-called "artificial fertilisers" is necessary. It is to these that the planter must turn at the present day.

THE OUTCOME OF THE S. OF I. PLANTERS' ENQUIRY COMMITTEE.

AFTER considering the report of the South of India Planters' Enquiry Committee, and replies to various references with respect thereto to the Governments of Madras, Bombay and Mysore, the Government of India has according to a telegram from the Calcutta correspondent of the *Madras Times*, adopted a resolution to the following effect :—

"The Madras Government accept the proposal of the Committee as to the re-enactment of Madras Act V. of 1866, and would apparently provide in the proposed legislation for the execution of warrants and other processes issued by the Courts in the three Native States under a labour law of identical character. The Dewan of Mysore, on the other hand, considers that the Assam labour law is unsuitable, and would prefer to amend Act XIII. of 1859. The Government of India have repeatedly expressed their inability to undertake the amendment of that Act, with a view to make it more effective as a means of enforcing labour contracts for tea gardens in Assam, as the Act was originally not meant to apply to contracts of this description, and is unfair and one-sided in its provisions, and liable to be misunderstood and misused. They are constrained to agree with the Government of Madras that, if special legislation is required for the coffee industry in Madras, it will have to take the form of an amendment or re-enactment of Madras Act V. of 1866. This, in effect, would provide a labour law of special application to Southern India, which, while enabling the employer to enforce through the Criminal Courts a statutory contract against the labourer in the absence of misconduct on the part of the employer, will enable the Magistracy to require from the employers fair treatment of labour, and will refuse help to an unjust employer. Many circumstances which made the Assam Immigration Law excessively elaborate and minute, and in its working costly to the tea industry, do not exist in Southern India. In Southern India labour is much nearer planting districts, much more mobile, and by habit and experience much more self-reliant and able to protect its own interests. It goes and returns at short intervals, and long-term labour contracts, such as are a necessity in Assam, are practically unknown in Southern India and should not be countenanced by any law which may now be enacted. The Government of India are therefore of opinion that if legislation is required for the regulation of labour contracts in Southern India, the maximum statutory term of a contract penally enforceable should not exceed one year, or at the utmost two years. The evidence is that labourers are generally well-cared for on estates, and that excessive mortality is unknown on coffee plantations in Madras and Mysore. This will possibly dispense with many provisions of the Assam Act, though it will be necessary to take power to inspect plantations and enforce sanitary regulations." The Governor-General, after a careful consideration of the recommendations made by the Committee which have met with the approval of the Madras Government, does not object to the Local Government putting them for a closer examination into a legal form. Until this is done, and the effect of the proposed measure can be more precisely seen, he reserves final conclusions on the subject.

It has been already said that a statutory labour contract for a long term is not required. If found necessary to prescribe the statutory contract, the Governor-General considers that the labourer should be at liberty to rescind it at any time without notice, on repayment of the advances due by him and of specified forfeit money, and with a notice that on the repayment only of the advances due the contract should be liable to be cancelled by a Magistrate on specified grounds. Its enforcement by a Magistrate should be strictly conditional on the labourer having been properly treated by the employer Guarantees for enforcing fair treatment should be provided on the general lines of the Ceylon and other labour laws, and the extent to which advances should be recoverable from labourer should be carefully considered. As regards the compulsory registration of labour contracts in districts of recruitment, Government are disposed to think that such a system is foreign to the practice in the Madras Presidency, as witnessed by the complete failure of Madras Act V. of 1866. Necessity for legislating in this matter will require careful consideration.

The question of extradition is a difficult and far more reaching one. The Committee recommend—(*a*) that the Native States of Mysore, Travancore and Cochin be invited to adopt the amended law; (*b*) that the execution of the amended law be made reciprocal between the Madras Presidency and Coorg on the one hand, and the Native States of Mysore, Travancore and Cochin on the other, by a convention, or mutual agreement; (*c*) in default of a convention (i) that British Magistrates be empowered to give effect to the orders of certain Magistrates in Native States in respect to fraudulent breaches of contract under the amended law, or (if there be no amendment) under Act XIII. of 1859, or preferably (ii), that Magistrates in British India and in the Native States of Mysore, Travancore and Cochin be empowered by their respective Governments to deal with persons found within their jurisdiction who commit fraudulent breach of contract (as above explained) across the border; (*d*) that in the event of either of the above suggestions (B) or (C) (ii) being

accepted, the Mysore State should no longer be exceptionally treated in respect of British processes in breach of contract cases.

The Government of India has given careful consideration to this difficult subject. Their provisional conclusion is this:—Should the proposed legislation for the amendment of Madras Act V of 1866 be undertaken, there would be no objection to including in it a provision for execution in the Madras Presidency of criminal processes issued by certain courts, under due safeguards, of the Native States of Mysore, Travancore and Cochin, if and when, and as long as, a similar law is in force in each such State. With regard to warrants of arrest issued under the proposed labour law, Government think when any such warrant is sent to another district for execution, it should be discretional to a magistrate of such district, to accept bail for appearance before the court issuing the warrant, or to act in the manner prescribed in Section 19 of the English Statute at present applicable to cases in which extradition from India is sought by the courts in Ceylon. In the special case of Coorg it could be met by extending to it by means of a regulation or notification under the Scheduled Districts Act, 1874, the provisions or certain provisions of the proposed Madras labour law. There remains the question of amending the Madras Act VIII. of 1878. The Coffee Stealing Prevention Committee deal with this question at length in the last chapter of the report, in which, after tracing the history of Madras Act VIII of 1878, it is recommended—1st, that Section 9 of that Act be amended by the addition of the words: "Parchment and cherry dried" coffee, (2) that Sections 5, 6 and 7, which apply only to purchasers of coffee, be also made applicable to sellers; (3) that power be given to Government to prescribe forms for books and accounts for recording the sales of coffee, to require returns of produce and verify entries in them by inspection. These recommendations have the support of the Government of Madras, who are prepared to give effect to them by legislation in the local Legislative Council. A communication on the subject of the proposed legislation is being made to the Secretary of State.

TELEGRAPHIC QUOTATIONS.

LONDON.—Jan.	20	21	23	24	25
Bar Silver ...	27 9/16	27 9/16	27 5/8	27 9/16	27 1/2
Bank Rate ...	3½%	3½%	3½%	3½%	3½%
Coffee	[steady]	...	[quiet]	[steady]	...
Nilgiri ave.(B)size	61	61	61	61	...
Mysore (B)	75	75	75	75	...
Wynaad (B)	60	...	...	...	...
Middling Ceylon	103	103	103	103	...
Cinchona, Monthly sales		...	...	1,800	...
NEW YORK.—					
Coffee—Fair Rio	6½	6⅝	6⅝	6⅝	6⅝
Futures, April	5·89	5·96	6·05	6·02	6·11
Silver—Comml. Bars	59¾	59¾	59¾	59¾	59⅝

NOTES.

Tea and Theine. The latest suggestion in Ceylon is the establishment of a Company to buy up tea-dust and low grade teas and turn them with "Theine."

Sale of a Ceylon Tea Estate. Mr. T. Y. Wright has bought Galphele Estate, in Wattegama, for Rs.68,000. It consists of 165 acres, of which 150 are under tea cultivation.

Cocoa in Grenada. Sir A. Malony, the Governor of Grenada, states in his report that the Cocoa Crop of the year reached a total of 54,597 bags, being the largest since 1893-1894, when the record crop of 55,666 bags was gathered.

Coffee in Mexico. Further developments are in contemplation. The Mexican Plantation Company, of New York City, has been incorporated, to deal in real estate and raise coffee in Mexico. Capital stock, $100,000. Directors—Archibald M. Pentz, Charles Francis Jones, and W. F. Peters, of New York City.

Cinchona in Ceylon. A home correspondent writes to a Colombo paper:—"By all means let planters, especially those living on the fine soil of Uva, plant up their road lines and corners with the best plants they can get, and in a few years time they will find their reward, for it looks as if there was going to be a scarcity of quinine in the near future."

Nitrogen from the Air. It is stated that by some new chemical process nitrogen, in the form of sulphate of ammonia, is now obtained artificially from the air. The cost is put at 20*s.* (£4) per ton, and in addition a by-product is obtained which will have a great effect on gas manufacture. If that be so, then a great boon will have been conferred on agriculturists, but until actual facts are to hand it will be well to suspend judgment.

Coffee in the West Indies. As showing the value of Jamaica coffee, we may note that a Kingston correspondent reports sales at 34s. c.i.f. on the Continent for "good ordinary," and says that merchants there are paying 24s. to 25s. per 100 pounds for that description. It does not sound like profits! And another correspondent in the West Indies remarks that locally, Coffee and Pimento realize 15s. to 20s. per 100 pounds.

The Consumption of Tea. Papers such as the *Pioneer* attribute the "decline of demand" for coffee to the ease with which tea can be brewed by comparison. This is by no means a fair view of the matter. The chief factor of late years, affecting demand for Tea as well as for Coffee, has been the rapid evolution of *Cocoa*, and the enormous extent to which it has been advertised. It is in the increase of demand for cocoa that we find the chief cause of the comparative falling off in consumption of coffee. Tea has had little or nothing to do with the matter.

The London Tea Market. Cabling to Colombo on 19th instant, Messrs. Gow, Wilson & Stanton reported a generally steady market, with a tendency to advance. The tendency was not reflected in the averages, however, which still stood at 6½d. for Ceylon Pekoe Souchong and 8d. for all Ceylon Teas sold on Garden account. Reuter's description was "generally firm at previous rates," and his average for Ceylon was 8⅛d. for Indian 9¼d. (the latter being ⅜d. up). Of Ceylon Tea 15,000 packages were sold out of 17,000 offered, of India as 53,000 out of 56.

Encouragement for Tea Planters. It is satisfactory, says the *Produce World*, to see that outside markets have considerably extended the consumption of both Indian and China Teas. These markets are becoming a great support to the industry. During the last nine months an increase in the quantity has taken place to the extent of 8,059,000 pounds over that of the same period last year. It is estimated that in the home market the consumption has increased about 8,250,000 pounds. The Indian yield is only expected to be about 2,000,000 pounds more than last year, and the Ceylon crop only a fair one, so that there is every reason for planters to hope for better prices.

Retail Sale of Coffee. At a General Meeting of the Selangor Planters' Association on 17th ultimo, the Chairman said he had received from Mr. F. A.

Toynbee the draft of a scheme for the retail sale of coffee in Exeter. Mr. Toynbee had taken great trouble to work up this matter and had found that although the large dealers would not touch it, the smaller men were prepared to support it, and he wanted the Selangor planters to supply him with a ton of coffee per month to meet this demand. The Chairman understood that possibly the Hauthornden Association might take up this matter and supply Mr. Toynbee with the necessary coffee, so in the meantime nothing need be done by the Association.

Coffee from Queensland. Within the past few weeks, says the *Produce World*, a small consignment of Queensland Coffee in the husk has been given to a well known firm of brokers in Mincing Lane to realize. It was husked and cleaned by reliable wharfingers, and turned out to be rather small but very pretty coffee, well cured and dried, and comparing favourably with Central American, the estimated value being from 50s. to 60s. per cwt. There are considerable areas of land suitable for the cultivation of coffee in Queensland, so no doubt this industry will be further encouraged in the future. The object of this shipment is not so much to find whether a market can be found here, as to have London experts' opinion as to the quality and to gain information in respect to the further improvement of same, for no doubt the "Cornstalks" will be able to consume all that is produced for many years to come.

Tickling the German Palate! The "Thirty Committee" in Ceylon has passed a resolution "that the Committee regrets that any expression used should have given offence to the German community and that the attention of Mr. Wm. Mackenzie and the Editor of the *Tropical Agriculturist* will be drawn to the incident as the Committee had no knowledge of it." The expression here referred to is contained in a letter from Mr. Wm. Mackenzie. The words read :—"In France there is to be the grand opportunity of the great exhibition. There are tea-drinking English families everywhere *economising*, and the French are *not beer-sodden* like the Germans." It was a curious way of catering for German trade : and, really the apology is almost as bad. The committee is apparently not sorry for having called the Germans "beer-sodden" but regrets that the term should have given offence!

The Consumption of Tea. The New Zealand official year book for 1898 gives the following information regarding Tea :—The quantity of tea entered for consumption in 1897 was 4,564,840 lb. Supposing Maoris to use, on an average, 1 lb. per head per annum, the consumption of tea per head of the population, exclusive of Maoris, would be 6·27 lb. in 1897.

ANNUAL CONSUMPTION OF TEA PER HEAD.

	lb.		lb.
Western Australia ...	10·70	Denmark ...	0·37
Victoria ...	10·01	Persia ...	0·13
Queensland ...	8·96	Portugal ...	0·12
New South Wales ...	7·55	Switzerland ...	0·10
South Australia ...	7·24	Norway ...	0·09
New Zealand ...	6·27	Germany ...	0·07
Tasmania ...	5·35	Belgium ...	0·03
United Kingdom ...	4·70	Sweden ...	0·03
Canada ...	3·69	France ...	0·03
United States ...	1·40	Austria-Hungary ...	0·02
Holland ...	1·16	Spain ...	0·01
Russia ...	0·61		

A reliable Insecticide. A very valuable discovery has been made by Professor R. C. Kedsie, of the Michigan Agricultural College and Experiment Station. He has discovered a spraying mixture more reliable as an insecticide than Paris green, and which does not burn the foliage of the trees, and it costs less than 4 c. (2d.) a barrel. It is not patented, and here are his directions for making it :—Boil 2 lb. of white arsenic and 4 lb. of salsoda for 15 minutes in two gallons of water. Put into a jug and label "Poison," and lock it up. When you wish to spray, slake 2 lb. of lime, and stir it into 40 gallons of water, adding a pint of the mixture from the jug. The mixture in the jug will cost 45 c., (say 2s.), and this is enough for 800 gallons, or 20 barrels of spray. These 20 barrels will require 40 lb. of lime which will cost 20 c. more, making the total cost 65 c. for 20 barrels, or 3¼ c. (say 1½d.), per barrel. Its advantages over Paris green, states the *Michigan Advocate*, are as follows :—It is cheaper, and the ingredients can be found in any Chemist's shop ; it is easily prepared and easily kept ready; it will keep for any length of time, it is uniform in strength ; it does not injure the leaves of the trees or plants ; it colors the leaves white, showing how evenly it is distributed.

Cocoa and Rubber in Fiji. In on admirable speech to Council recently the Governor of Fiji stated that a sample of cacao grown in the Government Gardens and cured by Mr. Yeoward has been valued in London at 75s. the hundredweight. A higher valuation would have been obtained if Mr. Yeoward had had more experience in curing ; but even at 75s. the hundredweight the cultivation of cacao on suitable soil in Fiji should prove a very remunerative undertaking. It is observed that the process of curing, though not very difficult, requires more care and attention than the average Fijian would be capable of bestowing on it, and he therefore does not anticipate that for many years to come cacao will be added to the list of native grown products ; but it would appear to be well worth the notice of European settlers in the country. During the last twelve months, the Governor added, "I have had samples of rubber collected from numerous varieties of rubber-producing trees and creepers in many parts of the colony, and sent to London for valuation. They have all proved practically valueless with the exception of one produced in Colo North by Mr. Joske from the *ficus obliqua* (locally known as Baka) which was pronounced useful for mixing with better

COFFEE SHADE TREE.

Sun-dried Erythrina Lithosperma loppings, &c., contain per ton :—

61·50 lbs. Nitrogen.
57·38 „ Potash.
14·92 „ Lime.
13·68 „ Phosphoric Acid.

Seed cured under Messrs. Sutton and Sons' advice.

Orders should be booked early for the 1898-1899 crop of seed from the parent trees of above analysis at Rs.6 per pound containing about 2,000 seeds. *Germination guaranteed.*

Only thornless variety extant, and is not procurable anywhere save from the

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Shencottah.

qualities of rubber in the manufacture of cheap goods, and valued at from 1s. to 1s. 3d. a pound. Commissioner Joske intends to promote the production of this rubber in some of the districts in Colo North where the *ficus obliqua* is found in abundance, and where the native taxes are now principally contributed in maize.

Tea and Cinchona on the Nilgiris.

The *Ceylon Observer* of the 19th instant says :—"Mr. T. C. Anderson, who returned to-day from a visit to his property in the Nilgiris, reports tea there to be in a very flourishing condition, and is confident that by and by it will come to have as good a name as that of Darjeeling. Cinchona cultivation is also being gone in for extensively." The *Times of Ceylon* remarks :—"Mr. T. C. Anderson, the well-known Maskeliya planter, has just returned from the Nilgiris, where he owns an estate, very pleased with the condition of his tea and cinchona. His property is twelve miles from Ootacamund, from which an excellent and level cart-road leads through his estate, and the distance can be done on a bike in a trifle over an hour. The elevation is 6,500 ft., and the climate dry and cold, much superior to Nuwara Eliya with its chronic damp. The 150 acres of tea which are on Mr. Anderson's estate, are, we are surprised to hear, over thirty years old, having been planted as long ago as that by a General Morgan. The stems of the trees are enormous; and, while a very fair yield of between 400 lb. and 500 lb. is obtained, Mr. Anderson has just been seeing to the erection of the most improved machinery, which he trusts will result in better prices being obtained, there having been no machinery on the estate hitherto, and the manufacture having consequently been of a very primitive nature. The cinchona *(Robusta)* is also doing very well, and there is no sign of canker on his or on any of the other properties in the district, where a cultivation which proved so disastrous in Ceylon is thriving exceedingly, the Government of India buying the bark at London prices for local manufacture, and thus saving the expense and the trouble of shipping to England. With such prospects and with such an excellent situation and climate, Mr. Anderson's estate, apart from its profit-producing capacity ought to be a valuable residential property. Mr. Geo. B. Tringham, son of the Dolosbage planter, is in charge of the estate."

LETTERS TO THE EDITOR.

RINDERPEST.

Dear Sir,—I note in your issue of the 7th, the preventative or remedy advocated by General Morgan for rinderpest. This has been well-known, and practised in parts of S. India where caste prejudices do not exist, or where "low caste" people can be got, and taught how to prepare, and apply the "meat juice." But in these parts some other remedy must be looked for. I have some idea that Mr. Sturgess' preventative can be carried about in a bottle, and applied with a syringe or some surgical instrument, and should much like to know more about it.

Kadur District. D.

BLACK PEPPER.

Sir,—I have read with much interest your reproduction from the *I. P. G. re* black pepper ; and, as it is practically an answer to a former letter of mine on the subject which appeared in *P.O.* I am constrained to add a few further remarks based on my confessedly little practical experience.

While agreeing in the main with the *I. P. G.*, I still think a great many points require elucidation. The question of rearing pepper vines from seed is very tastefully avoided whether from total ignorance on the subject or from lack of that essential practical experience which has so seriously handicapped me.

I shall take this opportunity to give my own experiences with seed, and I hope that by thus making them public somebody may be saved from going and doing likewise. Should any one want to try the experiment, I think, I can guarantee, a fraction over 99 per cent. failure.

The seed was first dried in the sun about the month of February and put out as follows at the beginning of the Monsoon (1st June) a hole half a yard long by a foot deep was dug at the foot of each tree and the earth again filled in ; 5 seeds were planted in each hole, *i. e.*, placed within one quarter inch of the surface of the filled in earth and covered up with dried leaves. As about a bushel of seeds were planted out in this way I had sanguine hopes of a grand display of young pepper for the ensuing year. In this, however, I was cruelly disappointed, as not more than one per cent of the seeds came up. As I said before, pepper is indigenous here and was very plentiful before a blight which destroyed a large proportion of it made it necessary to try and grow pepper from seeds or cuttings. Another thing that led me to expect better results from my seed plantings was the fact that the ground where the vines originally grew spontaneously is covered with pepper spreading itself out in all directions evidently in search of trees or something to climb up. So far as I am aware, pepper thus creeping along the ground never gives any crop, but when it finds a tree or the stump of one or even a rock or boulder it grows up and bears or does not bear according to its sex, male or female. This creeping pepper I am inclined to ascribe as the product of the seeds which must have fallen from the original vines. On this assumption I naturally concluded that seeds put at the bottom of a tree at the beginning of the rainy season would spring up, when I could train them on to the tree if they showed any inclination to go in a different direction. Judge of my disappointment then at a total failure of the whole scheme. The seed were carefully selected. Evidently I made some grave mistake in my treatment and putting out of the seed. Perhaps somebody who has tried it will give his experience in raising black pepper from seed.

"Mensu."

Saklaspur, 17*th Jan.*

R. VENKIAH BROS.,

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[2-10-98—t.f.o.]

GENERAL ARTICLES.

QUALITY *v.* QUANTITY.

R. W. G. in *the Indian Sportsman*, contends that it would be far better for all concerned to manufacture a sufficient quantity of drinkable tea that would at once go into consumption, than send in a quantity of unsaleable rubbish which nobody wants and which only goes to increase stocks, thus giving Ceylon and China a further opening. Assam can, and does, make good strong-bodied teas which will always be in demand by the trade, and without which, the blendings would be considerably weakened, both in strength and flavour. Darjeeling, when fine, cannot be beaten so far as their special and peculiar flavour, which so closely approaches the finest quality of China tea, but when poor in cup, they are thrown out, and the hill teas of Ceylon are taken for choice. Dooars are variable in quality, but when good, as they were in 1897, blenders take them freely, thus showing that they will have good stuff. We are sorry to find that last year's crop from the Dooars was very inferior in quality, due, we believe, to adverse climatic influences. Cachar and Sylhet can do much better than they have done during the past year: this applies chiefly to *bheel* gardens, the managers of which are inclined to pat themselves on the back and say:—'Fourteen maunds of *pucka* tea per acre, my boy!" Yes, fourteen maunds per acre, perhaps, but how much of it goes into consumption and how much into bond? They would do better to be content with, say, seven or eight maunds per acre, and get round their gardens every week. It is most aggravating to shareholders, and every one concerned in the tea industry, to know that these fine good *jat* yielding gardens can only show a miserable five-anna average—hardly that, in fact.

In some seasons climatic peculiarities make the production of good teas difficult: but we believe that with fine plucking and close attention to manufacture, good results may always be attained; and that it should never be necessary to turn out, as has been sometimes done, great masses of tea so inferior that no grocer or blender will take it except at ruinous prices. The old idea that low prices stimulate consumption must be classed with other obsolete theories, and the fact must be recognized that the British public will not take rubbish at any price. That there is a good deal of common stuff still going forward cannot be desired, not because it is not, possible to make better, but because a short-sighted policy is adhered to in some cases, and quantity, the very thing that dealt the death below to China tea, is made to the detriment of quality, which should be the first aim of every planter, and we believe that nine out of every ten men would only be too glad to sacrifice quantity to quality if they were allowed to have their own way. The market does not require teas of the very finest quality, but what it does require is something that is not absolutely rubbish, such as many gardens in Cachar and Sylhet have been producing. Our advice to planters is it go in for the best medium quality teas their gardens can produce. We are not advocates of the very finest plucking, but believe in a good medium system being adhered to. "Two leaves and a bud," and nothing over seven days old.

THE TEA MARKET.

THE future of this market seems to be a little more hopeful owing to the great expansion of the demand in countries outside the United Kingdom. In the nine months ended September 30 last these outside markets have consumed over nine million pounds more than in the corresponding period in 1897, and the following figures show that the demand has been steadily increasing for some years past:—

		lbs.			lbs.
1898	...	42,918,654	1895	...	20,002,230
1897	...	34,859,215	1894	...	20,905,531
1896	...	28,250,961			

Fully one-half of the total for 1898 was shipped direct to these foreign markets from Calcutta and Colombo. Ceylon tea is most in favour, the increase being about six millions pound as against less than two millions of Indian varieties.

In addition to the increase foreign demand there has also been a larger home consumption. Last year, it will be remembered, there was a decrease in the latter, owing partly, it was said, to the Engineers' strike and partly to the efforts to push cocoa. This year the increase is well above the normal. For various reasons the Indian growers are expected to supply the United Kingdom with only about 2 million lbs. more than last year, while Ceylon only shews an increase of from 3 to 4 million lbs. Stocks are, therefore, diminishing instead of increasing, as in past years, and a healthier tone prevails in the market. Some stress is laid upon the altered conditions of trading, which are expected to lead to an improvement in business later on. The great difficulty in the tea-trade is that four-fifths of the Indian shipments are made in the six months from August to January. In those six months of 1897-98 the shipments exceeded the deliveries, by about 34 million lbs, and this surplus stock had, of course, to be held by the market until supplies grew more moderate. The old firms had been accustomed to hold the smaller stocks of earlier days, but their resources had not grown with the expansion of the business, and in the last few years there has been a greater tendency to push the stock on the market when the conditions were unfavourable. Buyers, knowing the weak state of the market, did not come forward and took as little as possible in order to gain every advantage from forced sales. There is a limit to this state of affairs, and the creation of a number of joint-stock sellers of tea is helping to improve matters. These large dealers with their numerous shops find it advantageous to buy in considerable quantities, and as direct from the growers as possible. Their resources enable them to carry their stocks for some time, and as their number increases the competition when prices are depressed tends to grow. So far this new order of things has not had much effect, but prices have improved a good deal of late, and it his hoped that the development of competition among buyers may strengthen the market for Indian teas. Ceylon teas do not suffer from the same cause, except sympathetically as the produce from the island comes in fairly regularly each month, and at no time do shipments exceed delivery to any great extent.—*Investor's Review.*

COFFEE, &c., IN NORTH BORNEO.

THE following are extracts from a letter from a gentleman on his way between Labuan and Sandakan to a friend:—

This year began with troubles with the natives of the interior, but those came to an end and now our revenue shows an increase over last year and the prospects for 1899, as shewn by the prices offered for the farms, customs, spirits and opium, are better than they have ever been. The tobacco crop, on the average, is larger per estate than any hitherto gathered—and the report as to quality is favourable. The price of Liberian coffee has gone up from $17 to $23 and the exports in 1899 will, I believe, be much larger than this year. We have done a little in india rubber this year and more applications have been received for land and as we have a lot of suitable land I hope to see this industry increase. The Pará rubber planted on the east coast and in Marudu Bay is doing very well—it grows at a tremendous rate (a foot a month) and is therefore an interesting cultivation. Cocoanut plantations are increasing and the established ones are being increased and before long we shall export a lot of copra, etc., the price for which is now very high. I met a prospector for land for planting ramie and assisted him to select a block of 600 acres adjoining the railway line and while I was working on that side Mr. E. Walker came over to select cocoanut land for Mr. A. E. Wright, which he finally did, also on the railway line, and on the banks of a small river in a populous district, two miles from the water terminus, Weston The soil in that district is good and the natives grow enormous quantities of fruit, cocoanuts, durians, rambutams, jack, mangoes and so on.

At Kudat I visited Taritipan coffee estate: the coffee is gradually covering the ground and the pickings are now extending over 170 acres and require 80 pickers—probably more in January. The cisterns were full of coffee and the store work requires a number of coolies. The drying is done with a fan and a hot air chamber. Fifty bags were being loaded in carts at the store for conveyance to the boat, and Shipment to Singapore, so that the estate on the whole presented a thriving and busy appearance. The number of coolies on the check roll is 130 odd and the coffee is quite clean—except one field. The weeding is done every 21 days. No pruning is done except taking off suckers and the trees are not allowed to grow more than about 12 feet high. If coffee was looking particularly vigorous—no black berries or dead branches, and the cher-

ries are certainly much larger than last year's which I attribute to the forking. One field has been forked twice and manured with pulp and it has responded and has a splendid show of wood. A nice blossom was out all over the estate and as the blossoms have been continuous since the 1st September and the big blossoms have yet to come, I anticipate a heavy crop on this estate in 1899.

At the present time I think North Borneo offers a profitable field for young men with a little capital. There is a certain amount of employment obtainable from the timber companies who want assistance in getting timber out of the jungle, from Europeans who can get labour. The timber land is found by the Company and they pay contract prices for timber delivered alongside the steamer or on the foreshore. There are always opportunities of one kind and another which a young man, in an independent position, could take of earning a little money while his plantation comes into bearing. This would apply especially to cocoanut planting which requires but little supervision—and if along with the cocoanut a nursery plantation of Pará rubber is laid down, the planter would find himself in a position to offer Pará seed and plants to a new India Rubber Company and secure some profit to himself. At the moment there is a possibility of a Ramie Company and a Pará Rubber Company wanting managers and any good man, on the spot, would stand a chance of employment.

EXPERIMENTAL GARDENS AND ECONOMIC PRODUCTS.

The *I. P. G.* says:—If we may judge by present day journals which are recognised as representing planting and general agri-arbori-horticultural pursuits in India, we must come to the conclusion that the followers of these industries in Assam take the very front rank as experimenters with possible economic products suitable for their province. Surprise has often been expressed why a well-regulated experimental garden has not been inaugurated many years ago in order to test the multitude of possible products which, undoubtedly, in a great many cases, would be found to be sound investments when their cultural requirements were thoroughly understood. We have our Agri-Horticultural Societies and our botanical gardens, as also our agricultural colleges, and occasionally we have a Deputy Commissioner or a subdivisional officer who may have a turn for agriculture and, perhaps, take a more than usual interest in things agricultural. Again, we have our Agricultural Ledger as well as our Director of Land Records and Agriculture and attached staff. All these are working for the same end; but, when all is said and done, we are of opinion that a planter's *own* experimental garden during five years would do more practical good to their industry than twenty years of all the others we have mentioned, put together. We have no wish to decry any institution which exists, having the object of the improvement and further advancing the knowledge of agri-horticultural industries of the country; but what we do say is that Assam ought to have at least two experimental gardens of its own—one in upper Assam and another in either Cachar or Sylhet. The expense of keeping up such gardens would be trifling to a great industry, while the benefits accruing would be incalculable.

We have our individual experimenters, which we have not already mentioned above; but, although all honour is due to them, we must remember that all experiments undertaken by individual planters are speculative. If their experiment proves that any particular product is suitable for any particular district, or by modifying the treatment which is necessary in one part of the country find that, under altered conditions, it will prove successful in another part of the country, then the planter has a chance of being remunerated for his outlay on his experiment. But he cannot patent what he has gained in practical knowledge by risking his capital and spending his time, besides the wear and tear bodily and mentally which he has undergone; and in the end every one is benefited at his expense. On the other hand if his experiment is only successful to the extent of conclusively proving that the product under test is not suitable, then he must bear all the expense himself, besides the ignominy of defeat, and the only gain he has is the hard-won bitter experience—an experience from which every one derives a benefit at no expense whatever, but still will not prevent them learnedly wagging their heads and telling each other that they "always thought so."

It has been suggested to us that in the absence of such experimental gardens, we should devote a page of our journal to the discussion of probable economic products for Assam, either as a staple industry or as an auxiliary to tea. That the number of such possible products of the vegetable kingdom is practically inexhaustible, all men who have given the subject attention freely admit. We are well aware that a great many experiments have been carried on of late years, the results of which would certainly prove interesting and useful to the planting community. Perhaps some time in the near future the tea planters of Assam may see their way clear to combine and have an experimental garden of their own, when we would only be too glad to co-operate and render such assistance as lay in our power. In the meantime, we would cordially invite the views of planters upon any product they may have given attention to, with the view of having a regular "Assam Economic Product Discussion Page."

INDIAN TEA IN 1898.

The trade reviews of tea at this season of the year are always interesting. The planter may be able to profit by the opinion held by those who handle tea. In its review of Indian tea during 1898, the *Grocer* says: "Indian teas now hold the premier position for home consumption as regards usefulness from a trade point of view, and the year of 1898 has been a record one, deliveries showing the most marvellous jump upward in one year. Ever since 1881 Indian and Ceylon teas have been increasing in consumption, but the latter has always shown the bigger increase, as the public liked their flavour so much; about 1894 and 1895 Indian teas were either stationary or even going out of favour, but in 1896 they took a sudden large jump upwards, and this year the increase in deliveries is about '10½ million lb.' The reason is not difficult to find, we think. The prices of Indian teas has been abnormally cheap throughout the year, and they are preferred by the blender, as they are stronger and keep so much better than Ceylon teas; again several large distributers are advertising a very low-priced canister which India has been called upon to fill, as Ceylon leaf was too dear this blend must, however, be sold at a loss in order, no doubt, to catch orders on the better blends. The competition that is now going on between a few of the large blenders and packet houses and the big wholesale dealers is very keen—to the benefit of the grocer—while the public ought to be very well served, as blending is now quite a fine art, and is carried out in huge quantities on the most economical lines. The season of 1897-98 weighed out here at 135 million lb. against 131 in 1896-97, but the official figures from Calcutta called it 134 million lb., against 131½ million lb. We began 1898 with a stock of 61,700,000lb., or 7½ million lb. more than 1897, and for the first three months of the year we were overweighted with tea at auction, with no increase in deliveries; then the tide turned, and ever since March the deliveries have increased 1 million lb. or more each month. The present crop of 1898-99 is confidently expected to be 135 million lb., or only 1 million lb. more than last season, and we have already received 4 million lb. more of the present crop than last year. The position therefore for 1899 is very strong—stocks reduced some 4 million lb. compared with January 1, 1898, less tea to arrive, and very low prices for teas up to 10d of which the bulk of the consumption consists, and it certainly looks as if buyers would do well in buying freely at present rates. It must be remembered that the increase in deliveries is not all for home consumption, as the re-exports of 7½ million lb. show an increase of over 2 million lb. as compared to1897."

"The beginning of 1898 opened with heavy sales and very bad prices, sweet Pekoe Souchongs and poor Pekoes selling at 5½d. to 5¾d, while really good and fine Pekoes and broken Pekoes showed a heavy drop from 6½d. to 11d. Broken Pekoes were also at recent prices from 8d. to 1s. By the middle of February, however, a reaction set in for all good liquoring teas from 6½d upwards, as they were fully appreciated by the retailers, and from March onward prices imperceptibly improved, and by June many of the good and tippy teas had risen 2d. to 3d. per lb. Poor teas and the lower grades did not participate in the rise, and capital value was procurable at lowest rates from 5d. to 6½d. the latter price representing stylish

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Pekoes but with poor liquors. In April two large houses operated heavily, and by the end of the month prices were raised ½d to ¾d. per lb. on teas for price. A slight reaction set in after this operation was over, and trade became quiet for the rest of the season, but all good teas rose owing to their scarcity. On June 6 a few hundred packages new season's arrived and brought satisfactory prices. quality being considered fair average. Some of the Assams and Darjeelings arriving in August and September were very fine and brought extreme rates, but the bulk of the new crop is only fair and wanting in point and strength. A large business was put through right up to the end of the year, but prices have kept low for Pekoe Souchongs at 5¼d. to 5¾d. and Pekoes with style from 6½d to 9½d. have hardly ever been cheaper, as the weight of the supplies have consisted in teas between 6d. and 10d. In the autumn any common tea was eagerly taken at 5d., and the market was very strong, although cheap, for leaf teas up to 5½d. The strain on the buying powers of the trade proved too great towards the end of November, and price tea eased off ¼d. per lb. Quality fell of in the autumn in the better teas, which reduced the bulk of the supplies to all one range of price; hence dealers have had it all their own way in stylish Pekoes from 6d. to 9½d., but as the year closes, spotty teas that stand out, although intrinsically worth only ½d. to 1d. more than the 9d. to 10d grades, will yet bring fancy prices as buyers are so eager to secure them Finest teas are also very scarce and command full rates. It must be noted that Bombay and America have taken some 3 million lb more from Calcutta direct this season. The total imports for the year 1898 will be about 5 million lb more in 1897. or say 139½ million lb., against 134,855,000, while the deliveries will be nearly 138 million lb. against 127,350,000 in 1897."

TEA IN 1898.

Messrs. Gow, Wilson & Stanton's Indian, Ceylon, and Java Tea Report for 1898, dated December 30th, 1898, says:—"The Tea producing industry has been passing through a severe crisis. The worst of the depression appears now to be over, and there are decided indications of a brighter outlook.

For some years past cultivation has been rapidly increasing, both in India and Ceylon, necessitating constant reduction in price, which gradually receded, until during 1898 the lowest average prices ever recorded were reached.

The cost of production in the meantime was greatly augmented —first by the enhanced price of rice owing to the Indian famine, and secondly by the artificial rise in the value of the rupee, so that the margin of profit was thus still further reduced. Home Consumption during last winter showed a marked falling off, probably due to the increased use of Cocoa as well as ,to the strike in the Engineering trade. Whatever the cause—the result was the consumption of less Tea, and consequent accumulation of stock with reduced prices.

But a marked change has come over the position. Home Consumption has again increased and is now greater than ever, some six million pounds more of British Grown Tea being used during 1898 than in 1897, while the total supply to the United Kingdom appears likely to be little, if at all, above that of last season.

It will thus be seen that the statistical position of Indian and Ceylon Tea in this country is remarkably strong, and there appears little doubt that an advance in price must take place, especially in Indian Tea, which at present is relatively cheaper than Ceylon.

Another feature is now to be taken into consideration. For years past efforts have been made by Indian and Ceylon Planters to foster a taste for their Teas in new markets, the result being that whereas in 1890 only 14 million lbs. of British Grown Tea were used outside the United Kingdom, the quantity had risen in 1897 to 51 millions lbs. For the first 11 months of 1898 there was an increase of 9 million lbs over the corresponding period of 1897.

This, added to the increased use of British Grown Tea at home, makes an excess of some 15 million lbs. against a probable increase, according to the official estimates, of only 9 million lbs. in the united crops from India and Ceylon. Hence consumption has apparently at last equalled production, while the continual expansion of these outside markets gives every confidence to the belief that the ratio of increase will be more than maintained.

Should this be the case, the resulting competition would probably occasion some advance in quotations, and a condition of the industry more favourable to producers. It is, however, most important to remember that the present more cheerful outlook has been caused by increasing consumption, coupled with a check in production. Any sudden opening out of new Tea areas would therefore only cause a recurrence of the late depression. Planters should rather aim for less quantity with improved quality.

Indian.—The official estimate of the total crop is 154,000,000 lbs. against an outturn of 148,000,000 lbs last season. The quality has not been up to that of 1897. Assam was a fair average, while some of the Teas from Darjeeling showed improved flavour. Dooars Tea has been much the same as last year, but Cachar and Sylhet suffered so severely from the weather that both output and quality were poor. The average price for all Teas sold on Garden account in 1898 was 8 30d., 1897, 9d., and in 1896, 8¼d. The average from the commencement of the season to the end of the year 8·44d. 1898, 8·94d. 1897, 9 13d. 1896.

Ceylon.—The crop has been a very fair one and fully up to the average in quality, although some disappointment is generally expressed by growers in reference to the quantity. which has fallen somewhat short of their expectations, the latest estimate being placed at 119,000,000 lbs. against an outturn of 116,000,000 lbs. in 1897. The average price for the year 1898 was very little below that of 1897, viz.: 7·76d. against 7·82d., and in 1896, 8·21d.

New Markets continue to make satisfactory progress. Australia, the largest consumer of British Grown Tea outside the United Kingdom, has gradually increased her use of our Teas until they now supply about 65% of her total consumption. The North American market continues to make progress sufficient to justify the work of the Indian and Ceylon Commissioners, while the fact that direct steamers now leave Calcutta and Ceylon for New York, sailing under the American flag, is apparently having a beneficial effect upon the use of our Teas in the United States. Russia has become a very important consumer of Ceylon Tea, and now that the Russian Volunteer Fleet is able to take supplies direct from Colombo to South Russia, a remarkably rapid increase has taken place in shipments. which appear capable of a most important development.

Exchange.—The average rate of Exchange during 1898 was 1/4 3/16 against 1/3 15/32 in 1897, and 1/2 13/32 1896."

THE FERTILITY OF THE SOIL.

It now seems safe to formulate a few general principles as being sufficiently established to justify building upon them a scheme of horticultural management:—

1. The carbon of green-leaved plants is absorbed directly and practically exclusively from the atmosphere, through the medium of the foliage. At least, the soil supply of carbon is a matter of minor importance.

2. The oxygen of such plants is chiefly absorbed in like manner by the foliage or taken up by the roots in combination with hydrogen in the form of water; although a minor and comparatively unimportant source of oxygen and hydrogen may be found in the breaking up of nitrates and ammonia by nitrification.

3. The nitrogen of such plants is obtained invariably from the soil either directly from compounds of nitrogen with oxygen, hydrogen, or mineral or organic compounds—such as nitric acid ammonia, nitrates and humus; or indirectly through symbiotic growth of micro-organisms living in the soil, which have the power of assimilating the free nitrogen of the atmosphere; this symbiotic growth being apparently confined almost altogether to leguminous plants

4. The mineral constituents of such plants are taken directly from the soil, being absorbed by the roots in the form of solution in water.

5. The ten or more mineral elements found in the ashes of plants are furnished in abundance by practically all fertile soils provided there be present a sufficient quantity of available phosphoric acid and potash, and sometimes also of lime.

6. The various elementary substances found in plants are combined with each other in certain definite proportions, varying for different species, but held within very narrow limits for each species; and the growth of the plant is measured and limited by the least amount of the various elements required for their growth.

Reducing these principles to the lowest terms, and stating them in general form, we may say that the plant will secure a full supply of carbon provided other nutrients are furnished; that the supply

of oxygen and hydrogen is chiefly dependent upon the water supply; that the supply of nitrogen may be regulated by the use of mineral nitrates of ammonia-salts, or the setting up in the soil of those conditions which favour the growth of nitrogen-working micro-orginisms; and that having provided a full nitrogen supply, we may controll the growth of the plants by giving or withholding phosphoric acid and potash.

7. The water-supply of plants is a matter of supreme importance, for not only does water comprise three-fourths or more of the actual weight of cultivated plants when growing, but it is the vehicle in which all the mineral and nitrogenous constituents of plant-food are carried to their destination. In performance of this function it is constantly passing through the plant, being absorbed by the roots and transpired by the foliage; it being estimated that more than 300 pounds of water must pass through the tissues for the deposition of a single pound of dry substance in the plant, and thus the question of the maintenance of the water-supply becomes one which cannot be neglected in the garden.

The nitrogen supply takes rank next to water in importance, for it is the ingredient which may be most quickly exhausted by an improvident system of horticulture, and which is the most expensive to replace by artical methods.

When it is considered that the plant-food in the soil must be of very slow solubility, in order that it may not at once be washed away by heavy rains and artificial waterings, and when we reflect upon the observed fact that when we apply certain forms of soluble plant-food, such as superhosphate for instance, a large portion of it is immediately converted into an insoluble or very slowly soluble condition by reactions within the soil, it is absurd to expect to realize in the growth of a single season, or even in that of many seasons, the entire quantity of plant-food applied in manure.

But accepting the fact, which seems to be demonstrated beyond question, that the entire amount of plant-food applied in a fertiliser will not be returned in one crop, the question arises, especially in view of the light which recent discoveries have thrown upon the methods by which the inert nitrogen of the soil is converted into assimilable form through the agency of nitrifying organisms and upon the still more interesting problem of the assimilation of free nitrogen through the agency of symbiotic growth, whether we may not hope to be able to modify existing systems, and obtain the object in view more quickly and efficiently.—J. J. WILLIS, Harpenden,—in the *Gardeners' Chronicle.*

THE RESUSCITATION OF WRECKED TEA.

A METHOD OF REJUVENESCENCE.

"SECATUR INDICUS" contributes to the *Planter* a paper from which we take the following excerpts:—A method which shall renew root and branch, and bring into existence what was never in existence before, this, I think, must be the remedy for a thing that wont work—a renewal of the working parts—, and *per contra* the speedy and absolute destruction of the old; so that eventually and for all practical purposes there shall be erected on the old a vigorous and living new plant.

The method:—Open out the stem or collar of the plant for a depth of nine inches to a foot below the surface. so that so much of the buried stem appears to clear view. I would now suggest that well-defined strips of bark be taken off at intervals; the aggregate not to exceed half the circumference of the stems at the bases. The strips might conveniently take the form of a wedge, the horizontal cut to be from half to an inch wide according to size and character of the plants operated on, and then from the cross cut descending into an acute angle four to six inches long down the stems. The following is suggested as an expeditious way of accomplishing the

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work accurately. The first man or men should be armed with some lamp black mixture and a strong string, and ring the plants with a black mark one inch below soil level.

Secondly, it would be a simple matter to have pattern markers of the cuts to be made. Accordingly it would be the duty of another man or men to mark off the cuts from the aforesaid ring vertically downwards. Thirdly would come the barkers, with instructions to take out the strips enclosed by the markers; and the best way to do this would be by taking the sides to right and left descending from the surface ring, then the short cross out, from whence the pieces would be conveniently taken out. Fourthly, another set of men would follow the barkers for filling in peremptory orders, and strict attention should be given to the fillers, namely. to thoroughly pulverize the soil and fill in with fine soil all around the cut outs in particular. I do not think new soil would be necessary; although undoubtedly virgin jungle soil for filling in immediately around the stems would be an advantage not to be overrated. * * *

When to Carry out the Operation.

I suggest wherever practical, the advent of the monsoon season or some period during the active circulation of the sap. On the other hand, it should not be when the soil is saturated, and therefore, not in a good friable condition for filling in. This period of sap circulation would greatly facilitate the taking out of the strips of bark, and moreover would, I believe, facilitate rapid formation of roots and shoots. There might possibly be some slight loss of sap, but this in reality would be an advantage, and be so much food deposited for the ensuing roots, at the expense of the old ones; and I dare say in part of the leaf, if it was the flushing season. * * *

What it is Calculated to Accomplish.

This method is calculated to accomplish two things, first the production of new roots; secondly, the production of new shoots; but, in order to produce the latter, care must be taken that the upper cross cuts are not buried too deeply, otherwise there is a liability of root production only. Probably half to an inch of fine soil will be ample, the former for preference. And if the plants do not give a natural soil line mark, one should be made, in order to accurately guage the filling in, and so regulate the depth of soil above the cross cuts. Now, pending the production of new roots, and shoots, it will be perceived the planter need not necessarily loose anything; he may pluck and prune as heretofore Nature alone can do the rest in the production of new growth and roots. * * * I am unable to state what would be the precise effects of a cut down on the artificially taken out pieces of bark recommended, as against leaving the plants alone. This, however, is a question that can be easily put to the proof, and I would strongly recommend planters to test with, say only a couple of plants, bark as recommended with two plants, cut down one and leave the other. There is however, this weighty consideration that cutting down means an end of tea making for the time being. On the whole, and speaking purely theoretically so far, I am inclined to believe the weight of advantage lays with non-cutdown plants in which the circulation of sap remains active and in full force.

Subsequent Treatment.

Presuming then the plants were not cut down, I infer the loss to the planter should not at any time exceed twenty-five per cent. if so much. By the second season after barking, there should be liberal formation of roots and branches or shoots in progress, and these, needless to say, should receive every encouragement, and have ample space for development—the object being an eventual meeting of all new growth and the total suppression of the old. Consequently in practice there would be but little pruning during the development of the new growth, but a system of absolute thinning of all old growth that interfered with the new, until finally the old plant disappears altogether. But no doubt in practice there would be some variation, and the new growth of some plants might not meet, in which case nothing would be simpler than to cut down the centre of the old plants and allow a development central—from that source. Other irregularities in a method of this kind would be also certain to ensue to a more or less degree—such as strong and weak shoots, but the planter would set before him an ideal—a model—and work for that model. The strong shoots should be allowed full swing for a time, when they should be incised to the extent of half the circumference of the shoot; this would allow the smaller shoots to pull up: moreover the larger ones might be finely plucked, taking great care to lay out for a standard prune later on when all shoots had arrived at a good standard height I would, therefore, recommend that the first plucking from the strong shoots be as previously mentioned—fine from all reasonably long shoots, and subsequently light pruning until the weaker shoots had pulled up and bean given time to become strong, when a standard prune might be made with great advantage and a uniform surface arrived at. Some variations might quite likely be on this wise—namely, extra strong one sided shoots, in which case it will be well to consider whether such a shoot of itself would not make a very good plant if it had full play; in which case the whole of the rest might be cut clean away, and the strong shoot headed back to induce it to make the maximum of lateral growth. This often happens with other things that differ nothing from tea in the matter of formation and pruning, and the success of a clean cut away in favour of an exceptionally vigorous well-placed shoot is perfect and unquestionable. Secondly, it will happen there is ample of other uniformly good medium shoots to form a very good plant: in that case the strong shoot itself should be removed in favour of the remainder, the two together are not compatible with a well-balanced plant. The aim in all cases should be a well-balanced plant; yet again there will in some cases be an excess of shoots; these should not be tolerated, but the superfluous taken away. A superfluity of shoots will almost certainly later on produce a closely massed thicket of growth that will speedily collapse under plucking, and defeat the object in view, namely a given number of well-placed shoot that will speedily monopolize the first three feet of soil.

Pruning of Rejuvenated Plants.

In this method the planter plays for a time a distinctly waiting, regulating part, until that time when a prune can take place and the full period of plucking ensues. Here I am constrained to say it will pay the planter to remember his former plants were brought to an unprofitable stage, not by reason of his alleged exhausted soil—the rejuvenated plants will teach a valuable lesson on this head—but solely, as I contend, by a killing system of pruning, possibly aided by a destructive system of close plucking. In the premature collapse of tea I am wholly unable to see a single factor outside pruning and plucking. * * * By a constant renewal of growth involved in judicious thinning a healthy tea plant, I am convinced, would show no signs of exhaustion until real old age set in; neither would the plants at any time be choked up with bundles of useless wood. And if, as previously suggested, the first spring flush was picked fine from all reasonably long shoots, the annual prune would be through clean bright wood, of good texture and medium size, abounding with good buds. And in this way there would annually disappear the multitude of divisions of shoots brought about by a full season's plucking; and so there would be throughout the bush, by good pruning and thinning, a constant renewal of healthy vigorous growth, a first class root action in consequence, good flushing, and, unless I am very much mistaken, a superior and much more uniform sample of leaf and consequently tea manufactured; and I make no doubt, a greatly added period of utility for the plants so treated.

PRODUCE AND PLANTING.

Tea Prospects.—The outlook for tea is brighter, and in calling attention to this Messrs. Gow, Wilson, and Stanton in their circular published in our last week's issue drew attention to the importance of remembering that the present more cheerful outlook has been caused by increasing consumption, coupled with a check in production. "Any sudden opening out of new tea areas would therefore only cause a recurrence of the late depression." Consumption has out-stripped production, but there must be no headlong folly in the form of further extensions, or the last state will be the worst. Unfortunately there is no law against rashly conceived tea planting operations, and a brighter outlook is tempting.

Driving it Home.—Emphasising the same point, the *Financial Times*, in an article on "The Indian Tea Companies in 1898," says: "For the time being it would seem that the demand has overtaken the consumption, which has not been the case for many years, and as there is good reason to believe that the markets abroad will continue to expand, unless the price of the commodity rises considerably, the prospect for the producing industry is brighter than

it has appeared for some time past. The fact that direct steamers carrying the American flag now sail between Calcutta and Ceylon and New York ought to benefit the North American market, while the Russian ships which ply between Colombo and the Black Sea should stimulate consumption in the Czar's dominions. Much, however, must depend upon the producers themselves. If they refrain from opening up fresh gardens, and confine their energies rather to improving the quality of their products until the expansion of the markets really warrants an extension of the area under cultivation, then we may expect a renewed period of prosperity, but otherwise a recurrence of depression can scarcely be avoided. The better outlook has been brought about simply by an increase in consumption occurring concurrently with a check to production, and if the conditions be reversed the old situation will revive. Still, we may trust that planters have profited by the somewhat severe lesson of 1898. During the past twelve months there has been no flotation of new companies, though several of the older concerns have made fresh issues of capital. Another favourable point is brought out in the review of the share market by the Indian Tea Share Exchange. This is the expected abandonment in Cachar, in the Dooars, and elsewhere, both of the older and unprofitable gardens and also of the recently opened areas, which, if expectation be realised, must tend still further to check production. We must not hope for too much at once. The final dividends for the past year, as we have said, are not likely to be brilliant, and even if matters improve in the current period as regards the prices obtained for the product, yet the high level of the Indian exchange, no reduction in which can be counted on, must keep expenditure up, while several of the companies will probably find it prudent to make good their depleted reserve funds. Attention, however, is being directed to increased economy in some departments of working, which appears possible. With reference to the present season, the reports from Assam and Dooars are favourable, but in Cachar, Darjeeling, and Sylhet, the crops, which were effected by drought, are stated to be both short and of poor quality. All circumstances considered, holders of tea shares would probably be well advised not to realise in the present depressed condition of the market. An improvement in values may not come about in the near future, but the chances are that it will come sooner or later, and, at any rate, it is more likely to occur than any further serious fall in prices."

A Novel Competition.—The public mind in New South Wales, always sportive in its tendency, has lately been exercised over a match between a white workman and a Hindoo, over which much more than mere bets was at stake. Hindoo labourers, it appears, have been underbidding and ousting the whites in the sugar-cane fields in certain parts of northern New South Wales, and in particular in one neighbourhood rejoicing in the euphonious name of Immigrant Creek. The whites alleged that Hindoo cheap labour deserved the epithets applied to Chinese by Bret Harte's Truthful James. The Hindoos—and their employers—declared, on the other hand, that in the cane-fields, at any rate, the white worker was not the equal of the brown man. Moreover, they put forth a champion, and backed him to dig more cane holes in ten hours than any white in the country. The challenge was accepted, and we are told that the conditions were that both men should dig for ten hours without refreshment—a stipulation supposed to tell in favour of Asiatic abstinence. However, after India and Australia had toiled and sweated through the allotted day it was found that the Anglo-Saxon had dug 700 holes to his antagonist's 600. Trifling as this trial seems, it is likely to have more effect on the public imagination of the colonies than scores of speeches and pamphlets upon the ability of the white man to carry on the cultivation of sugar without the aid of coloured labour from the tropics.

Rubber Trees for Cultivation.—The rapid destruction of the rubber vines in Africa, and especially on the eastern coast, has long been deplored. Official action has been taken in the colonies of more than one European Power to check this destruction and prevent the deterioration of the rubber, and with some success. But with regard to South Madagascar, where no restriction exist, the natives recklessly cut down all the plants within their reach, even digging up the roots. It is estimated that within a few years, unless steps are taken to prevent it, this valuable rubber district will be completely exhausted. Little or no rubber comes from the Philippine Islands. Certain creepers found there have been reported to yield rubber, but this lacks confirmation. The rubber trees that offer the best inducements for being regularly cultivated in other than their native countries, arranged in the order of their value from a cultural point of view, are named by Dr. Morris in the lectures before the Society of Arts as follows: Hevea Brasiliensis (Pará rubber), Castilloa elastica (Central American rubber), Kickxia Africana (Lagos rubber), and Manihot Glaziovii (Ceará rubber). Exception must be taken to Dr. Morris's statistics of rubber production. By adding together the total rubber imports of Great Britain, France, Germany, the United States, &c., he derives a total annual production of 60,000 tons. But as each of these countries exports more or less rubber, and England a very large quantity, it is clear that by Dr. Morris's method a considerable quantity of rubber is counted more than once. By deducting from the total of imports by all countries the total of their exports, a figure would be obtained which doubtless would indicate more nearly the world's production.

The Price of Rubber.—The position of the rubber industry is one which is watched with special interest just now, for whilst the raw material tends to a still higher level of prices, particularly for the fine Pará variety, which is so necessary to the production of serviceable tires and other rubber goods, quotations for the manufactured articles have for some months past gone rather the reverse way, and seem likely to go still lower. It is only two or three years since the prized Brazilian and Venezuelan raw rubber styled "fine Pará" ruled at from 3s. to 3s. 3d. per pound, but by July last the quotation, which stood at the beginning of the year at 3s. 7d., was up to 4s. 5d. per pound, whilst the present price is about 4s. 1d. British manufacturers of mechanical rubbers have by agreement raised their minimum price-lists twice in the course of this year—10 per cent. in February, and a like amount in July last; but it is affirmed that this rise does not nearly cover the enhanced price of the raw material, labour, &c.

Another Planter's Paradise.—M. Lionel Decle has, in *The Fortnightly*, a very appreciative article on the Rhodesian schemes, and particularly on the Tanganika Railway project. The Tanganika Railway, according to M. Decle, will open new markets and carry to the south scores of thousands of "magnificent Wanyamwezi labourers," who are urgently needed there. It will cross regions

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rich in minerals, admirably adapted to agriculture, and suitable to the cultivation of coffee, sugar, and tobacco. When it is built the trade from the East coast with the interior will become insignificant, and the cession of Zanzibar to Germany might be contemplated if an adequate exchange of advantage can be negotiated. M. Decle's account of some of the expected produce of the new territory is as follows: "The Zambesi Valley possesses a climate and soil suitable to sugar plantations; india rubber is already found in the Ro-Angwa Valley—I have had samples of it sold to me by the natives. Then we must not forget that tobacco is cultivated by the natives in every one of the districts which will be crossed by the railway, and the experiments carried out by Messrs. Buchanan Brothers in Nyassaland prove that tobacco of the best quality can be obtained from imported plants. Already, in 1893, I bought from these planters light-coloured tobacco almost as good as the Turkish tobacco sold in Europe, and they were beginning to make cigars equal to many of the Indian brands; this was only two years after they had made their first experiments from imported plants. I have, therefore, no doubt, and I must insist on the point, that Northern Rhodesia and British Central Africa will, with cheap transport, soon be able to compete with Sumatra, Manilla, and India as tobacco-producing centres. Neither must we forget to mention coffee; it has, as is well known, already given unhoped-for results in the Shiré Highlands, and the coffee which has been grown there for the last eight or ten years—not as an experiment, but on a large scale—has fetched the highest price in the London market. The climate, altitude, and soil of the plateau extending from Lake Nyassa to Lake Tanganika offer conditions similar to those found in the Shiré Highlands, and with the advent of the railway those now unutilised lands will soon be covered with coffee plantations."—*Home and Colonial Mail.*

MARKET REPORT.

TEA.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated January 6th, 1899, says :—

QUANTITY BROUGHT TO AUCTION IN LONDON
FROM 1ST JUNE TO DATE.

	Indian.	Ceylon.	Java.
1898-1899.	962,356 pkgs.	680,547 pkgs.	27,355 pkgs.
1897-1898.	958,917 „	709,432 „	25,751 „

31,852 pkgs. Indian
19,833 „ Ceylon
2,086 „ Java
} Total 53,771 packages were offered in public auction this week.

December clearances have added a substantial increase to the already satisfactory deliveries of Indian Tea. These now stand for the first seven months of the season at 9,700,000 lbs. above the corresponding period last year. The Calcutta official wire just to hand gives the increase in the season's exports to United Kingdom to the end of December as only one million pounds.

Indian. The market opened on Monday with a distinctly better tone. Bidding was strong especially for low priced and useful liquoring Teas, the former showing advances of ¼d. per lb., and the latter ½d. over prices ruling before the holidays. The official wire gives exports to U. K. for second half of December as 5,650,000 lbs. against 5,870,000 lbs., making total from the commencement of the season to the 31st Dec., 122,407,000 lbs. against 121,140,000 lbs. last year.

Ceylon. The opening sale showed a firm tendency with here and there a slight advance in quotations. The official wire gives exports to U. K. for Dec. as 8,500,000 lbs., against shipments of 9,500,000 lbs. in Dec., 1897, and estimates quantity for Jan. as 8¼ to 8¾ millions. Exports from 1st Jan. to 31st Dec., lbs. 96,000,000 against 99,750,000 in 1897. Av. for wk. 8·04d., ag. 8·30d. same period 1897.

Java. Prices were very strong for all descriptions, quotations frequently showing some advance.

Movements of Tea in London (in lbs.) during December from Tea Brokers' Association Figures.

	IMPORTS.			DELIVERIES.		
	1898.	1897.	1896.	1898.	1897.	1896.
Indian ...	20,213,642	21,061,194	18,526,383	12,778,113	11,359,577	11,584,879
Ceylon ...	6,904,002	6,936,886	7,387,200	6,732,498	7,286,814	6,990,274
Java ...	186,830	234,710	131,320	234,850	234,290	168,140
China, etc. ...	3,018,059	2,762,225	2,792,143	2,222,818	2,596,676	3,183,628
Total lbs. ..	30,322,533	30,995,015	28,837,046	21,968,279	21,477,357	21,926,921

From 1st June to 31st December.

	IMPORTS.			DELIVERIES.			STOCK.		
	1898.	1897.	1896.	1898.	1897.	1896.	1898.	1897.	1896.
Indian	...105,135,365	101,637,635	98,401,972	81,890,081	72,199,555	71,007,979	61,319,072	61,673,292	54,144,603
Ceylon	... 55,608,420	54,869,036	53,494,756	55,377,892	58,192,868	53,697,436	17,223,822	16,629,348	18,354,854
Java	... 1,854,650	2,040,710	2,020,270	1,976,730	2,195,200	2,559,690	535,500	597,730	448,280
China, etc.	... 23,506,142	25,485,233	29,724,367	17,874,016	19,292,396	23,816,147	17,483,390	19,196,176	25,547,815
Total lbs.	...186,104,577	184,032,614	183,641,365	157,118,719	151,880,019	151,081,252	96,561,784	98,096,546	98,495,552

PUBLIC SALES FOR SOUTH INDIAN TEA.

(AVERAGE FOR ALL INDIA 8·55d.) *January 6th.*

GARDEN.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust, and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.
Neilgherry ...	**220 p**	**7·96**												
Kodanaad ...	60¾c	10	...	...	30½c	8½	30½c	11¼	..	...	...	...	...	..
Seaforth ...	104½c	6¾	33½c	7½	36½c	6¾	...	...	35½c	6¼	...	...	...	..
Tudor Hall ...	56 p	8	14½c	9	20½c	8¼	11½c	8¾	11	6¾	...	...	...	...
Travancore ...	**659 p**	**6·76**												
Atchencoil ...	65	6	...	...	17	6	16	7½	32	5¼	...	..	...	...
Balamore ..	67½c	6½	...	...	46½c	5¾ 6	18½c	8	...	...	2½c	5¼	1½c	3¾
Corrimony ...	80½c	7¾	...	...	44½c	6½	33½c	10	...	...	1½c	5	2½c	4
Glenmary ...	89	6½	54	6½ † 7¾	29	5¾	..	...	...	...	...	...	6	7
Seafield ...	72½c	6	.	...	57½c	5½5¾	15½c	7¾	..	...	...	..	...	...
STT Co Venture ...	162	7	...	..	69	6¾	73	7¼ 8	20	5½	...	...	...	...
SIT Co Kuduva K...	115	7	90	† 6¼ † 7¾	6	5½	...	..	.	...	...	..	19	4¼ 6¼
W ...	9½c	7¾	...	..	9½c	7¾	...	..	...	...	...	..	...	...
Wallardie ...														

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WRITTEN BY PLANTERS FOR PLANTERS.

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SOILS OF ARID REGIONS.

It is to be hoped that Dr. Voelcker's report gave the *coup de grâce* to the fallacy that the agricultural science of the West might and should be adopted intact by the East. We are glad to note that, in like manner, attempts to foist Eastern agricultural practices upon the West—the New World—have been met with representations as to the difference in the nature of soil and products of China or India and the United States. Among other points raised in this connection is one of very great interest as to the character of the soils of arid regions. During a session of the Californian State Fruit Growers' Convention, Professor E. W. Hilgard, of Berkeley, first defined as "arid" regions those where the rainfall is deficient or falls in only one season of the year; leaving the term "humid" regions to cover the remainder. He then commented on the fact that the oldest civilizations of the earth developed in the arid regions. India, Persia, Egypt, were mentioned as examples in the East; while in the West, as far as is known, the highest civilization was developed on the plateau of Mexico, in Chile, and in Peru—arid lands in every sense of the word, regions of deficient rainfall, with all its consequences. Naturally, the question suggests itself, was it by chance that these regions were selected? It does seem, as Profesosr Hilgard observed, that we ought to prefer to live where nature does the irrigation for us, and it appears rather an incomprehensible selection that these ancient nations have made Close investigation throws some light upon this, however: and light that is not without interest for modern agriculturists. In India there are, of course, humid as well as arid regions, so that our remarks

about either one or the other must not be read as applicable to the whole Continent. Professor HILGARD has resorted to analyses of soils for an explanation of the apparent puzzle he has observed; and the figures he gives show, for example, that on an average of 319 analyses, arid regions show 0·22 per cent. of potash, humid only 0·8 per cent. Lime shows a much larger advantage on the side of arid soils. As regards phosphoric acid, there is no material difference between the humid regions and the arid regions.

The difference noticeable with respect to potash is easily understood. The combinations of potash, the sulphate, muriate, and caustic, and carbonate of potash, the usual forms, are all soluble in water. In the humid regions, this potash is constantly being removed by the process of rain-water leaching the soil; but this is not the case in the arid regions. There the potash stays in the soil and enters into combinations, from which, however, it is readily liberated by plants. In the humid regions it is washed out. Further investigation in the States has shown that the drainage of the waters of the humid region contains no more than a trace of potash salts, while the waters of streams in the arid region "contain a very notable proportion of potash, as compared with other contents." The leaching process produces a similar effect upon lime, but in lesser degree. When there is a large rainfall, during the high temperature of summer, the lime is leached out of the soil; and in the land of the humid regions it is leached out to a greater extent than is potash, for the reason that it does not enter into combinations as readily as potash. In the humid regions the measure of the first productiveness of all virgin soils is the lime. In the Indian plains "virgin soil" is practically unknown, but a few investigations made in this country lend support to the conclusion of the Californian Professor. He lays great stress upon the fact that in days of no scientific investigation the older civilizations developed in arid regions. He points out that in Hungary, too, the arid region is occupied by gypsies, and that other people do not realise the value of this soil, which "is just as rich as can be, provided you can get rid of the surplus alkali." He proceeds entirely upon the argument that the three mineral substances that are of chief value in fertilizing are potash, lime, and phosphoric acid; and shows very clearly that in respect of the first two arid soils have a decided advantage over humid.

There is obviously scope for further inquiry on the lines here suggested, with special reference to Indian soils. Investigations of the kind pointed to would be incomplete unless accompanied by investigations as to the demands made upon the soil by the various plants grown upon it. Modern scientists recognize that plant-life not merely draws certain properties out of a soil, but brings about certain chemical changes therein, to which due attention must be given when questions of rotation of crops, &c., are under consideration. The investigations that have been made in this direction in California offer no reliable guide for India; but what has been said about soils should certainly stimulate agricultural scientists' zeal, and induce similar investigation in India to that which has been made in California. The soil of Tanjore might, for example, be compared with the soil of Bellary; that of the Wynaad with that of Nellore. Or, better still, exhaustive analyses of the various soils of each District throughout India might be gradually undertaken; and the results reviewed by some such competent expert as DR. VOELCKER. Whether Professor HILGARD's conclusions were thus verified or falsified (so far as this might be done in a different country), the analyses could not fail to be of very great interest and utility.

INDIA RUBBER.

During 1898 a further advance in prices was established, averaging 6d. to 9d. per lb. on good and fine sorts, 3d. to 5d. on common. England, France, Russia, Germany and Italy have all increased their consumption. America has been less active till recently, owing to the large stocks of manufactured goods from previous years, but has been busier lately, especially the shoe trade. She took 1,600 tons less than at the same time in 1897 from Pará since 1st July. Messrs. S. Figgis & Co. state in their latest report:—"Deliveries everywhere having been so large the last three months, stocks are greatly reduced, and the receipts at Manaos and Pará being much smaller than expected for December—probably temporarily delayed—the visible supply is small, and quite exceptionally little is available for the current month compared with previous seasons at this period of the crop." This state of things is not likely to end just yet, for though various countries are now going in for rubber-cultivation it will take some time for supplies to come on to the market in appreciable quantities. Brazil is still the great source of supply and the governing factor as regards the market. The following further particulars given by Messrs. Figgis, may interest some of our readers. Owing to the death of the former largest receiver of Bolivian Rubber the supply in London has decreased, but that country has probably exported as much as formerly. Of Mollendo the supply increased and was improved. Matto-grosso sent us a fair supply nicely prepared, and it realized much higher prices. Peruvian has increased again; Iquitos shipping largely, some fair quality of fine and coarse entrefine but mostly ball and slab, which have realised higher prices closing 10d. dearer. From the Orinoco (Venezuela) supplies have been small and disappointing; it would sell well. Ceara has supplied more. A little Manicoba sold readily, but it is rather weak and soft. Pernambuco has been in good supply, and brought high prices. Mangabeira has largely increased, and some very nice parcels of good quality from Santos and Rio have sold well. Bahia, &c., has frequently been mixed with deadish and dirty rubber, and only sold slowly, but prices are about 4d. per lb. above those of 1897. Central American increased very much during the last three months, as less went then to America. Everything sold readily, and Colombian quality, much

improved, brought 10d. over prices of previous year ; also hard scrap and sheet from Ecuador, Tumaco, Guayaquil, &c. Central American, and rubber from the Cauca, Carthagena, Panama, &c., though much mixed, realized 4d. to 8d. advance. Of Nicaragua, Honduras, Guatemala and Mexican we have had irregular small supplies, which sold readily. Africa has increased her supply somewhat considerably as a whole though some sorts are reduced. Angola shows a large advance. The quality has been liked and very high priced obtained, closing about 8d. over 1897. The Congo still develops, the various descriptions have been of improved quality and very high prices generally paid—part being close up to fine Pará. East Coast African has about maintained the reduced supply of 1897.

From Madagascar imports have been greatly reduced, only 100 tons against 175 tons. The demand has been active, and prices are about 8d. to 9d. per lb. higher for pinky. Rangoon has fallen off in quantity considerably, but prices are 10d. per lb. higher. Penang has fluctuated a good deal owing to the rubber being mixed—good and fine quality sold dearer, but inferior pickings are much cheaper. Of Assam, small imports sold very quickly at 9d. to 10d. advance ; this description is much wanted. Borneo greatly increased, 600 tons against 350 tons, and prices generally were 2d. to 3d. higher, good quality particularly. Pontianac in less supply, and price advanced to £18 per ton, being £4 advance. Of Ceylon less, and very high prices paid, about 5d. above 1897 ; this quality in great demand, and planting and shipping clean rubber as hard as possible should pay well. Any quantity can be disposed of. Java sent a little more ; the fine red brought high prices ; white and barky sold readily, but only 3d. dearer. New Guinea.—Much liked, only about 20 tons sold at 6d. over prices of 1897.

PEPPER.

The opening of the New Year witnessed a boom in Pepper in London. Small supplies from Singapore and a determination on the part of shippers to hold off, gave prices an impetus, and even when $5\frac{7}{32}$d. January-March shipment for black Singapore was reached there was no great keenness to sell forward. This brought buyers round to Tellicherry sorts, then standing at $4\frac{11}{16}$d. c.i.f. delivered weight, Feb.-April. Prices rapidly rose, and probably about 400 tons were sold at about $4\frac{13}{16}$d. c.i.f. March-May. Then there was a bull, and buyers held off. Singapores advanced to $5\frac{1}{4}$d., however, partly no doubt, because of the smallness of crop estimate. The total yield is put at only 60,000 to 65,000 per cwts., out of which a good deal is already marketed or on the way. During the second week of the year Tellicherry black rose further. The *Commercial Record* of the 30th ultimo report a steady demand for this description ; 4 s. c.i.f. delivered weight having been paid for March-May, and 46s. 6d. c.i.f. delivered weight accepted for a parcel to Hamburg. Since then operators on the Havre terminal market have appeared as sellers at 46s. c.i.f. delivered weight, inviting orders a little under this figure, but no business, we are told, has resulted. It is estimated that Havre speculators placed about 400 tons Black Tellicherry in London, which with the sales of actual Pepper in London would bring the total sales of first hands up to close upon 1,000 tons of Black Tellicherry —a rather important item for an outside pepper. It is with some amount of satisfaction, says the *Record*, that we see our prediction as to the increased importance of Tellicherry Black being realised. With the falling off in supplies of Black Singapore, Black Tellicherry will gain in importance, for the vast consumption of the East not being able to satisfy its requirements of Pepper in Straits descriptions must fall back on Tellicherry, increasing thereby the value of the latter ; and once thoroughly established it will be difficult to oust it out of favour again, for its good quality will win many admirers. Havre has led the way, showing by establishing a terminal market for this Pepper that it is worthy of support, not only from a consumer's point of view, but also on the part of the speculative element. London, with the tenacity peculiar to a conservative trade, has clung to Black Singapore in spite of all the disappointments irregular supplies have caused, but like many other speculative commodities black Singapore will soon cease to offer sufficient scope for extensive operations. Years ago Cane Sugars, principally Jaggery, formed a favourite article for the speculative element to deal in, but Beet Sugar, although at first much discredited, has absolutely driven the West Indian sorts as speculative commodities out of the market, and unless the Straits see their way to increasing their supplies, their Pepper will, it is feared, share the fate of Cane Sugar. As time proceeds, Pepper will become of ever-increasiug importance to the spice trade, and operators will do well to keep a watchful eye on it.

INSECTICIDES AND MANURES.

While by no means disparaging insecticides, planters are, we believe, becoming more and more convinced of the truth of the saying that Prevention is better than Cure. They find certain insecticides very useful, but a judicious attention to cultivation does away with much of the necessity that would otherwise exist for the use of insecticides. The two are not rivals, but allies, and if both are used at the right times plants should be kept in a healthy condition. The Experiment Station Report of the New Jersey Agricultural College 1890, shows exactly how this matter ought to be regarded. It discusses the uses of certain insecticides. The arsenites are described as indispensable, lime also for certain purposes. Kerosine is said to be indispensable where scale insects are to be fought, or subterranean forms to be reached. Of these and a few others the report says : "These are all that are necessary, but not all that are desirable." It further states that the potash salts should be on every good farm for fertilizers, and that their use as insecticides adds nothing to a farmer's burden. Passing onwards to manures, &c., the report points out that besides the use of insecticides, methods of cultivation will do much to prevent or mitigate insect attack. Not the least of these is the use of manures or commercial fertilizers. Decaying vegetable or animal matter, it is remarked, should not be used on crops subject to root attacks—there is abundant room for its use elsewhere. Phosphates are not repellants, and insects have no particular objection to them. It is otherwise, however, with the nitrates and salts. These are decidedly disagreeable to insects, not in the sense of repellants, but because they are really effective insecticides in a limited range. The potash salts are, says the report under notice, by all odds the best for this purpose.

Of course, it does not follow that the above remarks should be accepted as infallible guides to tea and coffee planters. Men must experiment for themselves, and discover what their and and their plants need. If they rely on insecticides alone, they will probably learn a bitter lesson. If on the other hand they utilise insecticides prudently for curative purposes when there is occasion, and manures for preventive and recuperative, they should be able to make the most of the capabilities of their land.

BEE-KEEPING.

PRICES of Beeswax in the London market are fairly high, and the tendency during the next few months will probably be upward. Still, Indian supplies would appear to be all of a "wild" character, and bee-keeping as an occupation, not to speak of *trade*, would seem to be almost neglected. Yet it is a very pleasant occupation, and while to the negligent amateur it may be as expensive as playing with photography, to the careful man it is a miniature mine of wealth. It needs attention and a certain amount of scientific study. Honey is always a delicate product, and buyers are "nice" in their tastes. Sometimes the colour is too dark, sometimes too light, the consistency may be too thin or too firm. As a Queensland writer lately put it, "no matter how good the sample, the home buyer will discover such a host of imperfections in it that he considers 15*s.* to 16*s.* per cwt. a ruinous price for it." But it is not of the production of honey for the English market that we wish to write. There is demand enough for honey in India and the wax alone need be exported. Some people, as the same writer remarks, have the same idea as Eugene Secor's Dutchman, who sang—

Oh! I ish von of dose happy bee mans,
I don't got to vork any more.
I loats all day in the apple tree shade,
Or schmokes mine pipe at der door.

Now, those who are in the business know that to make a living out of the busy bee, a man must thoroughly understand the business, and must devote his whole time to it. The man who keeps three or four hives in his garden or orchard for the purpose of getting a little honey and wax for domestic use, and perhaps a little for sale is a different individual. His living does not depend on them, and if he neglects them he is at no serious loss. But where a living is desired to be made out of the bees alone, he must exercise but perseverance and patience. There are the usual thousand-and-one vexations and annoyances connected with this industry as with poultry-farming. We have written on this subject before, and do not now mean to go into general details. Our immediate purpose is to call readers' attention to the fact that in some places bee-keepers do not all run their apiaries for honey and wax combined, but some for wax alone. In reply to a correspondent, the journal of the Jamaica Agricultural Society says :—When the combs are out (in the supers) to the full size of the frames, cut them out, extract the honey, and melt the comb into wax. In cutting out the combs, leave about an inch of comb below the comb-guide at the top bar for the bees to begin on again, and repeat as above described as often as the combs are built. As soon as the honey flow is over, feed back to the bees all the extracted honey. More wax would be digested by the bees to build comb to contain the honey fed back, and again the combs could be cut out and melted. It would be a very interesting experiment to try with a few colonies how many pounds of wax one good colony could produce. In the next number of the same journal another writer recommends the following :—Select two hives (meaning two to work together—100 as 50, and so on) which we will call Nos. 1 and 2. Put a super with, of course, a sheet of excluder on No. 1. Then take combs (leaving one for queen) from No. 2 and put them in the super, filling the hive with frames having a strip of comb-foundation, or starter. Let the combs remain just long enough for the young bees to hatch Then take out the frames, cutting off the comb to within an inch of top bar. Remove the super to No. 2. Take out combs from No. 1 ; put them as before in the super, putting in the frames from which the comb was cut off in No. 1. As soon as the young bees are hatched, take out the frames and do as at first, removing the super alternately as above described, taking care to see that the bees are always fed back the honey taken from them (remembering it takes over 12 lb. of honey to make 1 lb. of wax), and for bees to be kept always making wax is a very great strain on their strength. The person in charge must watch and not leave any comb in the super directly the young are out, as it only wastes time.

PRIZE ESSAYS.

WE beg to remind our readers that a prize of Rupees one hundred will be awarded to the writer in any planting district in Southern India of the best essay on :—

THE LABOUR QUESTION.

THE PAST, PRESENT AND FUTURE SUPPLY OF LABOUR IN THE..... DISTRICT.

The following are the rules of the competition :—

1. Write on one side of the paper only.
2. Give your name in full, and state address (not for publication, except in the case of the winner).
3. Be as brief and concise as possible
4. Cite your authorities where possible.
5. Mark your MSS. "Prize Essay Competition."
6. Submit not later than 14th February, 1899 (in Madras).

It should be clearly noted that all essays sent in will be the absolute property of *Planting Opinion*, and that the proprietors will have the right to publish them, in full or abridged or revised, in *Planting Opinion* or elsewhere, and to republish in pamphlet or book form. No limit of length is fixed, but brevity is strongly urged, and diffuseness will greatly prejudice an essay's chance of being a prize-winner. Every competitor should strive to be *accurate* and *concise*. Rupees one hundred will be remitted to the winner immediately after publication of the prize essay.

TELEGRAPHIC QUOTATIONS.

		Jan.	27	28	30	31	Feb
LONDON—							
Bar Silver ...		...	27⅜	27 7/16	27 7/16	27 7/16	27
Bank Rate ...		...	3½ %	3½%	3½%	3½%	3½%
Coffee			[firm]	...	[dull]	[quiet]	[quiet]
Nilgiri ave.(B)size		...	61	...		...	...
Mysore „ (B) „		...	71	..	71	71	71
Middling Ceylon		...	105	..	105	105	105
Stock tons		...	...	...	...	13,642	...
Fortnights ldgs.		...	.	.	.	600	...
Do. del.		...	...	...	...	1,400	...
NEW YORK.—							
Coffee—Fair Rio		...	6¼	6¼	6¼	6¼	6¼
Futures, April		...	6·16	6·18	6·14	6·16	6·1
Silver—Comml. Bars		...	59½	59½	59½	59½	59½

NOTES.

Shade. In the State of Vera Cruz, Mexico, the banana plant is largely used as shade for coffee trees, and in the States of Tobasco and parts of Chiapas the same plant is also used as shade for cacao.

Tea Bulking. The Indian Tea Association has resolved to issue a Circular in March recommending tea bulking at factory wherever possible, and pointing out the great saving which would thus be effected.

Cacao. The lack of a continued humid warm atmosphere and the presence of cold at times checks the growth of cacao in the State nursery at Kamerunga, Queensland. Trees have flowered, but no fruit has formed.

A Boom that failed. A London contemporary has heard, that a boom in Ginger is being attempted by India, but remarks :—"owing to the dull and heavy state of our spot market, little attention has been paid so far to the doings of Indian bulls."

Vanilla. A Queensland report refers to Vanilla as hardly commendable except for experiment purposes, though it should thrive in the East end of British New Guinea. It suffers during the winter months of Queensland, and though the plants grown there look healthy not one has flowered.

The Auto-Sirocco Tea Dryer. It is stated that with one of Davidson's Auto-Sirocco Tea Dryers recently erected on Chetnole Estate, Ceylon, 500 lbs. of fully dried tea were turned out per hour, with an average fuel consumption of 1 lb. of wood to 2¾ lbs. of dried tea. This is a record for Ceylon in the way of tea drying, we understand.

The London Tea Market. Cabling to Colombo on the 26th ultimo, Messrs. Gow, Wilson, and Stanton reported a steady market, with the average of Ceylon, a farthing higher, *viz.* 8½*d*. Reuter stated that 20,000 packages were sold out of 21,000 offered. Of Indian Teas 43,000 were sold and of 45,000 offered, the average being again 9¼*d*.

Agricultural Chemistry. The handbook of Agricultural Chemistry for Indian students by Mr. S. H. Collens, F. I. C., Assistant Agricultural Chemist to the Government of India, has been issued from the Government Printing office, Calcutta. A large number of analyses are quoted, these being, with few exceptions, Indian. The book deals with the chemistry of the plant, the animal and the dairy, properties of soils, chemistry of soils and of manures, the supply of combined nitrogen, and water.

Coffee Leaf-disease in Zanzibar. Referring to a note we lately published on 'Coffee Leaf-disease in B. C. Africa,' a Ceylon writer observes :—"The writer makes one mistake. *Hemeleia vastatrix* appeared in Zanzibar first in 1895, and attacked coffee Arabica and Liberia with equal impartiality ; but the latter seemed to withstand it better."

Attar of Roses. We understand that a Madras firm is about to plant an acre or two of Wynaad land with Roses, with a view to the manufacture of Attar. It will be interesting to learn what process of preparation is to be adopted and to follow the progress of the enterprise. There should be a profitable future for it, if it is conducted prudently and energetically ; for the *Indian* demand must be very large, apart from the demand for export.

A Tea Map. Mr. George Seton, of London, has suggested that a great advantage to the tea industry would result from the publication of a map of the North-Eastern part of the Indian tea districts, viz., Assam, Darjiling, Duars, Sylhet, and Cachar, showing their relative position to one another,—the situation of gardens pertaining to all the London Tea Companies,—together with the principal towns, water and railway communications, as well as roads, etc.

Tinned ground Coffee. Mr. J. S. Sebastian, of the Blue Mountain Bakery, Ootacamund, has favored us with a sample of his tinned ground Coffee, which he informs us is made from the best Nilgiri coffee beans. We have tried it, and found it of an excellent flavour ; and there is no apparent reason why such coffee should not be widely purchased in place of the inferior beans usually available in the bazaars of large towns. Mr. Sebastian charges Re. 1-2 per tin, which seems to be a very reasonable price, as he guarantees the purity of the powder.

Colombo Tea Sales. On January 25th, about 10,368 packages equal to 858,922 lb. were offered, of which about 8,492 packages equal to 702,936 lb. were sold. The *Times of Ceylon* remarks :—"Owing, no doubt, to the scarcity of freight there was not so much demand at the sale, and medium and common brokens were a trifle lower, leaf teas were about previous rates, and the finest teas in the sale were : Middleton, Erlsemere, Mocha, Glasgow, and Agra Ouvah. Among low-grown teas good invoices were offered by Eila, Vogan, Palliagodde, Chesterford, and Knavesmire.

The British Tea Duty. At a meeting of the General Committee of the Indian Tea Association (Calcutta) on 9th ultimo, the Secretary was instructed to write to the London Secretary and state that the General Committee regretted the resolution which had the support of the London Association, and in view of the admitted necessity of reducing all charges they could not understand the position taken up. The abolition of duty (which amounted now to about 50 per cent. ad valorem) would save other heavy London charges in addition to the duty itself, and the General Committee hoped that the decision arrived at would be reconsidered.

Tea Statistics. It is scarcely surprising that the Indian Tea Association should have called in question the figures of increased area under tea, given by the Director-General of Statistics, but if the complaint be well founded, planters have only themselves to thank. It is they, and they alone, who can put the Director-General in a position to furnish the public with *accurate* statistics. It is extremely difficult to get anything of the kind in Southern India, and we fancy planters in the North are just about as reluctant as their

brethren in the South to give statistical information concerning their estates.

The San Jose Scale.

This pest, against which certain ladybirds have proved very effective, has obtained a secure foothold in central New England and is coming to be regarded as a very serious matter by leading fruit growers. Prof. C. H. Fernald, state entomologist of Mass, says that his correspondence in regard to the scale is greatly in excess of that concerning any other pest. The San José can only be distinguished from other scales by aid of the microscope. Its great destructiveness is owing to its power of producing several generations of insects in one season, while other scales bear only one generation and can be easily controlled. When an orchard is badly infested, about the only thorough remedy is to cut and burn it. This scale infests also some kinds of forest trees.

Coffee in Assam.

A correspondent of the *Planter* writes :—*Re* coffee in Assam I note the following from J. W. Master's Botanical Observations in Upper Assam :—"The coffee has been introduced within the past six or seven years and thrives remarkably well on ground sufficiently elevated to throw off superfluous water ; no coffee could succeed better in any country than a few trees that are growing in Captain Brodie's garden at Seebsagar ; they were seedlings obtained from the Botanic Garden in 1839." He then goes on to say : "I consider the elevation or slope of the land to be of more consequence than shade to coffee in Upper Assam ; suitable land could be found at Gabhru, Parbut, Cherideo and Deopani." It would be interesting at this time of day to know what transformations have taken place on the land that was suitable for coffee more than fifty years ago.

Tomatoes.

"Ignoramus" remarks in the *Times of Ceylon* that he tried tomatoes at an elevation of 2,500 feet. He says :—"I had excellent seed, and the young plants were quite healthy. They were transplanted at the right time to a well dug and manured bed, and seemed to flourish for awhile, but, before they fruit or come to perfection, they get a blighted withered appearance and singly wither and die for no reason that I can discover. On pulling them up, no poochies are to be found. They are in good deep soil, and some of the leaves were pruned when the stems were tied to pandals, to let in more sun. They are watered at the root. I see no reason for my failure, and shall be grateful for any help." The probability is that they were *over manured*, or that the manure used was too fresh. In a fairly rich soil little or no manure should be used for tomatoes, and only *well-seasoned* stuff.

Coffee in the United States.

A correspondent writes :—The deliveries of coffee are lighter than last year, but the figures are misleading, because so much coffee was taken out of licensed warehouses and placed in private warehouses in anticipation of a duty being placed on the article. All stock removed from licensed warehouses is counted as deliveries or consumption. There is some talk about the necessities of the Government being so great as to make it imperative that more revenue must be secured, and therefore a duty on coffee is again talked about. The deliveries of coffee for the past five months were 1,925,448 bags, against 2,164,706 bags for the corresponding time in 1897 and 1,969,759 bags for the same period in 1896. For the United States and Europe they were 5,099,540 bags against 5,591,204 bags in 1897 and 5,075,526 bags in 1896. The figures cover the first five months of the trade year beginning July 1.

Tea Prices.

As many planters think the middleman makes all the profit on Tea and is alone in benefitting by present low prices, we quote the following remarks from an annual review of the wholesale tea trade in Bristol :—There is, undoubtedly, no branch of the trade that is pushed with greater energy and determination than this one. Profits, it is asserted, have been reduced to such a low minimum that it is an exceedingly difficult matter to do more than obtain the smallest possible margin. It is a noticeable fact, and one which may to some extent corroborate this assertion, that comparatively few London houses seem desirous of catering for the North of Ireland trade ; those who have obtained a footing confine their operations invariably to the better-class purchasers who prepare their own blends. Perhaps, an additional factor for this may be found in the absence of practical experience in blending so as to secure the best results from the quality of the water, and at the same time suit the somewhat fastidious palates for which the Northerners are proverbial. The trade during 1898 has not differed very materially from that of the few preceding years.

Tea in the United States.

The following interesting note is by the American correspondent of the *Grocer* :—There has also been a falling off in the importation of tea. The imports and sources of supply are shown in the following official statement :—

Imports from—		Ten months ending Oct. 31 1897.	1898.
United Kingdom... ...	lbs.	4,379,634 ...	2,148,38
British North America ...	„	2,405,900 ...	1,367,79
China	„	38,423 763 ...	22,060,65
East Indies	„	1,775,471 ...	1.633,37
Japan	„	31,964,089 ...	26,384.20
Other countries, Asia and Oceania.	„	346.089 ...	283,67
Other countries	„	15,235 ...	8,97
Total...	lbs.	79,310,181 ...	53,887,06

Here is a falling off in ten months' imports of 25,423,119 lbs. It is also worthy of note that Japan furnishes 48 per cent. of the total supply ; China, about 41 per cent. There is apparently plenty of opportunity for Ceylon and India to displace Japan and China tea. It is certain that the demand for British-grown tea is on the increase ; and that the efforts of Messrs. Mackenzie and Blechynden, the Ceylon and India representatives of the planters, have been productive of large results, thatwill be more and more manifest as time rolls on.

COFFEE SHADE TREE.

Sun-dried Erythrina Lithosperma loppings, &c., contain per ton :—

61·50 lbs. Nitrogen.	14·92 lbs. Lime.
57·38 „ Potash.	13·68 „ Phosphoric Acid

Seed cured under Messrs. Sutton and Sons' advice.

Orders should be booked early for the 1898-1899 crop of seed from the parent trees of above analysis at Rs. per pound containing about 2,000 seeds. *Germination guaranteed.*

Only thornless variety extant, and is not procurable anywhere save from the

MANAGER, ARIENKOW ESTATE,
Shencottah.

The Currency Committee. We understand that Mr. Robert H. Elliott, of Mysore, is submitting a statement to the Indian Currency Committee. The *Times of Ceylon* remarks :—" Mr. R. H. Elliott, who owns extensive estate property in Mysore, and who with the Hon. Mrs. Elliott, has been staying in the island for some time, leaves by the " Rome" for Egypt, and will then go on to London. Mr. and Mrs. Elliott have been unfortunate in the matter of weather, as it has been wet most of the time they have been up-country, and they had to leave Nuwara Eliya on account of the rain—hence their departure for the drier climate of Egypt. Mr. Elliott is an authority on currency matters, his pamphlet in support of the producer's interests being well known He hoped to be allowed to give evidence before the Currency Commission now sitting in London, but he was put off on one excuse and another, and is now off to England to see if he cannot forward his views either before the Committee or by other means. A letter from Mr. Elliott on the abandonment of low-yielding tea will be found in another column."

The Russian Tea Trade. A French official report states that the Russians anticipate an extensive commerce in tea with China, when the Trans-Siberian Railway shall be opened. No doubt the new line will have great importance upon the transport of tea. The report referred to says :—" At present the importation of Chinese tea into Russia is effected by two different routes. One at Shanghai, where the tea is shipped for Odessa. By the second route, the tea is transported by caravan, as far as Kiakhtu on the Chinese frontier, and from thence across Siberia, to Moscow. Despite the long distance, and the expense that it involves, this old route which formerly absorbed all the trade to be had, still maintains a certain importance, notwithstanding the competition made to it by the maritime route, and its cheaper cost. That is due in part to the Russian tea-merchants, who quote as dearer the teas which have not undergone a long journey, and to another cause, that the teas of Kiakhtu are protected by established dues, so that on arriving in Moscow, the caravan teas are not sensibly higher in price, than those shipped from Shanghai to Odessa. Thanks to the opening of the new route Moscow-Oussousi, Amour, the teas will be able to be transported by sea to Vladivostock." [This will, however, entirely vitiate the claims of the teas to be regarded as " overland " tea]. " Protected besides, by the customs dues, which are levied at the Chinese frontier the teas will benefit by a notable economy, and this transport, effected by the care of Russian agents will present more security, than the actual transport by caravan. Not the less, Chinese tea is disappearing more and more from the European markets, to make way for the products from Ceylon, and India. Out of the 269 million pounds of tea imported into England in 1897, China only figures for 10½ per cent."

GENERAL ARTICLES.

ATTAR OF ROSES.

Apropos of an enterprise alluded to in our 'Notes,' we append a receipt for making the Attar of Roses, as it was prepared in India over a hundred years ago. There are more modern methods, to which we may make reference later.

" Take a very large glazed earthen or stone jar, or a large clean wooden cask; fill it with the leaves of the flowers of roses, very well picked, and freed from all seeds and stalks; pour on them as much pure spring water as will cover them, and set the vessel in the sun in the morning at sunrise, and let it stand till the evening, then take it into the house for the night; expose it in this manner for six or seven successive days, and at the end of the third or fourth day, a number of particles, of a fine yellow oily matter, will float on the surface, which, in two or three days more, will gather into a scum, which is the Otter of Roses. This is taken up by some cotton, tied to the end of a piece of stick, and squeezed with the finger and thumb into a small phial, which is immediately well stopped; and this is repeated for some successive evenings, or while any of this fine essential oil rises to the surface of the water."

PRODUCE AND PLANTING.

The Trans-Siberian Railway and Chinese Tea.—We know that in China and Russia it is expected that the Trans-Siberian Railway will give an impetus to the China tea trade. Writing on the commercial aspect of the railway a correspondent of the *Globe* says : " Among the many circumstances that will unquestionably conduce to give Russia an exceptionally advantageous position in the Chinese trade of the future is one that is deserving of special consideration. The Chinese tea trade has suffered immensely by the rapid development of the tea plantations in India and Ceylon. This decline has had the most serious consequences both for the Chinese themselves and also for the Government, Chinese tea being subjected to a very productive export duty. A revival of the Chinese tea trade, not only for consumption in the vast Russian markets, but also in those of other European countries, and passing through a purely Russian channel from the producers to the consumers, would, of course, give an immense impetus to the Chinese demand for Russian goods in exchange."

THE INDIAN TEA ASSOCIATION, LONDON.

The following is an abstract of the proceedings of a meeting of the Committee held on Tuesday, the 3rd instant.

Present: Mr. W. H. Verner (in the chair), Messrs. A. Bryans, G. W. Christison, R. Lyell, A. G. Stanton, C W. Wallace, T. Carritt and A. Thompson (of the firms of Messrs. Lloyd, Matheson, and Carritt and Messrs. W. J. and H. Thompson) were present by invitation

The Secretary read the notice convening the meeting.

The minutes of the last meeting, held on December 13, 1898, were read and confirmed.

Correspondence with Calcutta and New York, which had been previously circulated, was laid upon the table.

A letter from the Hon. Secretary London Wholesale Tea Dealers' Association, with circular as to fire insurance claims, was read, and it was resolved that a reply should be sent intimating that two members will be deputed to attend the Conference which it is proposed to hold at the end of this month to consider the question.

A letter from Mr. Robert Hart, dated January 3, was read, with reference to

The Conditions of Public Sale.—These were discussed at considerable length, and it was finally resolved that the questions raised should be postponed, with the view of taking the opinion of the Brokers' Association on the subject.

ERNEST TYE, *Secretary.*

ARTIFICIAL TEA.

IT goes without saying, observes the *Grocer*, that all our readers are eager to establish a reputation for the purity of the goods which they supply to the public, and many of them, we know, are very careful to examine all their products themselves, and not merely to trust to the verbal guarantees of commercial travellers, however much they are to be depended upon. When a man begins to take an interest in his business, apart from the acquisition of £ s d., it is surprising to what extent he may benefit himself, as well as those whom he supplies, by devoting a little time to the more scientific aspects of his goods; and we know that there are many amongst

our readers who are not only somewhat accomplished microscopists, but even are able to bring a considerable amount of chemical knowledge to bear. To such the fact that a new adulteration has been discovered for green tea will be interesting. It will be still more interesting, however, for them to know how they may, in a very simple way, detect any such adulteration. Messrs. J. Delaite and H. Lonay have recently reported in the *Bull-tin Assoc. Belge des Chim.*, **11** (1), pages **13-21,** upon a sample which was submitted to them. After examination it was found to contain 68 per cent. of extraneous leaves rolled into a globular shape. On steeping in water these unrolled less readily than the true tea. A bluish-gray powder separated from the leaves under water, and was found to contain manganese in addition to ordinary ash constituents, but no copper or lead. The microscopic examination of the powder led to the conclusion that earth and indigo had been used to imitate the colour of pure tea. In general form the extraneous leaves resembled *Thea chinensis*, but differed therefrom in microscopic character, as also from *Epilobium Vaccinium arctostaphyllos* and other known vegetable adulterants, and, in fact, could not be botanically indentified. The authors, however, consider that it is sufficient in practice for the chemist to detect the presence of extraneous adulterant leaves in tea, without specifying their nature.

STRAY NOTES ON MANURING.

MARL REDUCES LOSS OF NITROGEN—In an ordinary uncovered manure heap, the loss of nitrogen during 11 days in a German test was 37 per cent., in a covered heap it was a little bit less. The addition of 30 cent of marl to the manure reduced the loss of nitrogen more than 60 per cent.

* * * * *

COMPOSTING.—Mr. John M. Jamison, Ohio, writes:—"The whole strength of the argument in favor of composting may be summed up in the following statement. It enables the farmer to get the refuse products of the farm, such as straw, leaves and weeds and coarse manure, into an available form for plant food more quickly than could be done otherwise. It cannot be claimed that we haul from the compost heap more fertility than we put into it, hence if we can use these products without so much labor, we are the gainers. If not properly composted, much is lost which cannot be lost if these products are returned to the land in their coarse state. Following out this line of argument, the conclusion is that for staple farm crops composting does not pay. In the culture of garden crops and stock roots I find it desirable to have a supply of composted manure."

* * * * *

LEAF MOULD.—The experiments of the last twenty years in agricultural chemistry show conclusively how necessary it is that the manure employed should be suitable both to the soil used, and to the requirements of the plants we cultivate. Of all the various soils employed for horticultural and greenhouse purposes, the author considers the soil derived from decomposing leaves, humus, or leaf mould the most effective. The peculiar properties of leaf mould are, that it facilitates draining and æration, causing a quick and active plant growth, with a free development of root. The partial decomposing leaves and roots forming the mould require a free passage of air, to allow of the nitrification of the organic matter, and given this, the roots of the growing plants develop rapidly. The mould has also a large absorptive power: one hundred parts, by weight, of the mould will take up one hundred and ninety parts, by weight, of water. As it is known that the fertility of all soils is nearly connected with its powers of retaining plant food, several experiments have been tried of the retentive properties of leaf mould for different manurial substances, which have shown that it has a great absorbent power for potash and phosphoric acid, but that nitrate of soda is retained in a much less powerful manner. These facts agree with what has been found in ordinary agriculture. It is known that soils containing humus will absorb ammonia from the atmosphere, and thus increase their store of nitrogen. The organic remains of former crops or plants are also oxydised, the nitrogen being converted into nitric-acid.—M. GEORGES TRAFFAUT.

* * * * *

MANURES.—In reply to inquiry made by the Gumeracha Branch of the South Australian Bureau of Agriculture, Professor Lowrie wrote to the following effect:—

There can be little satisfaction in adhering to any definite formula in the use of manures; soils vary so much and are impoverished so variously according to the character of the cropping to which they have been submitted that the farmer must exercise his own judgment and read his fields carefully, to be guided both in regard to kinds and quantities of manure to apply.

* * * * *

WHEAT.—(*a*). Phosphatic manure alone, about 2 cwt. per acre. The chief phosphatic manures are bonedust, superphoshates (bone or mineral), basic slag, and phosphatic guano. (*b*). For land deficient in nitrogen: (1) 1½ cwt. to 1¾ cwt. super., and ½ cwt. to 1 cwt. sulphate of ammonia; (2) 2 cwt. basic slag and ½ cwt. to ¾ cwt. nitrate of soda; (3) 1½ cwt. to 2 cwt bonedust, and ½ cwt. to ¾ cwt. nitrate of soda or sulphate of ammonia Sour land may require quicklime, also light sand; apply this in dressings of 2 tons or thereabouts per acre. Occasionally light lands may also require potash, and the mixture might be some such as 1½ cwt. super. or bonedust, ½ cwt. to ¾ cwt. sulphate of ammonia, and 3 cwt. wood ashes or 1½ cwt. kainit Lighter of heavier dressings may be made according to condition of the land.

* * * * *

POTATOES.—(*a*). Wood ashes in abundance or kainit or sulphate of potash. Muriate of potash is said to cause waxy potatoes; (*b*) 4 cwt. to 5 cwt. wood ashes and 3 cwt. to 4 cwt. or more of super. or bonedust per acre (see note remixing ashes and super.); (*c*) 4 cwt. to 5 cwt. wood ashes with 3 cwt. bonedust and 1 cwt. of nitrate of soda—this is a substantial dressing for colonial practice, but light compared with practice in older countries; (*d*) farmyard manure, and plenty of it, invariably enhances the yield greatly, but is said to make potatoes scabby.

* * * * *

LUCERNE.—Bonedust in abundance—4 cwt. up to 10 cwt. according to crop yielded—applied annually at the time the lucerne is cultivated in the winter. Gypsum also is useful, as is quicklime in good heavy dressings occasionally, not in hundred weights but in tons; 2 tons is generally little enough.

* * * * *

SWEDES.—Superphosphate in abundance.

* * * * *

MANGOLDS.—Nitrogenous salts especially. A good dressing is: Farmyard manure, 8 tons to 10 tons per acre; 1½ cwt. bonedust or super; and 1 cwt. sulphate of ammonia or nitrate of soda, together with 2 cwt. to 3 cwt. common salt.

Incompatibles (*i.e.*, should not be mixed).—(*a*) Nitrate of soda and super.; (*b*) super. and quicklime; (*c*) basic slag and sulphate of ammonia; (*d*) lime and sulphate of ammonia; (*e*) wood ashes and super. should not be mixed long before application, and are better applied separately.

THE RUSSIAN MARKET.

THE KINDS OF TEA REQUIRED.

A few days ago we published in our columns a letter, signed "Russian Buyer," respecting the sale of Ceylon teas in the Russian market, and since then, with the object of obtaining information as to the grades of teas most in demand by the Russians, one of our representatives has made enquiries amongst well-known tea experts in Colombo. He ascertained that what was greatly wanted was for the tea for the Russian market to be obtained direct from Ceylon, and not only to thus save the cost of shipping it to London and then on to Russia, but also to obtain the additional advantage of having the tea "fresh," as during the journey to and from London the teas largely lose their flavour, and of course through this they appear to less advantage than otherwise would be the case. As Planters will have seen from the statistics issued by the Customs, and recently published by us, the amount of tea exported to Russia *via* Odessa has been rapidly increasing during the last six months, and we might also point out that tea shipped in Russian vessels to

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Odessa is granted a cheaper rail rate to Moscow than that going by other routes.

PEKOES AND PEKOE-SOUCHONGS IN DEMAND.

With respect to the grades of tea required for the Russian market, our representative was informed that, amongst the finer sorts, soft pekoe-flavoured teas, (*i. e.*, teas that are not too strong and purgent), are mostly in demand, and we would therefore recommend the owners of estates such as St. John's and High Forest, or in any district where teas of a similar flavour can be obtained, to offer their teas here to Russian buyers, beginning with occasional invoices to try the market. The chief demand is for good medium and common teas, in fact, these form by far the larger proportion of the teas purchased for Russian consumption. These inferior teas are chiefly used in the packet trade for the poorer classes, and, so far as can be ascertained, the medium and common teas preferred consist of sweet pekoes and pekoe-souchongs. The Moscow importers would naturally prefer to get these teas, which are used largely for mixing with Chinese tea, direct from Ceylon, so as to obtain them in a fresher condition; and it must also be borne in mind that the estates selling these lower grades on the Colombo market would save something like five to ten per cent. on shipping and London dock charges.

PACKING.

In conclusion, we may add that the present method of packing tea is suitable for the Russian market, although a light tare is preferred.—*Times of Ceylon.*

CACAO.

Commenting on Mr. Carruther's report on cacao disease, a Ceylon planter remarks:—We *know* now that fungi are at the bottom of cacao troubles: before, we were all making wild guesses and confusing cause with effect. We do *not* know yet whether the same species of fungi live on jaks and erythrinas, and in our jungles and chenas whence insects of all descriptions may convey infection to healthy cacao. We do not know how long the spores can live without a congenial host, and we do not know how *pods* become infected.

"It would be worth while trying to find out if the West Indies had this self-same blight and whether Forastero varieties survived after all Caraquez were killed out."

Mr. Bruijning, of Wageningen, writes to the *Indische Mercuur* of Dec. 17, as follows:—

The cacao shells, which in the technical working-up of the cacao seeds fall off, possess little value from an industrial point of view; they are useful for few purposes, and serve now and then for the adulteration of agricultural food-stuffs and inferior chocolate. It is evident that the amount of husk in a lot of cacao seed is not entirely immaterial to the manufacturer.

By the kind intervention of the firm of A. Driessen of Rotterdam, I was afforded the opportunity of examining 15 original samples of various origin, and to ascertain the amount of husk in them.

The results obtained are comprised in the following table:—

Name, as reg. origin.	100 gram seed consist of		Average weight of a seed (unhusked.)
	kernels.	shells.	
Java cacao ...	... 92·9 %	7·1 %	1·236 gram
St. Thomas cacao ...	... 92·3 ,,	7·7 ,,	1·348 ,,
Surinam cacao II ...	... 91·4 ,,	8·6 ,,	1·149 ,,
Trinidad cacao ...	... 90·9 ,,	9·1 ,,	1·286 ,,
Para cacao ...	... 89·8 ,,	10·2 ,,	1·136 ,,
Porto Plata cacao ...	... 89·5 ,,	10·5 ,,	1·292 ,,
Haiti cacao ...	... 88·6 ,,	11·4 ,,	1·317 ,,
Bahia cacao ...	... 88·4 ,,	11·6 ,,	1·379 ,,
Puerto Cabello cacao ...	... 88·1 ,,	11·9 ,,	1·598 ,,
Surinam cacao I ...	... 88·1 ,,	11·9 ,,	1·637 ,,
Machal-Guayaquil cacao ...	... 88·0 ,,	12·0 ,,	1·537 ,,
Aribba Guayaquil ...	... 87·0 ,,	13·0 ,,	1·628 ,,
Carupano cacao ...	... 86·8 ,,	13·2 ,,	1·469 ,,
Caracas cacao ...	... 86·6 ,,	13·4 ,,	1·504 ,,
Grenada cacao ...	... 86·6 ,,	13·4 ,,	1·230 ,,

From these figures it appears evident, that not unimportant differences exist between the amounts of husk of different varieties of cacao; at the same time it appears from this, that there is no definite connection between the amount of husk and the weight of the grain. I must first, however, wait for a closer description of the varieties referred to, as only a thorough examination of a large number of samples of different years would be able to show how far the various peculiarities of the samples already examined are constant.

NITRATE OF SODA.

THIS article has assumed so much importance as a fertilizer that a few remarks on prices during the year can scarcely fail to interest our readers. Paucity of supplies is again complained of. Low prices have checked supplies and stimulated demands, and Messrs. W. Montgomery and Co. reviewing the present position of the article, state that nitrate now holds the nitrogen field both in importance of quantity and in cheapness. The consumption in Europe during the half-year ended 30th June last amounted to 766,000 tons, of which quantity the Continent took 666,000 tons and the United Kingdom 100,000 tons. These figures represent an increase of 6 per cent. for the Continent, and of 22 per cent. for the United Kingdom. Even these increases would in all probability have been larger if more nitrate had been available when it was required. On more than one occasion the available supply sank to very small dimensions, and steamer transhipments from port to port were in several cases resorted to. The stock on 30th June amounted to 46,500 tons, and the process of building this up to a respectable figure during the summer and autumn months has proved almost an impossibility, the arrivals (owing to small shipments from March to September) being little more than equal to actual consumptive needs. The result is that the stock in Europe to-day stands at only 132,000 tons as compared with 245,000 tons in 1897 and 348,000 tons in 1896. Consumers are therefore dependent almost entirely upon arrivals, a factor of such uncertainty as often to cause much inconvenience and anxiety throughout the agricultural season. The quantity afloat is 565,000 tons (against 344,300 tons in 1897), every ton of which will, with favourable weather conditions, be needed, the outlook for consumption being of the most satisfactory character.

As to the supply for the coming season, Messrs Montgomery regret its apparent insufficiency, which the following figures would seem to show:—The visible supply to-day is 697,000 tons, of which quantity there may be relied upon to arrive at destination in time for consumption between 1st January and 30th April next 667,000 tons; adding the January and February steamer shipments, say 60,000 tons, there is a total of 727,000 tons. The consumption in the same period of 1898 amounted to 630,000 tons, plus the large stock (this year said to be practically non-existent) which was in dealers' and consumers' hands, variously estimated at from 50,000 to 80,000 tons, say 50,000 tons. This therefore leaves to cover loss in weight, loss by marine accident and stock in the ports (which can hardly ever get below 40,000 tons) only 47,000 tons; together 727,000 tons. Thus no allowance is made for an increased consumption, after taking into account the 50,000 tons of interior stock last year. We are therefore compelled to conclude that the producers have again failed to ship enough but, in view of the wretched prices obtainable, it is matter, for little wonder that they should have shown only a minimum of enterprise in this respect. Prices have not fluctuated to a very wide extent during the year, which opened at 7s. 6d. per cwt. for arrived cargoes and 7s. 7½d. per cwt. for season's arrivals. With occasional periods of stiffness, the general tendency was one of weakness, until in April 7s. 1½d. was touched for an off coast cargo, summer arrival being, at the same time, done at 6s. 10½d. This fall was attributable to want of confidence in some quarters as to the eventual out-turn of the consumption, as with no combination agreement in force to restrict shipments, there was an undue desire on the part of dealers to avoid the possibility of having to carry over stock. Such policy, however, was overdone and the market speedily recovered; summer arrival advancing to 7s. 6d. per cwt. whilst autumn and spring arrival improved to 7s. 6d. to 7s 7½d. Prices during summer were no doubt assisted by small stocks and small shipments, and, with only a moderate supply of tonnage in sight for the autumn shipments, values were well maintained with various small fluctuations at from 7s. 4½d. to 7s. 9d. for Sept. Dec. sailings. An improvement subsequently set in, and the cargo market closes with a firm tone at 7s. 7½d. to 7s. 9d. for season's arrival as in size and position. Refined quality has throughout the year been in good demand at 2d. to 4d. per cwt. over the price of ordinary quality.

TEA, &c., COMPANIES.

The Glasgow Estate Company, Limited.—The eighth Annual General Meeting was held at Colombo on 28th ultimo. Mr. J. G. Wardrop presided. The annual report was as follows:—

ACREAGE.

Tea in full bearing	431	acres.
Do. partial bearing	167	„
Do. not in bearing	36	„
Tea Clearings	16	„
Grass	2	„
Jungle, &c.	62	„
Total Estate	714	acres.

The cost of delivering the Tea from the Company's estates in Colombo was 26·79 cents. per lb. The crop secured amounted to 290,100 lbs. Tea, against 277,600 lbs. in 1897. The nett average price obtained was 49·71 cents, per lb. against 51·57 realized last year. After allowing for depreciation of Buildings and Machinery, the amount at credit of Profit and Loss Account for the year's working is R57,828·65, being equal to 17·79 per cent. on the paid up Capital of the Company. To this must be added the sum of R2,403·51 brought forward from last year, making a total of R60,232·16 at the credit of Profit and Loss Account. An interim dividend of 5 per cent. was declared on 28th July last, and the Directors now recommend the payment of a final dividend of 10 per cent.. making 15 per cent. for the year. In accordance with the policy approved of at the Annual General Meeting held last year, a sum of R10,693·90 was placed to the Extension Fund. The Directors again deem it advisable to place a further sum of R10,000 to credit of this account, and it is trusted that this will meet with the approval of the shareholders. The addition of this R10,000 will bring the Extension Fund up to the substantial sum of R60,000. This leaves a balance of R1,482·16 to be carried forward to the current year's account. The estimate for this year is 315,000 lbs. of Tea against an expenditure on Working Account of R79,660. A sum of R2,400 is estimated on Capital Account for completion of withering house and upkeep of Tea not yet in bearing. Mr. H. Tarrant having left the Island, the remaining Directors appointed Mr. Jas. Forbes to fill the vacancy. In terms of the Articles of Association Mr. J. G. Wardrop retires from the office of Director, but is eligible for re-election. The appointment of an Auditor for the current year will rest with the meeting.

The report and accounts were passed and a final dividend of ten per cent. for 1898 be declared.

Agra Ouvah Estates Company, Ltd.—The seventh Annual Ordinary General Meeting of the shareholders of the above Company was held at Colombo on 28th ultimo, at the office of Messrs. Whittall & Co, the Agents and Secretaries. Mr. J. G. Wardrop presided. The report was as follows:—

ACREAGE—31ST DECEMBER, 1898.

Agra Ouvah.	Acres.	Fankerton.	Acres.
Tea in full bearing	302	Tea in full bearing	165
„ not in bearing	20	Timber clearing	10
Grass and Jungle	9	Grass, Patana & Scrub	18
Total Estate	331	Total Estate	193

Grand total 524 acres.

The Crops secured amounted to 271,241 lbs. Tea as against 269,087 lbs. in 1897. This total is about 9,000 lbs. below the estimate, and the shortfall is accounted for by the unfavourable weather prevailing during the last few months of the year. After deducting the cost of manufacturing 77,953 lbs. Tea from other estates the cost of delivering the Company's tea in Colombo was 25·47 cents. per lb. The average nett price for the tea was 53·82 cents. per lb., against 55·05 cents. per lb. in 1897. The gross amount of income from manufacturing tea for other estates was R8,964·61. It is satisfactory to note that the Coast Advances outstanding have been reduced by nearly R2,000. After making the usual ample provision for depreciation of buildings and machinery, the amount at credit of profit and loss account for the year's working is R67,719·23, equal to 18·06 per cent. on the capital of the Company. To the above has to be added a balance of R16,039·21 brought forward from 1897, making the total balance at credit of profit and loss account R83,758·44. An interim dividend of 7 per cent. was declared and paid on 13th August last, absorbing R26,250, and the Directors now recommend the payment of a final dividend of 11 per cent., making 18 per cent. for the year, and that the balance of R16,258·44 be carried forward to the current year's account. The estimate for this year is 280,200 lbs. tea on an expenditure on the estate of R85,731·26, which outlay includes the cost of manufacturing 150,000 lbs tea expected from other estates for that purpose, and also additions to the machinery and the cost of watercourse referred to below. The Directors are glad to announce that they have arranged with the proprietors of a neighbouring estate for the use of water from a stream passing through that estate; the expense of diverting the stream will be small, and a considerable saving in fuel is anticipated. In terms of the articles of Association, Mr. W. H. Figg retires by rotation from the office of Director, but is eligible for re-election.

The appointment of an Auditor for the current year will rest with the meeting.

On the motion of the CHAIRMAN, a final dividend of 11 per cent. for the year 1898 was declared.

The Udugama Tea and Timber Company, Ld.—The following is from the Annual Report of the above Company presented at the meeting on 30th ultimo:—

Your Directors regret to report a very serious deficiency in the crop of tea from Saumarez, Ginidomine and Homadola. The estimate was 160,000 lbs. but only 119,737 lbs. were harvested—a deficiency of 25 per cent., upon the estimate and over 22 per cent upon the previous year's crop Such a large reduction in the crop has increased the cost of the tea very considerably and has resulted in a heavy loss. All the estates in the district were very short of their estimates.

The estimate for this year from the above estates is 116,000 lbs but it is hoped that the crops will be increased next year to 150.000 lbs. by a return to manure. The loss on these estates amounted to R8162 09.

Maminadola.—The new clearings have come on fairly well especially the last 80 acres at Nakiadenia; these will give a large crop next year. The first 100 acres were cut down during the year and yielded 18,781 lbs. The crop this year for these 100 acres and a small return from the next 100 acres is estimated at 50,000 lbs.

Factory.—Difficulties with labor, due to the number of Sinhalese employed in plumbago mining, caused the contractor to be very late with this work, and the manufacture of our tea in the new factory was not commenced until the end of September. All the Company's tea is now being manufactured there, and the results so far justify your Directors in taking a more hopeful view for the future. Hitherto the Company's tea has been made in a miserable, inadequately furnished building, with no proper withering room, and it has been absolutely impossible to make good tea. Now we have a new factory with ample water power, plenty of withering accommodation, and good machinery. The prices obtained have already shown a marked improvement. The Company has now, in addition to the 500 acres of tea on Homadola, Saumarez and Ginidomine, 300 acres on Maminadola gradually coming into bearing. This year's crop is estimated at 166,000 lbs., next year we should obtain 250,000 lbs.

COFFEE IN 1898.

The year just closed has been more remarkable for the cheapness and abundance of the commoner descriptions of Coffee than for anything else connected with the trade; and there can be doubt that, under these most favourable circumstances for carrying on the business, the dealers and others have been enabled to secure better profits out of their sales than have been netted for many seasons past. The primary cause of this descent from comparative scarcity and highly-inflated prices to the present conditions governing the article has been, as is well known, the great plethora of supplies from the Brazils, as foreseen years ago, when the 1897-98 Coffee crops of Santos, Rio, &c., first began to be talked of as yielding about 10,000,000 bags. Few persons, at the time, could be brought to believe in so extraordinary a development in the production of one class of Coffee; and those who confessed to having strong "bullish" predilections were loth to entertain the idea of such a possibility, knowing that if realised, it must bring with it something bordering on a

transformation of the whole of this branch of commercial enterprise. Yet we find that what seemed, at the outset, to be exaggerated statements and far-fetched expectations have been fulfilled to the letter; and that with an almost interminable glut of supply coming forward from a single source, within the twelve months dating from July 1, 1897, to June 30, 1898, there has been weighing on the European markets an excessiveness of stocks far surpassing in magnitude any that have ever before been warehoused in the various ports. These at the close of November last contained an aggregate of 223,000 tons, in striking contrast with 158,000 tons in 1897, about 88,000 tons in 1896, over 92,000 tons in 1895, and nearly 65,000 tons in 1894. It is not hazarding too bold an assertion to say that the bulk of the above 223,000 tons of Coffee on hand was composed of inferior growths, which have always been more or less difficult to realise, and have consequently been the means of forcing prices down to amazingly low points, and of thus widening the gaps between quotations for the commonest and finest qualities. The great difference in the value of Coffee, created so unexpectedly, has been the distinguishing feature of the year 1898, and has been preserved from the beginning to the end of the season. To emphasise the facts we state, it may not be out of place here to remark that, grouping the several kinds of Coffee together, as if all came under the same denomination, the general range of prices, as latterly established for landed parcels, is as follows:— Low to good ordinary, including mixed sorts, at 25s to 45s, fine ordinary to low middling at 48s to 64s, middling greenish to fine middling at 66s to 90s, bright coloury and bold at 96s to 120s per cwt. Within this list of quotations are to be found raw coffee beans of every variety of size, make, and colour, adapted to the wants and fancies of the most fastidious of home dealers and exporters; and, putting all the clearances together, it is fair to assume that larger quantities than formerly have been used and distributed over the Continent of Europe during the year now departed. The unusual disproportion between the extent of the assortment of the lower and the finer grades of unroasted Coffee, which has existed throughout the season, has led to extremely stiff prices being paid for all desirable descriptions, which in the flattest of markets have met with ready purchasers at the highest rates of the day. From what may be judged to the contrary, there is no valid reason to look for any modifications of the wide distinctions in value above noticed, as Coffee imported in the near future will probably continue to be characteristically the same as hitherto, so as to keep the selection as narrow as ever for the superior grades; and those who are anxious to lay in sufficient stocks of plantation and similar Coffees must be prepared to do so promptly as soon as they arrive, and also be content to pay the maximum currency of the market. What are really wanted are liberal arrivals of useful medium sorts ranging from 65s. to 75s per cwt. in their "green" state, which would be of immense service in helping the blenders to furnish consumers with a good wholesome beverage at a moderate figure; and at the same time ensure them a constant supply of this aromatic article without its patrons having to forsake it for some other form of non-alcoholic drink.—*Grocer.*

THE ABANDONMENT OF LOW-YIELDING TEA (IN CEYLON) ADVOCATED.

W. D. B. writes to the Colombo papers:—

SIR,—Every little helps at a time like the present when many estates are existing on a bare margin of profit, and some even working at a loss. My suggestion, which would relieve the market of a certain amount of low-class tea, has no doubt been considered by the greater number of Estate Inspectors, and the obstacle to carrying it into effect is probably the disinclination of the Companies to propose to their shareholders a reduction of acreage, and, perhaps, the feeling of private owners that to cut off acreage is to lessen the amount to be obtained by a possible sale; but, if this be the case, it is, more or less, a delusion, as purchasers now-a-days have the figures pretty closely looked into by experts before they venture their capital. My suggestion is not applicable to the high-lying and young coffee districts, but to the old districts where I know for a fact that there are many hundreds of acres producing only 200 lbs. per acre, and under. Such acreage should, I hold, be abandoned forthwith; it cannot hope to make a profit with the most scientific manuring. The method of calculation can be applied to each individual estate, and a study of the sale lists will show that there are a very large number of estates whose average price is below 35 cents. per pound nett, at which I have made my calculations. Every million pounds of tea taken off the market at the present time probably adds a cent to the value of the remainder, and it is the low-grade teas which want most relief, and will, I think, most quickly find it in any lessening of the quantity. Reduction of quantity by working for quality does not pay below 3,000 feet; but, at the same time, lessening the quantity in many cases means more room for withering, and, therefore, the best quality obtainable. I take as a typical example an estate of 350 acres, in which it is supposed that 50 acres give only 200 lbs., and the remainder 400 lbs. per acre, and, by abandoning the 50 acres, it is seen that the profits are not lessened, and will probably be increased by the rise in the market, and the better wither.

	350 acres 130,000 lbs.	300 acres 120,000 lbs.	Decreased Exp'ture.
Superintendence at R10 per acre, and a Conductor ...	R 4,220	R 3,720	R 500
Allowances	240	240	
Weeding at R1 per acre ...	4,200	3,600	600
General Transport	50	50	
Contingencies	600	550	50
Roads and Drains	350	300	50
Bungalow, Lines, &c, upkeep ...	500	500	
Factory and Michinery at ½ct. per lb.	650	600	50
Tools and Baskets, &c. ...	150	150	
Pruning at R6	2,100	1,800	300
Plucking	12,500	10,800	1,700
Manufacture at 2½ cts. ...	3,250	3,000	250
Packages at 2½ cts.	2,600	2,400	200
Carriage at 1 ct.	1,300	1,200	100
Sundry Expenses, Insurance, &c	500	500	
Charges in Colombo at 1 ct. ...	1,300	1,200	100
Visiting	500	500	
	35,010	31,110	3,900

350 acres produce 130,000 lbs. at 35 cts. nett = R45,500. Profit R10.490.

310 acres produce 129,000 lbs. at 35 cts. nett = R42,000. Profit R10.890.

It costs in fact 39 cents. per lb. to produce the 200 lbs. per acre which is sold at 35 cents.

Agras, January, 24th.

Apropos of the above, Mr. Robert H. Elliott writes from Nuwara Eliya to the *Ceylon Observer*:—"As the policy of judiciously abandoning the poorer portions of tea estates in Ceylon is now being considered in the press, it may interest many of your readers to learn that a similar policy is now being adopted in Mysore as regards coffee estates. "Two courses being given when in doubt choose the safest," is an old maxim; and there can be no doubt that planters, by turning their attention exclusively to their best lands, will be diminishing their risks to the utmost. For (1) they will diminish the demand for labour; (2) have, of course, a better command of it; be able (3) to almost entirely get rid of the objectionable advance system with all its consequent losses and worries and waste of time; be able (4) to reduce production; and (5) make themselves more independent of the risks of the season which, of course, tell much more on poor and exposed lands than on the richer and well sheltered portions of estates. In a word, a policy of judiciously abandoning risks and worries will diminish while the certainty of profits will increase.

I was lately told by one of the Ceylon planters that the currency measure is a blessing in disguise, but it can only become so if planters adopt a policy which will enable them to make up, as far as possible, for the losses incurred by the measure. Now is the time for action.

Though it is clear that the currency measure will, if an abandoning policy is adopted, be a blessing in disguise from one, and a very important point of view, we must not lose sight of the fact that the saleable value of all property will, both here and in India, be diminished For the loss of confidence which the measure has caused must certainly continue as long as we have a managed currency, and that too, no matter what modifications of the present policy may be adopted.

By the term "judiciously abandoning" I mean, of course, abandoning in whatever form and degree may be most suitable to the circumstances of each particular estate"

A HUNDRED YEARS AGO.

A "CENTENARY" price-list has been issued by Messrs. W. TUCKER & SON, of 32, High-street, Christchurch, who this year celebrate the hundredth anniversary of the establishment of the business by AMBROSE TUCKER. The following extract from an account on the books of AMBROSE TUCKER, 1802, may afford interesting comparisons with the prices of the present day :—

	£ s d		£ s. d.
4 lb souchong	... 1 12 0	12 lb mould candles ...	... 0 11 6
2 lb hyson	... 1 4 0	6 lb stable candles ...	... 0 6 6
1 lb coffee	... 0 7 0	36 lb yellow soap ...	... 1 6 3
1 lb chocolate	... 0 5 0	1 lb starch	... 0 1 0
1 loaf of sugar (9¾ lb.)	... 0 10 6¾	Bottle anchovy sauce ..	... 0 1 6
6 lb moist sugar ...	... 0 4 9	Bottle Indian soy ..	... 0 2 6
3 lb currants	... 0 2 4½	2 lb blacklead	... 0 2 0
3 lb sun raisins... ...	... 0 2 3	2 Bath bricks	... 0 0 9
2 lb muscatels	... 0 3 0	Flask oil	... 0 2 4
½ lb almonds	... 0 1 6	Bottle capers	... 0 2 6
6 lemons	... 0 1 6	Bottle olives	... 0 2 0
1 oz mace	.. 0 3 6	Quart peas	... 0 0 8
4 oz cloves	.. 0 2 6	15¾ lb bacon	... 0 17 4½
2 oz nutmegs	... 0 3 6	1 halm (11¾ lb.)	... 0 12 8
1 oz cinnamon ...	... 0 1 0	1 lb treacle	... 0 0 5
¼ lb pepper	... 0 0 9	3 lb oatmeal	... 0 1 3
1 lb mustard	... 0 1 6	1 cheese (25 lb.) ...	... 0 16 8
¼ gal salt (3½ lb.) ...	... 0 0 10	2 lbs butter	... 0 1 10
1 lb saltpetre	... 0 1 0	6 bottles sodawater ...	... 0 3 3
Basket table salt ...	... 0 1 4	2 quires foolscap ...	... 0 3 4
1 lb rice	... 0 0 6	4 quires folio post ...	... 0 5 0
6 lb wax candles	... 1 7 0	4 packs playing cards ...	... 0 18 0
36 lb tallow candles ...	... 1 8 6	Bag patent shot ...	... 0 9 6

PEPPER.

IN the course of a series of interesting papers on "Popular Botany," M. Philip MacMahon, Curator of the Botanic Gardens, Brisbane, writes in the Queensland Agricultural Journal:—The plant *Piper nigrum* is that from which we derive that most useful condiment, pepper, both black and white, the latter being produced by allowing the fruits to ripen before they are picked. Pepper has had a very respectable antiquity, and was at one time held of no small account. We read that Alaric, king of the victorious Misigoths, demanded, in approved modern fashion, a war indemnity from the Romans, whose city he had invested. The items were 5,000 lb. of gold, 30,000 lb. of silver, 4,000 silk garments, 3,000 pieces of fine scarlet cloth, and 3,000 lb. of pepper. This was 1,490 years ago. A pepper-corn rent is looked upon as the very easiest form of tenure; but it was a very serious form of rent indeed in the Middle Ages when it was first introduced, and meant payment of 1 lb. of pepper yearly. This plant is a native of close valleys in South-Western India, in a latitude corresponding to that of our Northern districts north of the 20th parallel, but it has been introduced into several other countries, notably Java, where it is cultivated at a great profit. It must have the shade of trees, and a common way of growing it in India is to clear the jungle of undergrowth, allowing the trees to stand, and planting at the base of each a few vines, manuring them with some decayed leaves. This would prove a good way of trying the plant in the scrubs near the margins of some of our Northern streams. It propagates quite easily from cuttings, of which there are any number here. In artificial plantations the mother trees are usually mangoes, Jack fruit, or Erythrina indica.

It may be mentioned here—and this is true of almost all the subjects touched upon in these papers—that the avocation of a pepper-planter is one in itself in the countries where this article is produced in perfection. The methods employed in, say, India, Java, and Sumatra are quite distinct. The writer of these papers disclaims any intention or desire of urging or advising any cultivator to dissipate his energies over a variety of products, or to waste too much of the time which he might otherwise usefully employ in "experimenting." He considers that the old-fashioned advice, "Put not all thy eggs into one basket," is pretty well played out. His advice is, "First know your basket, get as many eggs as possible into it, and then look after that basket." The latest price current for pepper in London was 4d. per lb., and over 23,000,000 lb. are annually imported.

CEYLON TEA IN 1898.

Ceylon tea has at last had to cry "halt" to increasing deliveries and public favour. "The fact is," says the *Grocer*, "that the bulk of the supplies are too light and pointless, and the trade would be glad to do without them very often, as they always have to take losses on stock that does not sell at once, owing to their losing the freshness and flavour within a few weeks of arrival. Again, the sale of 'pure Ceylon' packets (compelling those who label it 'pure' to use only Ceylon) is being greatly interfered with by the big blenders, whose numbers and power grow rapidly each year; the competition has, therefore, benefited the stronger and more pointy Indian growths to the detriment of Ceylon and China. Our imports for the year show an increase of about 1 million lb., or say 94 million lb. against 93 million in 1897. Deliveries however, have fallen off 1 million lb.—viz., about 94 million lb. against 95 million lb. in 1897. Deliveries for home consumption have fallen off still more—viz., 2½ million—but this discrepancy was made up by an increase of the exports of over 1 million lb. It will be noticed that these increases and decreases in Indian and Ceylon Tea respectively commenced from last April onwords. The stock on January 1, 1898, was 16½ million lb. and next year ('899) we shall start with about the same. We notice by our Ceylon advices that the total crop for 1898 shows an increase of about 4 million lb. over 1897. However, foreign countries outside the United Kingdom have taken some 5½ to 6 million lb. more direct, while 1½ million less have been sent to the United Kingdom. Australia has taken one-sixth more. or say 2½ million more; America three times more, or say 1¼ million more; and Russia six times more, or say 1¾ million more. Direct exports from Colombo to other countries outside the United Kingdom, together with the exports from here, may therefore be roughly put down at 34 million lb., so that some 22 million lb. have been diverted from the home market. The market opened with low quotations for Pekoe Souchongs and Pekoes, viz., 4¾d to 6½d, and capital broken Pekoes at 8½d. to 9½d., but finer teas were light and difficult of sale up to 1s, finest being scarce. There was a steady demand all through January, but in February quite a slump set in, and the prices ruling for broken Pekoes at 6d. to 9½d. were simply astonishing. Trade in March was very quiet, but prices showed no change for the ordinary kinds, which were condemned by the trade and the shippers as poor and thin; anything with quality and colour, however, brought rather firmer rates, and grades above 1s. were conspicuous by their absence. In April the quality began to improve, and with a better trade demand from 65s to 75s per cwt. in their 'green' state, which would be of immense service in helping the blenders to furnish consumers with a good wholesome beverage at a moderate figure; and at the same time ensure them a constant supply of this aromatic article without its patrons having to forsake it for some other form of non-alcoholic drink."

GREEN TEA IN THE UNITED STATES.

The following is from a letter for Mr. Larkin to Mr. Mackenzie, the Ceylon Tea Commissioner :—

I have just been showing those Ceylon Greens to the people in the Japan trade, and they all agree with me that they are exactly on the same lines as Japan tea, only they are finer than even the earliest pickings of Japan, as they are more astringent, drawing the same kind of liquor and having the same kind of smell and taste. We can thank our stars that, although these teas are similar to Japan, so far the Japanese have not been able to make a black tea, for the Japan blacks I have seen in the past have been most wretched.

THE TEA MARKET.

The future of this market seems to be a little more hopeful owing to the great expansion of the demand in countries outside the United Kingdom. In the nine months ended September 30th last these outside markets have consumed over nine million pounds more than in the corresponding period of 1897, and the following figures show that the demand has been steadily increasing for some years past :—

	lb.		lb.
1898 ...	42,918,654	1895 ...	25,002,230
1897 ...	34,859,215	1894 ...	20,905,531
1896 ...	28,250,961		

Fully one-half of the total for 1898 was shipped direct to these foreign markets from Calcutta and Colombo. Ceylon tea is most in favour, the increase being about six million pounds as against less than two millions of Indian varieties.

In addition to the increased foreign demand there has also been a larger home consumption. Last year, it will be remembered, there was a decrease in the latter, owing partly, it was said, to the engineers' strike and partly to the efforts to push cocoa. This year the increase is well above the normal. For various reasons the Indian growers are expected to supply the United Kingdom with only about two million lb. more than last year, while Ceylon only shows an increase of from 3 to 4 million lb. Stocks are, therefore, diminishing instead of increasing, as in past years, and a healthier tone prevails in the market. Some stress is laid upon the altered conditions of training which are expected to lead to an improvement in business later on. The great difficulty in the tea-trade is that four-fifths of the Indian shipments are made in the six months from August to January. In those six months of 1897-8 the shipments exceeded the deliveries by about 34 million lb and this surplus stock had, of course, to be held by the market until supplies grew more moderate. The old firms had been accustomed to hold the smaller stocks of earlier days, but their resources had not grown with the expansion of the business, and in the last few years there has been a greater tendency to push the stock on the market when the conditions were unfavourable. Buyers, knowing the weak state of the market, did not come forward and took as little as possible in order to gain every advantage from forced sales. There is a limit to this state of affairs, and the creation of a number of joint-stock sellers of tea is helping to improve matters. These large dealers with their numerous shops find it advantageous to buy in considerable quantities and as direct from the growers as possible. Their resources enable them to carry their stocks for some time, and as their number increases the competition when prices are depressed tends to grow. So far this new order of things has not had much effect, but prices have improved a good deal of late and it is hoped that the development of competition among buyers may strengthen the market for Indian teas. Ceylon teas do not suffer from the same cause, except sympathetically, as the produce from the island comes in fairly regularly each month, and at no time do shipments exceed delivery to any great extent.

RUBBER.

SOME RECENT DEVELOPMENTS IN RUBBER CULTIVATION.

During a trip of several months through the old rubber producing regions of Central America and the northern states of South America, I found a great interest in rubber cultivation, and preparations were being made to start very considerable undertakings, particularly in the British West Indies, where the fact that rubber never has been indigenous to those islands is not considered in the enthusiasm of the people. On the island of Trinidad I found this enthusiasm increased to a substantial boom. Rubber seeds were selling at five cents each, and young trees were wanted at fifty cents, though owners were refusing to sell year-old trees about two feet high for less than a dollar a piece. It was reported that two English companies were about to begin operations in Trinidad and were proposing to invest a combined capital of $5,000,000, while private enterprise would probably bring $2,000,000 more to the island, making a total of $7,000,000 prospective capital to be invested in that one locality. Other islands were becoming interested. In Grenada seeds were in demand, with the prospect that a very considerable acreage will be set out.

The most interesting point under discussion in relation to rubber-planting in the British West Indies is a series of experiments now being carried on in London and Trinidad, by which it is proposed to secure rubber from year-old trees of the *Castilloa elastica*. It has been found that seeds sown broad-cast over a prepared field will yield an abundant crop of young trees, which at about a year old can be cut and sent to a factory where, with ordinary machinery operating a simple process, 8 per cent. of fine rubber can be extracted from the young shoots. This can be done in the laboratory. It is claimed that the process is a simple one, that but little machinery is necessary, and that in future the world's rubber supply will be secured from an annual crop of young trees sown on cultivated estates, and not from remote forests as at present. A series of experiments has shown that the young tree contains about 8 per cent. of rubber, which would at present prices return an estimated profit of $200 to $400 per acre. The extraction of rubber from young shoots has been accomplished chemically in the laboratory, but whether it can be applied to the economic production of rubber on a large scale remains to be seen.

Castilloa elastica will grow almost anywhere, but it will yield a profitable flow of milk only under favourable conditions, and these conditions are dependent on the geological formations and topographical features surrounding the trees. To form an opinion in regard to these matters requires an economic geologist of some skill, and because of the fact the greatest losses will be made, for, as it is in mining and kindred enterprises requiring technical skill, uniformed people always considered themselves competent to judge and most of them will have no use for the trained observer. As rubber-trees will grow almost anywhere, and as the period of waiting before a crop can be expected is a long one, the successes that some will make afford an example on which to secure money and lose it to the profit of promoters and their associates who will claim to be thoroughly posted and to control lands that fulfill every requirement.

By forestry cultivation I mean the care of rubber-trees in their natural forests, assisting nature to reproduce them; by husbandry I mean the cultivation of rubber-trees in plantations and an attempt to force them under conditions different from their natural surroundings.

Opinions in regard to suitable rubber lands vary to an unusual extent. This is because many observers have noted one species of rubber-producing tree and its special surroundings, but have never noted all the conditions common to the several species. In America rubber is mostly produced from *Castilloa elastica*, and several species of *Hevea*, each of which is found under quite distinctive surroundings. As a result, general opinions on rubber lands, are three times differently expressed. One man will feel assured that rubber to be successful must be planted on the land that is inundated a few feet at least once a year; another will say that low ground near a wet swampy country is the only available locality; while still another will talk of the medium upland country as the most promising.

These are widely different opinions, yet each is correct. Some species of *Hevea* do best on low ground that is subject to slight annual floods. Other species of the tree thrive over low, rich woodlands just beyond the reach of floods. *Castilloa elastica* does well on the foot hills wherever there is a rich, clean soil and abundant water. It is also found in low, swampy ground, but amid such surroundings does not yield as fine rubber as in the healthier localities.

Rubber is taken from a number of trees and vines, but the species that I have noted yield the commercial supplies of America; of these *Castilloa elastica* is of the most interest to people who think of planting, because it does well on healthy ground where a man from the temperate regions can expect to live and see his trees develop.

The proper land should be clean, rich, and abundantly watered, with a good drainage. Such lands give the best returns. The trees grow abundantly on low unhealthy lands, but do not yield so good a quality of rubber, for which reason if one proposes to cultivate it is well to have the best, and on this much will depend, for it will have an important bearing on results. Of the two methods of cultivation that are being tried little has been done with forestry as yet, but the few experiments that have been almost universally successful and promise important developments for the future. Husbandry so far has not been a great success, and in many places rubber-trees have been carefully planted and given any returns, though it is claimed that some tended for a long term of years but have not of the trees are twenty to forty years old.

The claims in favour of husbandry are that a great number of trees can be planted on one acre, and that all are within easy reach, while better returns can be expected from cultivation than from the natural conditions of the forest. It must be borne in mind, however, that *Castilloa elastica* is a tree of the shade, and that the flow of sap, and not beautiful proportions or an abundant yield of fruit is the object sought. Another important point is that the tree has a comparatively tender bark in the shady woods, which in an open cultivation becomes much heavier as a protection against the sun and dry air at the expense of the flow of sap, and

the provisions of nature which permit the tree to grow anywhere defeat the objects of the planter and makes rubber-cultivation a doubtful undertaking. Hence in many cases the thousands of dollars that are being invested in such enterprises will be the source of grievous disappointment. On the other hand, a careful selection of a run of forest property where rubber-trees reproduce themselves naturally, must yield returns that will surprise even the most sanguine expectations.

Castilloa elastica reproduces itself freely. It has been compared to the pine—a slow-growing tree which does not propagate itself rapidly. It should, however, be compared with the chestnut of our northern forests. If a stretch of well-situated land were allowed to grow up wild here at the north, it is certain there would be a fair proportion of chestnut-trees that would probably come up on the property. If, besides these natural results one or two camps were established on the place and a few men were kept working about through the woods planting chestnuts and looking after the trees, it is certain that the care and attention would result in a heavy percentage in favour of the planter. Similar results can be expected in the tropical forest, using the same methods but substituting the care of rubber-trees for the chestnut-trees that I have taken as an illustration.

I have noted strong evidence in the tropical forests that rubber-trees will produce themselves whenever in the locality is naturally adapted to such reproduction, and with a little care such as could be given by three to ten men according to the size of the property taken in hand the results will be beyond the most sanguine expectations. The great question is to secure a good run of healthy forest land in a suitable location. This being done, but little more is required. A few ordinary labouring-men and the investment of a small amount each year will after a time return thousands annually. In the forests the rubber-tree can be relied on to produce an abundant flow of sap. In open cultivation it must protect itself from the sun and dry air, and the results are doubtful, though some well-situated plantations will certainly yield bountifully. Another important point is that forest land is cheap in most rubber countries, and it is no object to secure a maximum yield from a given amount of land. The object should be a minimum cost of production without regard to the amount of land employed.

After having travelled through all the desirable rubber regions in Central America and northern South America, I am satisfied that suitable tropical forests which can now be had at a low price-often for a few cents an acre—present an opportunity for the profitable employment of capital such as has seldom been offered in the world's history, but the serious point is to secure the proper land. Those who acquire it will have more than they expect, but natural rubber lands are not to be had by simply making a chance location. Though the tree will grow almost anywhere, it is only the most favoured spots that will yield those spontaneous returns that are so very profitable. It is fair to state that if people go to taking up tropical forests promiscuously ten will be disappointed to every one who secures a prize.—*Indiarubber World.*

THE SOUTH OF INDIA PLANTERS' ENQUIRY COMMITTEE.

The following is the Resolution, dated 21st January, issued by the Government of India, in the Department of Revenue and Agriculture, on the report of the South of India Planters' Enquiry Committee, which was appointed to enquire into and report, firstly, on the system of advances to garden coolies and labour-contractors, and, secondly, on the prevention of coffee-stealing. As regards the first head of the inquiry, the points specified were (*a*) the nature of the system as at present worked; (*b*) the necessity for its continuance; (*c*) the difficulties experienced in its operation; (*d*) the best methods of removing them. On the second head the Committee was instructed to report (*e*) whether the conditions under which coffee is produced and brought to market are such as to render it desirable (1) to extend to "parchment" and "cherry-dried" coffee the legislative provisions now applying by section 9 of Madras Act VIII. of 1871 to "green-gathered" coffee; and (2) to amend that section by substituting the word "person" for the words "coolie, maistri or other labourer employed on a coffee estate."

The report of the Committee on being received by the Government of India was communicated to the Government of Madras for opinion, and subsequently for the same purpose to the Mysore Durbar. The Government of Bombay were also asked whether they desired to make any observations on any points in the report which affected the Bombay Presidency. Replies from the two local Governments and the Mysore Durbar have been received, and the recommendations of the Committee have now been considered in connection with them by the Governor-General in Council.

Chapter X. of the report contains the recommendations as to legislation proposed by the Committee to meet the following evils which are characterised as "extremely serious":—

(1) The inability of the planter in any planting district in Southern India to obtain effectual redress for fraudulent breach of contract on the part of "maistris" and coolies under the present system, and to guard himself against serious loss.

(2) The special disability under which the planting interest in the Native States labours, in the absence of any provision for pursuing defaulting maistris and coolies into British India.

(3) The increasing demoralisation of maistris and coolies employed in Native States.

It is remarked by the Committee that against these evils the civil courts necessarily fail to provide an adequate remedy. "Planters," it is stated, "virtually have no remedy at civil law against coolies and maistris who run off with advances. In such cases the remedy of pecuniary damages through the civil courts is but a barbarous and illusory remedy." Nor will the remedy provided by the Specific Relief Act help, it is considered, the planter. The remedy in the opinion of the committee, must be sought in penal legislation. "We have," it is said, "to deal with a system of advances which we have shown to be necessary, and the rights of property cannot be efficiently protected unless these advances are secured by special enactment." It is added that "in no similar case, so far as we know, in India, Ceylon or the Colonies has it been found possible to dispense with a penal labour law." It is recommended by the Committee that Madras Act V. of 1866 should be made the basis of the proposed legislation. Although this Act is at present a dead letter, it contains provisions with regard to the registering of recruiters and the execution of labour contracts which in the opinion of the Committee are urgently required in the Madras Presidency. It is recommended that this Act should be re-cast and in a revised form should be made applicable to emigration to planting districts within the Presidency, to Coorg, to Ceylon, and to Native States in India. The new law, it is recommended, should provide—

(1) for the licensing of recruiters;

(2) for the formal execution of contracts;

(3) for the enforcement of such contracts on lines of legislation more recent, and more applicable to the circumstances, than Act XIII. of 1859, or section 12 of Madras Act V. of 1866.

Under (3) the Committee might have been more explicit in its recommendations. The provisions of Act V. of 1866, it is observed, "of the Ceylon Labour Ordinances and of Act I. of 1882 will form a useful guide in regard to such matters, as well as the responsibilities and obligations of the recruiters. The objects in view would be, first, to preserve to planters in British territory the facilities they at present enjoy under Act XIII. of 1859 for enforcing their contracts; second, to add to these facilities such corresponding obligations as have been deemed proper in the more recent enactments; third, to provide for the control of the recruiting agency; and, fourth, to lay the foundations for the introduction of a procedure whereby planters out of British India, who obtain their labour from the Madras Presidency, may have reasonable control of such labour." There are very considerable differences between the three laws to which the Committee refer as the basis of the proposed legislation—differences so great as to amount to differences of principle.

The Madras Government accept the proposal of the Committee as to the re-enactment of Madras Act V. of 1866, and would apparently provide in the proposed legislation for the execution of warrants and other processes issued by the courts in the three Native States under a labour law of identical character. The Dewan of Mysore, on the other hand, considers the Assam Labour Law unsuitable, and would prefer to amend Act XIII. of 1859. The Government of India have repeatedly expressed their inability to undertake the amendment of that Act with a view to make it a more effective means of enforcing labour contracts for tea gardens in Assam, as the Act was originally not meant to ap

ply to contracts of this description, and is unfair and one-sided in its provisions and liable to be misunderstood and misused. They are constrained to agree with the Government of Madras that if special legislation is required for the coffee industry in Madras, it will have to take the form of the amendment and re-enactment of Madras Act V. of 1866. This in effect would provide a labour law of special application to Southern India, which, while enabling an employer to enforce through the criminal courts a statutory contract against a labourer in the absence of misconduct on the part of the employer will enable the magistracy to require from employers the fair treatment of the labourer, and will refuse to help the unjust employer. Many of the circumstances which have made the Assam Immigration law excessively elaborate and minute, and in its working costly to the tea industry, do not exist in Southern India. In Southern India labour is much nearer the planting districts, is much more mobile and is by habit and experience much more self-reliant and able to protect its own interests. It goes and returns at short intervals, and long-term labour contracts such as are a necessity in Assam are practically unknown in Sonthern India and should not be countenanced by any law which may now be enacted. The Government of India are, therefore, of opinion that if legislation is required for the regulation of labour contracts in Southern India, the maximum statutory term of a contract penally enforceable should not exceed one year or at the utmost two years. The evidence is that the labourers are generally well-cared for on the estates, and that excessive mortality is unknown on the coffee plantations in Madras or Mysore. This will make it possible to dispense with many of the provisions of the Assam Act, though it will be necessary to take power to inspect the plantations and to enforce sanitary regulations.

The Governor-General in Council after a careful consideration of the recommendations made by the Committee which have met with the approval of the Madras Government, will not object to the local Government putting them for closer examination into legal form. Until this is done and the effect of the proposed measure can be more precisely seen, he reserves his final conclusions on the subject. It has been already said that a statutory labour contract for a long term is not required. If it is found necessary to prescribe a statutory contract, the Governor-General in Council considers that the labourer should be at liberty to rescind it at any time without notice on repayment of the advances due by him and of specified forfeit money, and with notice on repayment only of the advances due. The contract should be liable to be cancelled by a Magistrate on specified grounds: its enforcement by a Magistrate should be strictly conditional on the labourer having been properly treated by his employer: guarantees for enforcing fair treatment should be provided on the general lines of the Ceylon and other labour laws: and the extent to which advances should be recoverable from the labourer should be carefully considered. As regards the compulsory registration of labour contracts in the districts of recruitment, the Government of India are disposed to think that such a system is foreign to the practice in the Madras Presidency, as witnessed by the complete failure of Madras Act V. of 1866. The necessity for legislating on this matter will require careful consideration.

The question of extradition is a difficult and far-reaching one. The Committee recommend—

(*a*) that the Native States of Mysore, Travancore and Cochin should be invited to adopt the amended law;

(*b*) that the execution of the amended law should be made reciprocal between the Madras Presidency and Coorg on the one hand, and the Native States of Mysore, Travancore and Cochin on the other, by a convention or mutual agreement.

(*c*) In default of a convention—

(i) that British Magistrates should be empowered to give effect to orders of certain Magistrates in Native States in respect of fraudulent breaches of contracts under the amended law, or (if there be no amendment) under Act XIII. of 1859: or preferably.

(ii) that Magistrates in British India and in the Native States of Mysore, Travancore and Cochin should be empowered by their respective Governments to deal with persons found within their jurisdiction who commit fraudulent breach of contract (as above explained) across the borders;

(*d*) that in the event of either of the above suggestions (*b*) or (*c*) (ii) being accepted the Mysore State should no longer be exceptionally treated in respect of British processes in breach of contract cases.

The Government of India have given their careful consideration to this difficult subject and their provisional conclusion is this: should the proposed legislation for the amendment of Madras Act V. of 1866 be undertaken, there would be no objection to including in it a provision for the execution in the Madras Presidency of criminal processes issued by certain courts, under due safeguards, of the Native States of Mysore, Travancore and Cochin, if and when and as long as a similar law is in force in each such State. With regard to warrants of arrest issued under the proposed labour law, the Government of India are disposed to think that, when any such warrant is sent to another district for execution, it should be discretional to the Magistrate of such district to accept bail for appearance before the court issuing the warrant, or to act in the manner prescribed in section 19 of the English statute at present applicable to cases in which extradition from India is sought by courts in Ceylon.

The special case of Coorg could be met by extending to it, by means of a regulation, or by notification under the Scheduled Districts Act, 1874, the provisions, or certain provisions, of the proposed Madras Labour Law.

There remains the question of amending Madras Act VIII. of 1878, the Coffee-stealing Prevention Act. The Committee deal with this question at length in the last Chapter (XI) of their report, in which after tracing the history of Madras Act VIII. of 1878, it is recommended—

(1). That section 9 of that Act be amended by the addition of the words "parchment and cherry-dried" coffee.

(2). That sections 5, 6 and 7 of the Act, which apply only to purchasers of coffee, be also made applicable to sellers.

(3). That power be given to the Government to prescribe forms of books and accounts for recording sales of coffee, to require returns of produce, and to verify them by entry and inspection.

These recommendations have the support of the Government of Madras, who are prepared to give effect to them by legislation in the local Legislative Council. A communication on the subject of the proposed legislation is being made to Her Majesty's Secretary of State for India.

DISTRICT ASSOCIATIONS.

SHEVAROY.

Proceedings of a Quarterly General Meeting of the Shevaroy Planters' Association held in the Victoria Rooms, Yercaud, on Monday, the 9th January 1899, at 2 p.m.—PRESENT: Messrs. C. Rahm, C. Dickins, S. Campbell, R. Gilby, G. Turner, J. D. Gribble, J. C. Large, T. H. Short, F. Short, B. Short, S. M. Hight, W. W. Hight, S. Pritchard, C. K. Short, T. B. Nicholson, C. G. Lechler, *Chairman*; H. R. Newport, *Visitor*; R. Gompertz, *Honorary Secretary*.

1. *Read* and confirmed proceedings of the last three Committee Meetings.

2. *Read* letter from Mr. W. A. Hardy, stating that he had set up as a Commission Agent at Kannankurichi, near the foot of the Salem Ghaut, together with a list giving prices he will charge for refreshments, etc., and soliciting orders.

3. Regarding the project of a Co-operative Association for direct sale of coffee to the consumer, Mr. Lechler, the Chairman, spoke on the subject of a new scheme proposed by certain well known Planters on the Nilgiris, which will shortly be made public in the form of a prospectus of a Company to which all Planters in South India will be invited to subscribe by taking shares.

4. The following letters were read and recorded:

13/U. W. Circular from the Secretary, U. P. A. S. I., appending for information and for favor of remarks, extracts from letters received from District Planting Associations with reference to Classification of Coffee.

14/U. W. Circular from the Secretary, U. P. A. S. I., circulating resolution passed by the Committee of the Shevaroy Planters' Association regarding the Co-operation among Coffee Planters for sale of coffee either in the raw state, roasted berries, or ground coffee, direct to the consumer.

22/H. Circular from Mr. Hardy, Commission and Supply Agent, informing that he has established himself as such at the foot of the Ghat and requesting the Planters' patronage and support. Prices, etc., on back of Circular.

17/D. Notification informing that certain villages are infected with Plague.

6/N. Letter from Mr. Howard Newport intimating his wish to join the S. P. A.

27/C. Letter from Mr. Cockerton, of South Coorg, asking for some of those beans to keep down Lantana.

Précis of answers to the U. P A. S. I. Circular *re* Ladybirds.

The following Papers were laid on the table.

1. *African Times*, 4 copies, dated October 8th, 15th, 22nd & 29th.
2. *Planting Opinion*, 3 copies, dated December 10th, 17th & 24th.
3. Agricultural Ledger No. 14, Indian Coal—No. 15, China grass.
4. Proceedings of the Wynaad Planters' Association held at Meppadi on 14th December 1898.

(Signed) C. G. LECHLER,
Chairman.

(Signed) R. GOMPERTZ,
Honorary Secretary.

Proceedings of a Committee Meeting of the Shevaroy Planters, Association held in the Victoria Rooms, on Monday, 9th January 1899.—PRESENT: Mr. C. Dickins, Mr. C. Rahm, Mr. T. H. Short, Mr. C. G. Lechler, *Chairman*; Mr. R. Gompertz, *Honorary Secretary.*

1. Read and passed accounts up to 31st December 1898 shewing a balance in hand of Rs.517-7-11 (five hundred and seventeen rupees, seven annas and eleven pies).

2. Read and recorded letter from Mr. Newport saying that he should like to keep touch with Indian Planters whilst in Australia, and requesting Honorary Secretary to enrol his name as a member of this Association, sending him any papers of interest from time to time.

(Signed) C. G. LECHLER,
Chairman.

(Signed) R. GOMPERTZ,
Honorary Secretary.

COORG.

Minutes of a General Meeting of the Coorg Planters' Association, held at the N. Coorg Club, Mercara, on Monday, 28th November.—PRESENT: Messrs. W. M. Ball, P. Bane Singh, H. F. Davy, H. R. East, J. S. Finlayson, W. Green, C. G. Maclean, H. Mann, Jas. T. Morgan, G. R. Pearse, W. H. Sprott, John S. Trelawny, J. D'Vaz, A. J. Wright, H. G. Parsons; Honorary Visitors,' Messrs. J. P. Hunt and F. Seager. Mr. W. H. Sprott in the Chair.

New Member. Mr. W. Green, *Proposed* by Mr. D'Vaz, *Seconded* by Mr. Sprott. *Elected unanimously.*

Delegates' Report. The Honorary Secretary submitted a short report touching on the salient points of the different subjects discussed at the U. P. A. S. I. Meeting in Bangalore in August, and explained the position taken by the Delegates.

Proposed by Mr. Trelawny, *Seconded* by Mr. Ball: That the Delegates be thanked for their services, and that their expression of the views of this Association be cordially approved.—*Carried.*

Correspondence. *Read* Letter from the Accountant General, Madras, stating that the Comptroller General was averse to supplying funds at the Veerajapett Treasury by Supply Bills.

Read Circular letter No. 8, from Secretary, U. P. A. S. I., *re* Duty on Manures.—*Recorded.*

Read letter from the Commissioner of Coorg with reference to expenditure on coolie shelters.—*Recorded.*

The Pollibetta Hospital question was allowed to stand over pending receipt of official intimation; the subject to be brought up again at the next Meeting at Pollibetta; the Honorary Secretary remarking that if Government gave as an excuse want of funds it would be necessary to protest against buildings for the public benefit being virtually abandoned while money was found for the erection of circuit houses exclusively for the use of officials, and which were seldom occupied.

Read letter with statement as to the Land Record Cess. From the accounts it appeared that this department was making an increasing annual profit.

Proposed by Mr. Morgan, *Seconded* by Mr. Trelawny, that the Honorary Secretary should write to the Commissioner of Coorg on the following lines: that the Land Record Cess was imposed with the object of maintaining the department, not with the intention of making a profit; and that as the figures show a large surplus, Government be asked to reduce the cess to a point which will be sufficient to cover expenses only, unless it is prepared to expend the surplus on works and improvements in the Province.—*Carried.*

Circular letters from Secretaries, U. P. A. S. I. *re Tea per* SS. "*Nurani*" were read. The replies from the agents to the Secretary, U. P. A. S. I., were not deemed satisfactory.

Circulars *re* Classification of Coffee were read and recorded.

Mr. Cameron, F. L. S., was here introduced to the Meeting by the Chairman and gave a most interesting and instructive lecture on his tour through the Province, and a hearty vote of thanks was accorded to him.

With a vote of thanks to the Chair the meeting ended.

H. G. PARSONS,
Honorary Secretary.

The following papers were laid on the table.

1. Rules for the sale of Waste Lands in Coorg.
2. P. W. D. Administration Report for Coorg, 1897-98.
3. Circular from District Magistrate, *i.e.*, Cattle Trespass.
4. Petition to Viceroy *re* Encashment of Currency Notes.
5. Stanes & Co's Circular, *i.e.*, Analysis of Soils.
6. Arbuthnot & Co's Export Statement to 30th June 1898.
7. Shevaroy P. A. Proceedings, August, Sept., Oct. and November.
8. Wynaad P. A. Proceedings, September, October and November.
9. Lower Pulney P. A. Proceedings, 30th July 1898.

On Wednesday, 30th November, Mr. Cameron, F. L. S., gave a second lecture at Pollibetta, when the following were present:—Messrs. A. Aclone, L. C. Bearne, E. M. Breithaupt, Jas. Chisholm, H. L. Cuthell, E. Clarke, G. Davies, W. Davies, D. A. Donaldson, G W. Elves, J. W. Finlayson, H. G. Grant, F. W. Gerrard, Jas. Gerrard, G. C. Ganett, A. Hamilton, R. Hamilton, Jas. Hume, R. G. Hutson, A. Johnston, A. H. Jackson, O. Jones, R. Kaundeniya, A. Lambert, R. F. Lumley, John Logan, E. L. Watson, H. M. Mann, H. G. Meynell, S. Marsland, F. Macrae, W. Prater, J. Phipps, H. G. Parsons, Jas. Rose, H. T. Shaw, R. Smith, P. G. Tipping, R. D. Tipping, H. Tippets.

The Honorary Secretary, in introducing Mr. Cameron, remarked that the thanks of the Coorg Planters' Association were due to the Mysore Durbar for so readily lending Mr. Cameron's services on special duty, and that steps would be taken to express their appreciation through the proper channel.

Mr. Cameron having delivered an able lecture, which will probably be embodied in the report of his tour for the benefit of all concerned, was accorded a most hearty vote of thanks, which was proposed in a neat and appropriate speech by Mr. Chisholm, who, at the same time, thanked the Honorary Secretary in the name of the Association for organising Mr. Cameron's tour.

NOTE.—Mr. Cameron will submit a report of his tour to the Secretary, U. P. A. S. I., and has been asked to embody the main points of his lecture and suggestions in his report, so that all other Association may have an opportunity of acquainting themselves with his progress.

H. G. PARSONS,
Honorary Secretary.

WYNAAD.

Proceedings of the Annual General Meeting held at Meppadi, on 4th January 1899. PRESENT:—J. W. Hockin (*Chairman*), H. Atzenwiler, B. M. Behr, E. H. F. Day, R. Lamb, C. A. Mackenzie, D. Mackenzie, W. MacKinlay, J. R. Malcolm, B. Malcolm, J. S. Nicolls, H. S. Powell, S. Robinson, G. Romilly, M. D. Taylor, A. Trollope, W. G. Wright, and E. de Fonblanque, (*Honorary Secretary.*

ANNUAL REPORT FOR 1898.

The Honorary Secretary read the following report for the year:—

GENTLEMEN,

Your Committee now beg to tender their resignation and while doing so, propose to give you a short account of the past year's work.

Financial Condition of the Association.—At the end of the year, 1897, the Association had a debit balance of Rs.99-4-4, and there was also a disputed account of Rs.16 which was writing off; making a total deficit of Rs.115-4-4, which was reduced to Rs.18-4-4 by donations by Members. During the present year, subscriptions, sale of U. P. A. S. I. Proceedings and Labour Contract Forms have amounted to Rs.783-8-0, against an expenditure of Rs.712-14-6, leaving a balance to credit of the Association of Rs.52-5-2.

Members.—At the commencement of the current year there were 40 subscribers on the list of membership.

Of these, however, three (3) had to be taken off the Roll; one being dead and two leaving the district: leaving a balance of 37 Members.

Five (5) new Members joined, making a total of 42; but owing to the lamented death of Dr. Barboza, our ranks are now reduced to 41.

Meetings.—There have been ten Committee and eight General Meetings during the year; most of which have been well attended: and the result of the work, which has been chiefly of a local character has, we think, well rewarded their efforts.

Roads.—The main business of the year on the part of the Association has been to secure a Government Grant towards the up-keep of (1) the Choladi-Calicut and (2) the Chundale-Sultan's-Battery-Roads.

Your Committee have great pleasure in reporting that the continued efforts of the Association have at last been successful, and that after the recent inspection of the roads by Mr. W. B. deWinton, Chief Engineer, D. P. W., assisted by Messrs. Garrett and Wood, a Government order has been issued that a supplementary grant of Rs.10,000 in addition to the present grant of Rs.5,500 shall be given towards the up-keep of the Choladi-Calicut Road and that the Chundale-Sultan's-Battery-Road shall be re-made at a total cost of Rs.74,000 of which Rs.20,000 shall be immediately handed over to the D. P. W. for the necessary metal.

Your Committee feels that the Association is deeply indebted to Sir Arthur Havelock for his support in this matter and for the unremitting interest he has shown in all subjects affecting the welfare of the planting industry.

Pudu Padi Hotel.—Mr T. J. Ferguson has handed over to the Association Trust Fund of this Hotel, amounting to Rs.321-15-0 and also the mortgage on the building and furniture, of Rs.500. Messrs R. Lamb and J. W. Hockin have been appointed Trustees of the latter.

Your Committee would suggest that the salary of the Butler, amounting to Rs.180 per annum, be set aside out of the funds of the Association, so as to leave the reserve fund of Rs.321-15-0 intact, to meet emergencies.

Amendment of Rules.—At the commencement of the current year your Committee, acting under your instructions, revised the rules of the Association.

There are, however, a few alterations to be made in these and your Committee proposes that they should receive your attention.

U. P. A. S. I.—The Central Association has done good work for us in the currency question and in matters affecting the tea and coffee industries generally; and we have especially to thank them for the support they gave our agitation about our roads, which has ended so satisfactorily. Your Committee would suggest that the U. P. A. financial year should end as formerly on the 30th September; as this would make our financial year concurrent with that of the U. P. A. S. I., and enable us to pay our subscriptions to that body on the due date; which it is now impossible to do.

Coffee Robbery Reward Fund.—This fund has not been touched during the year and the balance of Rs.41-12-0 remain intact.

Your Committee would suggest that a new subscription list be circulated and the Police rewarded for the successful manner in which they have stopped the theft of coffee.

Plague.—The near approach of the Plague has caused some alarm in the district, but the Collector of Malabar has taken every possible precaution; not only to prevent its introduction, but also to stamp it out, if we are so unfortunate as to have it in our midst.

Cultivation.—Coffee crops are very good throughout the district, and we trust that we are now entering on a cycle of prosperous years. The competition of S. American countries with a low exchange threatens us, however, with lower prices for a time. Experiments with Arabica-Liberian Hybrids are being carried out on a considerable scale, and promise very valuable results. The cultivation is extending, and prices and yields are encouraging. The only cloud on the horizon of this cultivation is the unreliable nature of the labour, of which tea requires a steady supply throughout the year.

It is to be hoped that this may be overcome in time, but your Committee beg to draw your attention to the importance of making persevering efforts to solve this problem.

Pepper is becoming a cultivation of importance and is being extended: present prices and crops being very remunerative. Liberian coffee cultivation remains much as it was: it is doing well in parts, but is disappointing in others. On the whole your Committee consider the prosperity of the district has improved very much during the past year.

MARKET REPORT.

[*Advices per Mail of 13th January*, 1899.]

COFFEE.

The *London Commercial Record* states that there is no material change to report in the market during the week, the demand for colory Foreign qualities continuing good, whilst other descriptions are dull of sale and rather cheaper. Ceylon again realised extreme rates. Mocha neglected; Nyassaland sold at again cheaper rates. The market for "futures" has shown some slight fluctuations, and the closing prices are a shade dearer.

London	... Santos	... March delivery	...	31*s.* 6*d.*
New York	... No 7 Rio	... " "	...	5·65 cents.
Hamburg	... Santos	... " "	...	31¾ pf.
Havre	... Santos	... " "	...	38¼ francs
Holland	... Good ordinary Java		...	32½ cents.

Imports Deliveries and Stock of COFFEE in London are as follows:—

	Stock.		Imports.		Home Consumption.		Export.	
	1899.	1898.	1899.	1898.	1899.	1898.	1899	1898.
West India...tons	428	426	35	123	3	5	5	7
eylon	72	115	5	—	1	2	—	2
East India... ...	892	1124	10	93	36	63	9	9
Mocha	506	496	25	14	17	13	11	1
Brazil	3587	2847	4	20	58	31	30	21
Other Foreign.....	8749	4829	340	554	166	181	264	248
Total tons...14234	9837	419	804	281	295	319	288	

The preceding figures exhibit—

In the Imports a decrease this year of	385 tons
Home Consumption a decrease of	14 "
Export an increase of.....	31 "
Stock an increase of.....	4397 "

Auctions this week have passed off as under:—

CEYLON.—*Plantation.*—17 casks 9 barrels sold, triage 41*s.* to 43*s.*, smalls 44*s.* to 55*s.*, low middling 78*s.*, middling 100*s.* to 101*s.*, fine middling and bold 104*s.* to 112*s.*, peaberry 75*s.* to 110*s.*

EAST INDIA.—20 bags bought in.

NYASSALAND.—77 bags partly sold, ordinary mixed 34*s.*, fine ordinary 48*s.*

MOCHA.—138 packages bought in.

JAMAICA.—8 barrels 27 bags mostly sold, ordinary 32*s.* 6*d.*, soft greenish 54*s.* 6*d.*

TRINIDAD.—27 bags pale sold at 37*s.*

COSTA RICA.—821 bags mostly sold—new crop, mixed to fine ordinary small 28*s.* 6*d.* to 44*s*, fine fine ordinary 45*s.* to 52*s.*, low middling dull greenish 53*s.* to 58*s.* 6*d.* middling 62*s.* to 63*s.*, good middling to good colory 70*s.* 6*d.* to 77*s.* 6*d.*, good to fine bold 81*s.* to 94*s*, peaberry 71*s.* to 95*s.*

GUATEMALA.—733 bags partly sold—smalls 28*s.* 6*d.* to 29*s.*, fine to fine fine ordinary dull greenish 42*s.* 6*d.* to 48*s.* 6*d.*, middling 55*s.*

VERA PAZ.—Of 1,719 bags offered 480 bags sold—mixed small 26*s.* to 29*s.* 6*d.*, ordinary to fine ordinary pale and brownish 30*s.* to 38*s.* 6*d.*, fine fine ordinary 43*s* to 46*s.* 6*d.*, middling 61*s.* 6*d.* to 70*s.*

MEXICAN.—170 bags sold, damaged pale 30*s.* to 33*s.* 6*d.*, sound 35*s.*

VENEZUELAN.—Of 486 bags offered 150 bags sold, ordinary 41*s.* to 42*s.* 6*d.*, low middling grey 55*s.*

COLOMBIAN.—2,388 bags partly sold, ordinary mixed and damaged 28*s.* 6*d.* to 40*s.*, fine to fine fine ordinary pale and pale gray 38*s.* to 51*s.*, soft greenish mixed red 52*s* to 58*s.*, middling to good middling colory greenish 60*s* to 71*s*, bold 77*s.* to 93*s*

GUAYAQUIL.—Of 1,375 bags catalogued 300 bags sold, damaged pale 33*s*, sound pale 35*s.*, greenish 44*s.*

BRAZIL. 260 bags washed Santos, sold, good at 44 to 45*s.*, small 33*s.* landed terms.

Receipts in Rio and Santos.

Since July 1	1898-9. Bags.	1897-8. Bags.	1896-7. Bags.	1895-6. Bags.
Rio	1,914,000	2,832,000	2,306,000	1,689,000
Santos	3,959,000	4,597,000	3,713,000	2,473,000
Total	5,873,000	7,429,000	6,019,000	4,162,000
Crop	—	10,461,000	8,680,000	5,489,000

Rio Exchange 7⅜*d*, previous day 7⅜*d.*

Prices at the close were unchanged.

Messrs. Wm. Jas. & Hy. Thompson say:—

Public sales were resumed on the 5th inst., and since then supplies have been extensive. holders being anxious to sell old stocks now that the new Coffees are coming in. Except for the better qualities, which have sold fairly well, the demand has been very slack, ordinary and medium kinds being very difficult of sale even at a reduction on prices ruling before

the holidays. The few shipments of new crop Neilgherry to hand realized very full prices, the quality so far being poor. Brazil markets have been quiet and lower on larger receipts.

Futures have fluctuated slightly, but the tone throughout has ruled weak, and closing prices show a decline of 3*d.* to 9*d.* per cwt., *viz.* :—Good average Santos in Havre, March delivery, fcs. 38·50, in Hamburg pf. 32, and No. 7 low ordinary Rio in New York $ 5·65.

According to Messrs. G. Duuring & Zoon, the stocks at the European ports on the 1st instant shewed an increase of 2,050 tons, and the total visible supply a decrease of 23,430 tons, being estimated respectively at 224,500 tons and 386,860 tons, against 222,450 tons and 410,290 tons on the 1st December.

Daily receipts averaged 13,100 bags in Rio, and 17,000 bags in Santos

To-day's London official quotations are :—

	Dec.	Mar., '99.	May.	July.	Sept.	Dec.
SANTOS ...	31/	31/6	32/	32/6	33/3	33/6

We quote :—

Ceylon, mid. to good mid.	102/ @ 107/	*Costa Rica*, mid. to fine...	67/ @ 104/
Do. small to low mid.	79/ „ 99	*Do.* ord. to low mid.	37/ „ 64/
East India, mid. to good mid. ...	72/ „ 95/	*Jamaica*, good to fine ord	34/ „ 45/
Do small to low mid.	57 „ 79/	*Do.* greenish to fine colory	60/ „ 120
Guatemala, mid. to fine.	63/ „ 100/	*African* ...	26/ „ 28
Do. good ord. to low mid. ...	36/ „ 52/	*Columbian*, ordinary ...	34/ „ 39/
Salvador, good ord. foxy greenish ...	37/ „ 40/	*Do.* good ord. to low mid. ...	40/ „ 61/
		Do. mid. to fine ...	63/ „ 100/

Prices realized at auctions for the principal Marks of East India :—

NEILGHERRY.

	A	B	C	PB	T		A	B	C	PB	T
Adderley	97/-	70/-	62/-	101/6 bid	42/-	Manaar	70/- bid	55/- bid	49/-	74/-	37/6
„	100/-	80/6	59/-	101/6 bid	39/-	Chengal	94/6	66 6 bid	59/6	80/- bid	41/-

TEA.

The *Record* says :—CHINA.—Congous are in poor request, but prices continue at the old level. Auctions have offered only small supplies which have partly changed hands at about valuations.

During the week 2,851 packages have been brought to the hammer and partly sold.

INDIAN.—Public sales were heavier, amounting to 44,900 packages compared with 31,000 packages last week, and 59,000 packages for this period a year ago.

The improved tone previously noticed was further accentuated and the auctions passed with spirited bidding for nearly all descriptions, attention being principally concentrated on common to fair and finest grades A rise since the holidays of ¼*d.* to ½*d.* per lb. on the former, and in some instances quite 1*d.* per lb. on the latter may be consequently recorded, which seems amply justified by the unusually strong statistical position. From the Board of Trade returns recently published, Home consumption during the past 12 months in the whole of the United Kingdom as also exports mark a considerable expansion as will be seen by the following figures :—

	1898. lbs.	1897. lbs.	1896. lbs.
Home Consumption	133,430,000	124,534,000	122,941,000
Exports from here	7,856,000	5,497,000	4,306,000
	141,286,000	130,031,000	127,247,000

This, coupled with latest advices that the 1898 crop will probably not exceed that of 1897, should impart further strength to the position.

For 34,900 packages offered on Estate Account 8⅞*d.* per lb. was obtained versus 8½*d.* per lb. for 4,400 packages and 9¼*d.* per lb. for 40,500 packages in the two preceding seasons.

CEYLON.—A larger quantity was brought forward, aggregating 27,400 packages, opposed to 19,600 packages on the 3rd instant, and 24,100 packages at this time of 1898.

There was a steady demand generally, especially for Teas under 7*d.* and over 1*s.* per lb., but between these prices quotation were somewhat irregular, parcels with attractive cup being dearer, while the less desirable ones often shewed a decline.

The average is 8¼*d.* per lb ; on the 5th instant, it was slightly over 8*d.* per lb. and 8¼*d* per lb. at this time in the foregoing year.

JAVA.—Rather under 500 packages of direct import were submitted to competition, and went off well, over valuations in most cases being secured

DELIVERIES.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns were :—

From 1st to 10th January 1899 ... .. 5,722,806 lbs.
„ „ 1898 ... ... 5,413,290 „

During the week the following have been printed for sale by public auction :—

	Sold. Pkgs	Withdrawn. Pkgs.	Total offered. Pkgs
India	42,078	2,808	44,886
Ceylon	25,602	1,839	27,441
Java	404	67	471
Total...	68,084	4,714	72,798

Also 1,074 packages from second hands.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, of January 13th, 1899, states :—

QUANTITY BROUGHT TO AUCTION IN LONDON
FROM 1ST JUNE TO DATE.

	Indian.	Ceylon.	Java.
1898-1899.	1,008,201 pkgs.	707,478 pkgs.	27,826 pkgs.
1897-1898.	1,018,044 „	733,804 „	26,053 „

45,845 pkgs. Indian
26,931 „ Ceylon
471 „ Java
} Total 73,247 packages were offered in public auction this week.

Customs figures for the year 1898 indicate expansion in Tea consumption at home, Indian and Ceylon together showing an increase of six million lbs. ; re-exports of these grades are also encouraging.

Quantity of Tea (in lbs.) on which Duty was paid at all Bonded Warehouses in the Kingdom from 1st Jany. to 31st Dec.

	1898.	*per-centages.*	1897.	*per-centages.*	1896.	*per-centages.*	1895.	*per-centages.*
Indian ...	133,430,351	57	124,534,194	54	122,941,098	54	116,343,314	53
Ceylon ...	82,471,745	35	85,493,554	37	80,294,475	35	74,023,809	33
China ...	14,695,334	6	17,242,247	7	19,831,680	9	26,201,374	12
Other Countries...	4,816,675	2	4,129,783	2	4,718,256	2	5,231,640	2
Total lbs.	235,414,105		231,399,778		227,785,509		221,800,137	

Indian and Ceylon Tea (in lbs.) exported from Great Britain, from 1st January to 31st December.

	1898.	1897.	1896.	1895.
Indian ...	7,855,495	5,711,240	4,399,640	3,973,531
Ceylon ...	11,522,434	10,683,885	8,496,663	7,147,086
China ...	15,786,150	19,992,024	20,073,413	18,439,724
Other Countries ..	1,179,173	967,574	1,058,090	991,907

Indian. For the commencement of the year supplies were comparatively moderate ; bidding was animated, and a further slight advance on the improved prices noticed last week must be recorded. At the same time the present value of Indian Teas continues unusually low.

Ceylon. 26,931 packages were brought forward, against 19,883 last week. Competition throughout the auction was good, and late prices were fully maintained, the tendency, if anything, being towards slightly firmer rates.

Average for week 8·03d., against 8·13d. for same period 1897.

Ceylon Tea sold on Garden Account, 1st Jan. to date 1899, 44,756 pkgs., av., 8·03d. 1898, 46,362 pkgs., av., 8·28d.

		1899.	1898.	1897.	1896.
PEKOE SOUG.	(Ordinary leaf ; fair liquor)	6½d.	6½d.	6d.	6½d.
PEKOE	(Ordinary leaf, little twist ; fair liquor)	7¾d.	7½d.	7d.	7¾d.
PEKOE SOUG.	(Rather bold leaf, indifferent liquor)	5½d.	4⅝d.	4⅝d.	5½d.
PEKOE	(Somewhat bold leaf ; indifferent liquor)	5⅝d.	5⅜d.	5½d.	5⅝d.

Java. Only 471 packages were brought forward and sold at steady prices.

Bank Rate 4 per cent. Exchange on London three months sight :—
Calcutta 1/4 9/32. Colombo 1/4 9/32.

COCOA.

According to the *Record* :—Catalogues on Tuesday comprised the very large quantity of 11,549 bags, but demand proving rather good holders were able to clear practically half of their offerings. Nevertheless, the tone was quiet, prices realised being 6d to 1s per cwt. below valuations, and only West India growth found buyers. Of 1,670 bags Trinidad, 600 bags were placed at 73s to 75s for middling to fine red—a decline of 6d to 1s per cwt. Grenada growth was represented by the huge quantity of 2,266 bags, of which the great bulk sold at 6d to 1s below valuations, *viz.*, 71s to 72s for superior, 69s to 70s 6d for good to fine red, 67s to 68s for fair ditto, and 64s 6d to 66s for common red. Of 1,445 bags Dominica the greater part found buyers at 63s to 66s, being also about 1s per cwt. below recent quotations. Of the Ceylon offered about 200 bags sold at prices

exhibiting 1s decline on common grades, better qualities bringing about recent rates; good red realised 73s to 75s per cwt. Since the auctions the following sales have been effected:—200 bags Grenada at 70s 6d for good red, 100 bags good St. Lucia at 65s to 68s, 500 bags San Domingo at 62s to 65s, 500 bags African at 67s to 68s, 1,200 bags Guayaquil—greyish to fine Caraquez 69s to 74s, Winter Arriba 70s to 71s, good greyish 76s to 77s, and 900 bags Ceylon at 68s to 75s 6d for fair to good, and 62s to 69s per cwt. for collected.

PEPPER.

Black.—A very firm market prevails, and prices have again advanced. Singapore on the spot has sold to the extent of nearly a 1,000 bags at 4⅝½d to 5d, whilst to arrive 5¼d has been paid for January-March and 5⅛½d for March-May, also March delivery at 5 3/32d to 5¼d; transactions 250 tons. Tellicherry has sold on the spot at 4 15/16d per lb., and to arrive 100 tons done—February-April (s.) at 45s 3d to 46s per cwt. c.i.f. delivered weights and 5 1/16d per lb. landed terms.

At auction on the 11th inst. 279 bags Singapore were offered, of which 40 bags sold at 4⅝d for mixed greyish and 4½d for very light shelly, Penang character. Of 530 bags Penang 70 bags were placed at 4⅜d per lb. for 4lbs. 2 ozs., dust 1·80 % per gallon measure.

Market closed—strong and dearer, with few sellers. 100 tons Singapore sold at 5 1/16d spot, and at 5⅜d Jan.-March shipment.

10 tons Tellicherry Black sold at 46s c.i.f. delivered weights March-May London, also 15 tons ditto at 46s 6d c.i.f. delivered weights Hamburg.

White has likewise further risen. Fair Singapore on the spot has sold at 8¼d to 8½d, good at 9d, fair Penang at 7⅝d, and fair Siam at 8¼d. To arrive 100 tons have changed hands at 8⅝d for Singapore January to April (s.), 7⅞d to 7 15/16d for Penang January-March (s.), 8½d for Siam near at hand, and 8⅝d per lb. for ditto January-March (s.)

At public sale on Wednesday 348 bags Singapore nearly all sold at 8⅞d to 9d per lb. for good. 96 bags Siam sold before the auctions.

Closing tone—firm. Singapore Jan.-March shipment 8⅝d, and spot at 8 9/16d. Penang on the spot sold at 7¾d.

Sweet red.—14 cases Spanish retired at 55s per cwt.

GINGER.

Cochin is a very poor trade, and of 83 cases 306 bags catalogued only 5 cases 20 bags sold—cut small and tips wormy 32s, boldish brown rough, sea-damaged, 20s to 22s per cwt.

Japan is dearer, 65 bags medium and small plump limed selling at 18s 6d per cwt.

Jamaica.—125 barrels all retired unsold.

INDIA RUBBER.

With larger receipts at Pará—1,300 tons to date—prices are weaker and not much demand, and several sellers. Fine hard is about 4s, soft 3s 11¼d to 3s 11½d, with some forward business thereat. Sellers of scrappy 3s 6d to 3s 7d. 90 cases Peruvian and 60 cases fine old hard Pará sold privately.

The following are particulars of to-day's auctions:—

Pará.—18 cases sold, weak fine 3s 9¾d to 3s 10d, weak entrefine 3s 8½d, Cameta negroheads 2s 11d to 3s, mixed coarse and entrefine 3s 7d.

Peruvian.—42 cases sold, fine 3s 11½d, coarse entrefine 3s 9¾d, middling ball 3s 4¼d, scrappy negroheads, poor quality 3s 3d.

Mollendo.—30 bales sold, fine 3s 10d, entrefine 3s 9d.

Mangabeira.—16 cases offered and 12 sold, fair to clean sheet 2s 5d to 2s 6d.

Columbian.—18 bales offered and 6 sold, ordinary to fair scrap 3s 2½d to 3s 4d.

Central American, &c.—237 pkgs. offered and 80 sold, virgin scrap 2s 8d, thick sheet 2s 4d to 2s 5d, Guatemala tarry damp sheet 2s 2½d to 2s 2¾d.

Mozambique.—130 bags offered and 65 sold at high prices; good and fine red ball 3s 7¾d to 3s 8½d, Lamu ball good 3s 2¾d.

Nyassa.—Good clean livery ball, 3s 5d to 3s 5½d.

Madagascar.—17 packages retired above value.

Penang.—82 cases offered and 13 sold, good pickings 1s 2d, mixed damp 1s 6½d per lb.

Borneo.—12 cases sold, mixed part dead 1s 4d, very low pickings 11d per lb.

Assam.—8 packages sold, common pickings 1s 3½d to 1s 5d.

PUBLIC SALES FOR SOUTH INDIAN TEA.

(AVERAGE FOR ALL INDIA 8·72d.) *January 13th.*

GARDEN.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust, and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price.
Neilgherry ...	**200 p**	**6·98**												
Brooklands ...	171 p	7¼	101 p	7½ † 7¾	40 b	6¾	...	...	.	...	30 b	5½	...	...
Glenmorgan ...	29	5¾	4	7¼	5	5¾	17	5½	2	5¼	...	...	1	4½
South Wynad ...														
Erramaculla ...	142 p	8¼	.	...	26½c	9¼	51½c	11½	26	7¼	30	6¼	9½c	7¼
Perrindotty ...	36½c	8	25 c	† 8¼	...	...	11½c	7¾	...	...	...	..	...	...
Travancore ...	**701 p**	**6·72**												
Herefold ...	111	5¾	72	5½ 7	15	5¼	...	...	21	5	...	...	3	3½
Isfield T Co Isfield .	93	6¾	.	...	23	6¼	49	7½	21	5½	...	...	...	...
Travan T E Co BA..	497 p	7	..	...	187	6¾ 7¼	142	7½ 8	23	6½	16	5½	129 p	5 7¾

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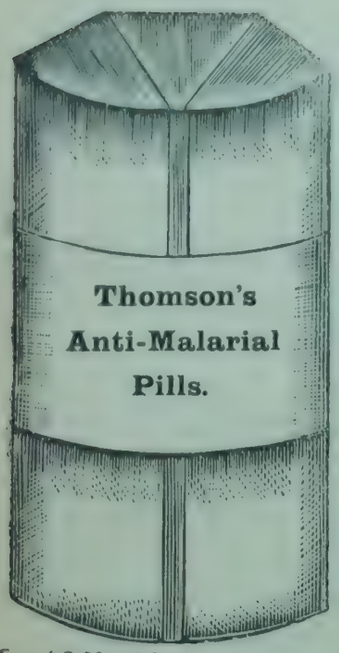
[Fy.] **ESTIMATES AND PRICE LISTS ON APPLICATION.**



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GENTLEMEN,—Please send me two bottles of Thomson's Anti-Malarial Pills by V. P. Parcel. Last one bottle yo sent proved very useful. Please send as early as possible.

(Signed) T. V. GUTNE, *Coffee Planter, Bairchalli Estate, Hanabalu, Hassan Distric*

DEAR SIRS,—The fever pills (Thomson's) I have used both personally and for my Assistant and in very many case for coolies and have found them always efficacious.

(Signed) H. ROWLAND NEWPORT, *Manalore Estate, Ahtoor, Madura District*

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COLLINGWOOD & Co., EUROPEAN PHARMACISTS, *Mount Road, Madras.* (Signed) J. D'VAZ, *Greenfield Estate, Sidapur, S. Coorg*

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PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

VOL. IV.] MADRAS, SATURDAY, FEBRUARY 11, 1899. [No. 6.

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DOMESTIC OCCURRENCE.—The fee for inserting a domestic currence will be *One Rupee* for each insertion, payable in advance.

N. B.—Remittance should be sent to E. C. Duff & Co., Proprietors, Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 17th instant. Season reports should be sent direct to the Printers, Messrs. HIGGINBOTHAM & Co.

Please note the change of address.

SOILS OF ARID REGIONS.

S. E. Wynaad. DAVALA, *8th February* 1899.—*Weather.*—The weather is very hot during the day and cloudy at intervals and cool at nights.—*Crop.*—Stripping is the work. The crop will be over the estimate, but the price is very poor and the natives are selling at 40 Rs. per pulla. Grain-gram 20, rice 9 and 10, raggi 18 and cholum 20 measures per rupee. *Interesting Items.*—We have had no police night beat and lucky there are no coffee thefts in this District.

Coorg. POLLI BETTA, *8th Feby*—*Weather.*—The clouds made a terrible demonstration yesterday, but fortunately no rain came of it. Spike is very forward on coffee that has been bearing lightly. Rain might set this; but it had best come next month. *Crops.*—Picking, stripping and gleaning going on. I hear one estate has finished pruning in the western part of the district and others are well forward. Crops next season can't be as good as they are this, but they ought to be fair. New Paddy straw coming in, and is obtainable at 18 Rs. per 1,000 bundles.

PLANTER AND COOLY.

We do not propose to say very much about the Government of India's resolution on the report of the South of India Planters' Enquiry Committee. The finding of the Committee and the remarks of the Madras Government, are in striking contrast to the treatment accorded to the subject by the Government of India. That august body has had the matter before it for over a year, and can now do little more than authorise the Madras Government to put the recommendations of the Committee "for closer examination into legal form." The Government of India has been compelled to distinguish between labour conditions in Assam and in Southern India; it has been educated at last to a knowledge that the South Indian planter really has a grievance; but its admissions on the subject are made reluctantly and grudgingly, and the outcome of all proceedings hitherto amounts to little more than permission to "apply again." Nevertheless, we feel sure that both the Madras Government and the planters will avail themselves of the opportunity that is afforded them, and will turn it to good account. The drafting of a bill is a work of time, and cannot be begun too soon. If the U. P. A. S. I is consulted while the work is in progress, so much the better. It is at least certain, however, that the Planting Member of the Legislative Council will have a hand in the work, and Mr. HODGSON may be trusted to see that things are put on an equitable footing. He has to effect something like a compromise between the stringency of a Labour Act of the Assam stamp and the inefficiency that results from the entire absence of an effective law. He has to steer through the shoals of extradition, yet to arrange that the law of the Madras Presidency shall not be stultified by any cooly who is able to cross the border from British territory to Native. He has to see that reasonable provision is made for official inspection of plantations and the enforcement of sanitary regulations. All this has to be done, not to the satisfaction of a sympathetic Local Government, but so as to pass the criticism of the Government of India, which obviously looks at the matter in the spirit of the fault-finder to whom nothing new is good.

The statement made by the Government of India that "a statutory labour contract for a long term is not required" is immediately followed by the remark that "if it is found necessary to prescribe a statutory contract, the Governor-General in Council considers that the labourer should be at liberty to rescind it at any time without notice on repayment of the advances due by him and of specified forfeit money, and will notice on repayment only of the advances due." Some careful drafting will be necessary here, for the Government regards the matter mainly as if it were a Heaven appointed Defender of the Cooly, and could leave the Planter to defend himself. It is obvious that the forfeit clause will be useless unless a sum is fixed that will act as a deterrent. If only a small sum were named, the condition of things would be dangerous to the planter. So also as regards the term of notice: it must not be too short. If less than six months, occasions might easily, and probably would often, occur where the planter would lose his labour just at crop time, and find himself shut out from any redress or compensation. Moreover, the Government of India rules that the contract should be liable to be cancelled by a Magistrate on specified grounds. This is a point that will need care, for it happens only too often that Magistrates are not competent to decide between planter and coo We could imagine a state of magisterial administrati under which the planter would gladly see wide discret left to individual magistrates. But India has not y arrived near any such state of perfection, and considera allowance must be made for the influence of "general pos and the inexperience of many members of the magistracy w may from time to time be called upon to decide the claims a counter-claims of estate employer and employed. That t enforcement of a contract by a Magistrate should strictly conditional on the labourer having been prope treated by his employer, is right and proper, but su impartiality demands that there should be no cancelm on the part of the labourer unless he proves that he *not* been properly treated. No doubt, Government m protect the ignorant cooly more carefully than the m intelligent planter, but in doing this it must at least av putting a new premium on fraud or on evasion of contra

It is possible that the new head of the Government India may take a different view of this subject fr that expressed by his predecessor. Lord CURZON may adopt as readily as Lord ELGIN has done the opinions Calcutta Civilians, whose knowledge of planting matt must, of necessity, be largely biassed by the affairs Assam. We trust this will be so, but the bill that to be drafted must be drafted so as to meet hos criticism. It should err on the side of leniency to cooly rather than power to the planter. Every word o should reflect a desire merely for reasonable safeguar The planter must have labour, he must pay advanc and contracts thus become a necessity. What he ask simply that these contracts shall be under the *ægis* the law, so that his money may not be embezzled and be left stranded without labourers at critical seasons. real difficulty crops in at any frontier that divides Nat States from British territory. The Native States wo welcome an Extradition Act, but the Government of I would not. To meet this difficulty, a sort of system of r procity was suggested; and the Government of India has decided that there would be no objection to including in new Bill a provision for the execution in the Madras Pr dency of criminal processes issued by certain courts, u due safeguards, of the Native States of Mysore, Travan and Cochin, if and when and as long as a similar law i force in each such State. This is only a *one*-sided reciproc if reciprocity it can be called, but perhaps this results me from careless drafting. At any rate, we presume that e of the above States, when following the Madras lead, w insist on a similar reciprocity clause adapted to its own ne so that when all the new Acts came into force there woul full and complete reciprocity. The matter is a very diff one to handle, for it is highly desirable that the legal machi employed should be of the simplest, and that all comple should be avoided. We can only hope that the bill de will be drafted promptly, and that then things wil allowed to move more slowly, so that planters may have a time to review its provisions.

COFFEE TO REPLACE TEA!

A Kurseong co-respondent writes to *Indian Gard* that coffee grows well in the Terai at about one to two t

sand feet elevation, and says:—"Why not suggest in your next that the Terai tea gardens that are being given up should be turned into coffee plantations? Coffee berries are Rs. 60 per maund at Calcutta. Coffee grows well, but wants shade, and the castor-oil plant (*Ricinus communis*) will give good shade and a bye-product in the seeds. I have some berries now which have been sent to me from a garden here." We are somewhat surprised to find our contemporary remarking upon this:—"The suggestion appears to us to be a good one; and taken in the light of the abandonment of tea gardens in the Terai, well worthy of consideration. Only last Saturday the valuable garden of the Central Terai Tea Company, Ld., of 2,300 acres, with 412 acres planted with tea and a large area under forest, was sold by public auction for Rs. 31,000, the purchaser being Babu S. K. Dass." This would seem to denote a belief that Coffee pays better than Tea just now! We scarcely think that any of our practical tea-*cum*-coffee planters in the South would endorse a statement to this effect! If coffee were grown on a small scale in the Darjiling Terai, merely to meet local consumption, it might be a profitable speculation; but everything goes to show that there is not much room at present for profitable extensions of Coffee growing in India *for Export*.

EXCHANGE OF SEEDS.

THE improvement of strains involves, apart from hybridisation, not merely careful selection of seeds, but a certain amount of importation of seeds from other estates or districts. It has occurred to us that either the U. P. A. S. I. or we ourselves might facilitate the importation of such seeds from abroad, even if interchanges between estate and estate, district and district, were to be carried on without assistance. To do what we propose, we should have either to *buy* foreign seed, or to exchange Indian seed for it. The latter course would seem to be preferable, and to this end we should be glad to register the names of planters who are willing to supply us with carefully selected Coffee seed (and Tea seed, if desired) on the understanding that we use our best endeavours to effect exchanges with cultivators in foreign lands, and then distribute the seed thus received among the planters who furnish us with the means of barter. As an instance of what we think might be done in this direction, we refer readers to our article in present issue, headed "Varieties of Coffee." There is nothing new in this article; but a practical application might be given to it if, offering Indian Coffee seed in exchange, we were to ask the authorities of the Royal Gardens at Kew, at Trinidad, and elsewhere, to supply us with seed of *Stenophylla*, *Maragogipe* and other varieties, for experimental purposes on South Indian estates. It is a mere suggestion on our part, and is thrown out somewhat hesitatingly. If it should commend itself to our readers they will find us very ready to carry out their wishes, whether they desire to receive seed of some special variety or from some particular place, or merely leave it to us to deliver to them such varieties or seeds as come to hand. As far as possible, we would arrange to deliver "weight for weight;" and our services would be free of charge. Should planters prefer to work through the U. P. A. S. I., we have little doubt that that Association would be as willing as ourselves to assist the good works of improvement of strains and introduction of new varieties. Perhaps it should be added that if cacoa, or rubber, or vanilla, or seeds of any other products, are wanted in exchange for seeds of the same or other products, we would do our best to arrange accordingly. Such experience as we have had of correspondence with experts in various parts of the world, leads us to believe that they would cordially co-operate in any scheme for the interchange of seeds on a fair basis, and not for trading purposes.

"PLANTING OPINION."

Our readers will, we trust, have observed that an attempt is being made not merely to give publicity to *opinions* on planting matters but to place *facts* before planters. Information is being obtained from various parts of the world and in reference to different products, plants, fertilisers, &c. Current market advices are also receiving attention, and scientific papers on matters connected with the planting industry are not neglected. Before definitely deciding upon a plan of selection, however, we wish to appeal to our readers for advice. Many among them will, we know, gladly give us hints as to what they think would interest planting readers; we trust that even those who have not the same friendly interest in our welfare will, for the sake of the community they belong to, jot down a few words or figures on the addressed post cards we inclose for the purpose, so as to show to what style of literature they would wish us to give preference, and what innovations, if any, they would suggest. To us it seems that the first thing is to settle the order of merit (or importance) of the following heads or departments:

A	Crop and Season Reports.
	Practical papers on planting subjects.
	Scientific " " " "
	Correspondence " " "
	Statistics, quotations and market reports.
B	Short stories.
	Section for the Ladies.
	Serial story.
	District affairs (other than planting matters).
	Sporting.

It will be seen that group B is not included in *Planting Opinion* at present. If, however, there is a consensus of opinion that all or any of these items ought to be added, arrangements might be made accordingly. All we ask each of our readers is to set down in the space left for the purpose in the inclosed post-card the order of precedence that he recommends, *e.g.*, if he thinks crop reports most important, No. 1 will be set against the item; if scientific papers rank next, No. 2 will be put opposite this section; and so on. That there must be a wide diversity of opinion on this point, goes without saying; so we do not profess that we shall try to fall in with *every one's* ideas. Our desire is to treat the matter as a sort of ballot and to be mainly guided by the wishes of the majority should a sufficient number of our subscribers favour us with an expression of their views. This we sincerely trust they will do.

THE AMERICAN MARKET.

Tea.—From interesting remarks in the *American Grocer*, we learn that the year 1898 closed with tea showing an advance almost equivalent to the duty imposed, though on some grades prices at the beginning of 1899 were not more than 8 cents a pound higher than when the tax was imposed. Importations

were much lighter in the year ending 30th June 1898, than in the last preceding year, the figures being

1897-98	...	...	67,696,339 lbs.
1896-97	...	...	112,907,548 „

Messrs. James and John R. Montgomery report that the estimated supply for the season of 1898-99 is 80,000,000 pounds, of which 57,327,605 pounds were received to January 1st, at which date 7,539,685 pounds were afloat, leaving to be shipped 16,131,710 pounds. The effect of the tea exclusion Act has been to improve the general character of the supply, to send into distribution considerable quantities of low grade tea, which had been held here for years, and to give the market a much healthier and better tone. The year closed with prices firm. The same firm report the statistical position of China and Japan tea for United States and Canada on January 1, as follows (in pounds):

Total afloat to Jan. 1, 1899	... 7,539,685
Receipts to Jan. 1, 1899	... 57,328,605
Total shipment advised by mail ...	... 64,868,290
Leaving to be shipped	... 16,131,710
Estimated supply, seasons 1898 and 1899	... 81,000,000
Supply, seasons 1897 and 1898 ...	... 87,711,780
Afloat, January 1, 1898	... 3,995,301
Receipts to Jan. 1, 1898	... 71,303,603
Total shipments advised by mail to Jan. 1, 1898	... 75,298,904

We may add that *rejections* have been by no means merely nominal. At the port of New York from May 1st to November 3rd, 1898, the following were sustained by the Board of United States Appraisers :—

	Green.	Pingsuey.	Japans.	Dust.
Packages	536	9,775	404	155
Estimated pounds ...	30,420	387,000	30,900	12,500
	Foochow.	Anoys.	Congous.	Canton.
Packages	732	1,564	1,745	30
Estimated pounds ...	36,000	60,000	10,000	1,500

—making in all 15,241 packages of 658,320 pounds.

The following are statistics of Imports :—

Year ending June 30—	Net imports Pounds.	Value. Dollars.	Av. import price, ₱ lb —Cents.	Per capita population Pounds.
1880 ...	69,894,769	18,983,318	27.4	1.39
1881 ...	79,130,849	20,225,418	25.7	1.54
1882 ...	77,199,903	18,975,006	24.6	1.47
1883 ...	69,597,045	16,257,894	23.5	1.30
1884 ...	66,901,944	13,313,200	20.2	1.19
1885 ...	66,374,365	12,135,782	19.5	1.18
1886 ...	78,173,151	15,185,265	19.6	1.37
1887 ...	87,451,186	16,365,633	18.7	1.49
1888 ...	83,944,547	13,151,171	15.8	1.40
1889 ...	79,192,353	12,661,812	16.0	1.28
1890 ...	82,494,956	12,219,543	15.0	1.33
1891 ...	82,395,924	13,638,785	17.0	1.9
1892 ...	81,610,741	14,261,411	16.0	1.37
1893 ...	88,151,083	13,651,800	16.0	1.32
1894 ...	91,801,565	13,857,893	15.1	1.34
1895 ...	96,437,042	13,021,968	13.5	1.38
1896 ...	93,340,248	12,585,741	13.5	1.31
1897 ...	112,907,548	14,737,052	13.1	1.55
1898 ...	67,696,339	9,608,252	14.2	0.91

Coffee.—The year 1898 is referred to as a record breaker both as regards the supply and demand. The total supply in Europe and the United States was 14,571,902 bags, an increase over 1896-97 of 2,327,698 bags. To this Rio and Santos contributed 10,462,000 bags; Brazil furnished 76 per cent. of the imports into the United States, against 57 per cent. of the total ten years ago. The world's visible supply December 1, 1898, was 6,969,155 bags or nearly one-half the world's crop for one year. Our New York contemporary observes that coffee production has been on the increase almost everywhere on the Western continent wherever coffee will grow, and it is questionable if the full productive limit of the industry has yet been reached. The deliveries since July have been running lighter than for the same months in 1897, probably because in the spring of 1898, they were phenomenally heavy owing to the withdrawal of stock from licensed warehouses in anticipation of a duty being levied and as deliveries are regarded as consumption, the record is somewhat misleading. Low prices have undoubtedly increased the use of coffee, but not to the extent indicated by the deliveries for the year ending June 30. The total sales for the year on the New York Coffee Exchange were 4,213,000 bags, against 4,028,250 bags in 1897. The average cost of coffee has been lower on Brazil and Central American sorts, while Padang coffee has maintained its price.

The average annual spot cost of coffee is shown as follows.

	No. 7 Rio. Cents.	No. 3 Rio. Cents.	Maracaibo. Cents.	Padang. Cents.
1898 ...	6.30	7.04	8.37 @ 9.14	24.04 @ 24.99
1897 ...	7.73	11.06	12.92 @ 13.45	23.59 @ 24.71
1896 ...	15.00	16.22	13.88 @ 14.30	23.68 @ 24.31
1895 ...	15.83	18.64	17.00 @ 20.88	26.54 @ 27.12
1894 ...	16.40	18.61	18.78 @ 21.02	21.29 @ 23.48
1893 ...	17.08	19.28	19.00 @ 22.17	21.42 @ 25.37
1892 ...	14.43	18.33	16.15 @ 22.41	25.73 @ 26.85

The last Padang sale showed an advance on most marks. Java coffee occupies an exceptional position in the coffee market, maintaining a higher range of prices than is warranted by intrinsic value as compared with other growths, and all, it is observed, "because of the pronounced demand and popular prejudice for Sumatra and Java coffees."

The following are statistics of Imports :—

Year ending June 30—	Net imports Pounds.	Value. Dollars.	Av. import price, ₱ lb —Cents.	Per capita population Pounds.
1883 ...	475,702,125	38,155,251	8.2	8.91
1884 ...	508,652,863	46,955,394	9.3	9.26
1885 ...	539,64[illegible],356	43,[illegible],270	8.2	9.60
1886 ...	53[illegible],211,781	40,147,[illegible]04	7.6	9.36
1887 ...	600,819,587	52,416,200	10.7	8.53
1888 ...	40[illegible],552,75[illegible]	5[illegible],670,737	14.0	6.81
1889 ...	56,132,100	7[illegible],39[illegible],857	13.0	9.16
1890 ...	490,161,900	76,750,[illegible]79	16.0	7.83
1891 ...	511,041,051	9[illegible],528,119	*19.0	7.99
1892 ...	62[illegible],71,748	126,[illegible]95,317	*20.0	
1893 ...	551,[illegible]95,50	78,[illegible]44,[illegible]96	14.0	
1894 ...	5[illegible]7,068,[illegible]94	8[illegible],6[illegible]0,[illegible]72	16.4	8.01
1895 ...	6[illegible],3[illegible],766	94,[illegible]99,880	14.7	9.22
1896 ...	572,671,840	83,[illegible]34,3[illegible]6	14.6	8.04
1897 ...	724,55[illegible],536	7[illegible],892,943	11.0	9.55
1898 ...	851,[illegible]91,346	62,6[illegible]4,241	7.3	11.04

* Overvalued by reason of depreciation in Brazil paper milreis.

A comparison of quantities and values between 1892 and 1898 is somewhat startling!

COFFEE IN DISTANT LANDS.

IV.

Peru.—In a pamphlet published in 1894 it was stated :—"Peru has been known for many years as a coffee-producing country, but the coffee grown on the Coast has been absorbed by domestic consumption, and Peru's appearance as an exporter of coffee is of recent date, although she is now likely to be a considerable competitor with other countries. Coffee planting began and coffee is still cultivated near the port of Pacasmayo with success. But although the cultivation on the Coast could be somewhat extended it must always remain restricted, as there are only certain favoured localities in which the planter can hope for a good return."

"The region which Peru offers to the coffee planter, unsurpassed in fertility and almost unlimited in extent, is

situated on the Eastern slopes of the Andes at a height of from 6,000 to 2,000 feet above the sea, among the net-work of streams and rivulets that find their way into the great affluents of the Amazon. This region, known as the Montaña, has hitherto been shut off from the world by lack of communications, and above all by the difficulty of crossing the high ridge of the Cordillera that bars it from the Coast. In spite of these difficulties coffee has been cultivated both in the South in the gold-bearing districts of Sandia and Carabaya, and in the centre of Peru in the Valleys of Chanchamayo, Vitoc and Huanuco. It is the Chanchamayo district, for most of the coffee that passes under the names of Vitoc or Huanuco comes from Chanchamayo, which is the real coffee-planting district of Peru, and it is the production of this region that has elevated Peru to the rank of a coffee exporting country. This is due to the completion of the Central or Oroya Railway by the Peruvian Corporation to its present terminus at Oroya, giving railway carriage over the crest of the Cordillera, and also to the opening up of the Perene and adjacent valleys which form its prolongations. Oroya is about 60 miles from the Chanchamayo Valley, and there is a fair road all the way passing through the town of Tarma, the Capital of a Department, with good hotels and some 7,000 inhabitants. The Chanchamayo Valley, itself about 10 miles long; is now in the hands of private owners, but the rich and far more extensive valleys beyond it of the Perene, Paucartambo and Rio Colorado, have now been linked on to La Merced, the last town in Chanchamayo, by the extension of the Tarma-Chanchamayo road, through a short but difficult defile. The output of coffee from the whole region was about 1,500 tons in 1893, but extensive planting has lately taken place and production will shortly be trebled."

"It is considered that coffee can be raised at the expense of five Peruvian Soles per quintal, or 100 lbs., the yield of a tree after the third year being about three lbs. Clearing ground is easy, the hill-sides being covered with dense but light timber, easily felled and burned. The average cost of clearing may be taken at S/65 a hectare (£5·10s.) or S/26 (£2·12s.) per acre. The number of plants that can be planted with advantage on a hectare is about 1,700 to 1,800, or say 700 to the acre, although a larger number are often put into the ground. Young plants can be obtained for S/5 (10s.) per 1,000."

"Coffee is usually bought at the planter's door by Italian houses in Tarma at prices varying from S/18 (£1·16s.) to S/30 (£3), and the cost of transport of a quintal from Chanchamayo or from the Perene, to the port of Callao. by mule and railway is from S/4 to S/5 per quintal. Recent lots have been sold in New York at 22 cents. gold per lb., a price which is equal to that of the best Mexican or Central American, with the exception of one or two favoured qualities and will improve when the coffee is better cleaned for the market. Freight to New York from Callao by the Merchant's Line is £3 per ton, while the British Royal Mail Company have recently put down their rates from £5 to £4 in expectation of increased production."

"The principal difficulty of cultivation in the Peruvian Montaña lies in the broken character of the ground. This in itself is favourable to coffee cultivation, as the hill-sides afford slopes where the young plants can be raised without being exposed to the sun all day long, and the expense of protecting the young plants by artificial shade is avoided. But the broken ground and frequent streams, the necessity of bridges and cuttings, etc, render the question of communications the most important of all. It is this reason that makes the opening up of the Perene so significant, in which Valley the Peruvian Corporation possesses a concession in perpetual proprietorship of a million and a quarter acres. Planters are unwilling to settle aloof from the main roads, and to face the cost of keeping open trails through the forest, and of bridging rivers, where these primary necessities are not undertaken by large capital or by associated effort. There is, therefore, considerable reluctance in taking up free grants from the Government away from the main communications, and a tendency to move into lands like those of the Peruvian Corporation, where solid bridges and roads have been made and are maintained. Moreover the free concessions granted by the Peruvian Government have been characterized by recklessness, and as the ground has never been properly surveyed, and as the concessions that are never officially demarcated are located by means of more or less vague geographical references, there is no security that they do not overlap or will not be a source of dispute and of law suits. Settlers on the concession of the Peruvian Corporation are also exempt from taxes for ten years. Sales of land to planters have lately been effected at the price of £1 a hectare, say 8s. per acre, and there are also colonists on the land receiving advances from the Company, and getting title-deeds in their grants when the advances are worked off. Special arrangements are made with tending planters in special circumstances."

"The climate of the whole Chanchamayo and Perene district is excellent, and malarial fever may be said to be unknown. Labour is supplied by the Indians from the Cordillera, the ordinary wage being from 50 to 60 cents. Peruvian silver per day."

"Besides coffee, cocoa, tobacco, indigo, rice, sugar cane, maize, etc., can be grown on the Perene while wild vanilla is found in the forest and could be brought under domestic culture."

"An experimental plantation of tea is also being made. In addition to the light timber, cabbage-wood, etc., growing in the valley, there are found valuable trees like the walnut and cedar, and several kinds of hard woods."

"NOTE.—The Peruvian sol has been taken throughout as equivalent to 24d. The actual average rate of exchange from the 30th June 1893 to the 30th June 1894 having been 24¾d."

***

We have given the above verbatim, though it refers to a period 4 or 5 years ago. The following paper, for which we are indebted to Mr. Wm. J. Owen (through H. B. M.'s Consul at Callao) brings matters up to the present time. Mr. Owen, who was lately a Coffee planter at Chanchamayo, writes :—

The Coffee yielding district of Chanchamayo is situated about one hundred miles (roughly) from Oroya, the terminus at present of the Central Railroad.

Land can be obtained from the Government, *free*, on condition that one-fifth shall be cultivated within two years and a highroad made and maintained by the owner of the plantation through his property; from the Peruvian Corporation on payment of £1 per hectare.

The average cost of raising Coffee may be fairly placed at *seven* soles per quintal, and not at *five* as stated in report. Also, the yield of Coffee given for 1893, is very much overestimated, though the report that extensive planting has taken place is quite correct.

The cost of clearing and burning is from sixty to seventy soles per hectare for "Montreal" or heavy timber, and for light timber from fifteen to twenty, though the latter class is not favourable to Coffee planting.

The number of plants which may be planted with advantage is about 1,600 per hectare, or 640 per acre. Young plants are sold to colonists of the Peruvian Corporation, by that company at five soles per thousand, the average market price in Chanchamayo being from eight to ten.

Coffee is sold in "La Merced" at from twenty to twenty-five soles per quintal. Up to date no sales have been actually made on the plantation, therefore, cost of carriage from plantation to "La Merced" must be considered.

Cost of transport from plantation to Callao is from five to six soles per quintal, according to distance from Oroya.

Cost of labour on Peruvian Corporation territory is 70 cents, sometimes more, per day. Outside the Colony, 60 cents. per day is the price usually paid.

The average yield per plant may be fairly stated at from 2 to 2½ pounds per plant on the *fifth* year; this, of course, varies as is the case with all crops, but the above amount is about correct. Hence the following:—

per acre 640 plants × lb. 2.5 = 1,600 lbs. or 16 quintals.

The average yearly rainfall is not known, though instruments for determining this and other matters of general information are now being sent up for use in the district

The Coffee is picked and dried, then hulled; at least, this is the present system, but many persons are now thinking seriously of adopting the "Wet system" as being more expeditious and involving less risk of damage to the Coffee from burning and other causes.

To give an analysis of the soil would be very difficult, as it varies so much in character in very short distances that any single plantation will probably have five or six classes of soil: some excellent for Coffee planting and others entirely useless; Lime, however, is met with everywhere;—In some places thick, heavy, black loam is found, in others, a kind of black sandy soil, in others again red soil or clay.

Water power can be had anywhere almost, for driving machinery. For irrigation nothing is required, there being quite sufficient rain for that purpose.

The roads from Oroya in, are very good and kept in good order by Government.

TELEGRAPHIC QUOTATIONS.

	Feb.	3	4	6	7	8
LONDON—						
Bar Silver ...	...	27⅜	27⅜	27⅜	27⅜	27⅜
Bank Rate ...	...	3 %	3%	3%	3%	3%
Coffee	...	[steady]	...	...	..	...
Mysore ave. (B) size ...		76	..	...	76	...
Middling Ceylon ...		105	..	...	105	...
NEW YORK.—						
Coffee—Fair Rio		6⅞	6⅞	6⅞	6⅞	6⅞
„ Futures, May		6·05	6·07	6·17	6·15	6.15
Silver—Comml. Bars ...		59⅜	59⅜	59⅜	59⅜	59⅜

NOTES.

Calcutta Tea Sales. On 6th instant 12,600 packages were sold, 2,600 having been subsequently added to the quantity originally offered. There was good competition, without much change in the prices.

Ceylon Tea Exports. The Secretary of the Chamber of Commerce, Colombo, gives the following figures:—

January shipments.... ... 6,750,000 lbs.
February estimate 7,500,000 to 8,000,000 lbs.

The Packing of Tea Seed. Charred bran is said to be an excellent medium for packing tea seed. It is used largely for preserving delicate fruit on the way to market, also for packing perishable and other fruits for storage and transportation.

Sales of Coffee in India. Commenting on the proposal to start a Company on the Nilgiris for the direct supply of pure coffee, the Kumaon correspondent of the *Planter* says:—"I am much mistaken if Northern India and the Punjab did not respond liberally to a first class pure article at moderate price."

The Mazawatte Tea Company. Subject to audit, the profits of the Mazawatte Tea Company, Limited, for the last year amounted to £60,240, and the directors recommend a dividend on the ordinary shares at the rate of 8 per cent. per annum, making with the interim dividend 8 per cent. for the year, placing £15,000 to reserve, and carrying forward about £3,000.

Coffee in the Wynaad. A correspondent writes that coffee crops, which ripened, generally speaking, two or three weeks later than usual, have proved to be the finest known during the present decade, more than one "bumper" being recorded, while the quality of the crop and its out-turn on the coast have been most satisfactory. There is also promise of a heavy yield this year, provided the blossoming showers are propitious.

A Calendar. We have to acknowledge receipt of a very showy wall-calendar by the Nilgiri Plantations Company, Limited.—Messrs T. Stanes and Co, Agents. It contains pictures of Lord Wolseley, Lord Roberts, Lord Kitchener, and Lord Charles Beresford, M. P., and is very effectively printed. "British Heroes" is the title and "Three Cheers for the Red, White and Blue" the sentiment.

Coffee in Perak. Sir Græme Elphinstone writes from Perak that coffee prices have driven the Straits planters to other tropical products, many of which find there the necessary conditions for a successful growth. "There is," he remarks; "no doubt that the Native States have a very fine future before them. I may not live to see it, but undoubtedly there will be a successful development of tropical agriculture. More capital and more labor are required, but these will come in time."

Estimates in Ceylon. The estimates of the Northern District Planters' Association, Ceylon, are unusually interesting, as they include for the first time cocoa and cardamom crops for the coming year (approximate) to be secured in 14 districts of the Association alone:—Cocoa 15,825 acres 36,346 cwt., cardamoms acreage 2,956 planted, 2,406 in bearing, yield 345,900 lbs. Tea 39,520 acres and 15,370,000 lbs., against 15,568,650 lbs. last year.

The London Tea Market. Messrs. Gow, Wilson and Stanton's Telegraphic report of 2nd inst. must have been a bit of a surprise to Ceylon planters. It reported a steady market, with Pekoes for price *dearer*, but the average was only 8*d*. which shows a fall of ¼*d*. Of 27,000 packages offered 26,000 were sold. Stock was 18,000,000 lbs. an increase of 1,000,000 lbs. Indian teas showed up better, as the average was 9½*d*. (¼*d*. up). Stock 61,700,000 lbs., which shows an increase of 500,000 lbs.

"The oldest Inhabitant." The *Times of Ceylon* believes that Mr. J. L. Dewar holds the record among Ceylon Superintendents for the continuous management of one plantation or group. He has just given up the management of Roseneath and Anniewatte, after a continuous charge extending over 33 years! This is very nearly approached by Mr. A. Orchard, who has been for 30 years Manager of the valuable Wiharagalla property in Haputale. He may yet establish a new record, as Mr. Dewar has now taken over charge of his own property in the Knuckles.

Colombo Tea Sales. At the public sale of tea at Colombo on 1st instant about 6,420 pkgs. = 405,975 lbs. were offered, of which about 5,597 pkgs. = 341,798 lbs. were sold. The *Times of Ceylon* remarks:—To-day's sale was a comparatively small one and prices all round were very firm, keen competition being noticeable throughout. Common kinds showed a distinct advance of 1 or 2 cents Among the finest teas in the sale were: Agra Ouvah, Glasgow, and High Forest; among low grown teas good invoices were offered from Clyde, Glencorse, and Rayigam.

Coffee Pests and diseases in Queensland. The slug-caterpillar (*limacocidæ*) leaf miner (*?Cemiostoma*), white scale (*Pulvinaria sp.*) stem gridler and seed weevil (*bruchidæ*) are mentioned as pests affecting coffee in Queensland; and the following diseases, &c., attack the plant:—fungus disease of berry; root rot; leaf spot (caused by an undetermined fungus); injury through submergence; and disease related to the Indian Kelroga (caused by *Pellicularia sp.*). So far Queensland is free from *Hemileai vastatrix*.

Worse than the San Jose Scale. A Hartford Co (Conn) writer says that more damage has been done to orchardists by the codling moth than ever has been or will be done by the San José Scale. The moth has been responsible for a high percentage of damaged fruit which has sold for low prices and has greatly injured the market, but the moth does not kill the trees, and hence the most of farmers let it alone to continue the damage. The San José scale kills the tree, and therefore fruit farmers will be compelled to fight it and keep it in check. Hence the amount of damage will be limited.

A Market for Cinchona Seed. The *Ceylon Observer* remarks that there is now a demand for Cinchona seed in Ceylon, and a good chance is offered of getting fine seed from the Nilgiris, from trees the bark of which gives 6·59 per cent. of sulphate of quinine—according to a certificate it has seen. A correspondent writes:—"I never saw finer cinchona in my life and hope to send you a photo soon. Meantime I enclose the last analysis, which please return. Some of the trees are 30 years old and a few give about 30 lbs. of renewed shavings every year!"

The Passara P. A., Ceylon. The Annual Report of the Passara Planters' Association, Ceylon, states that the Tea estimate for 1899 is 3,044,000 lb. with 7,700 acres in bearing and 2,220 not in bearing. This gives an average of just about 400 lb. per acre, which speaks well for the climate and general suitability of the district as a tea-growing locality. The crop of cacao for the year has not been so favorable as might have been expected, but the trees are in good heart and there is every prospect of very good crops for the coming year. The young clearings of this valuable product are most promising and the ravages of the disease on the older fields have been very slight.

Tea in Calcutta and London. Prices in Calcutta have had a nasty fall. After touching 5 as. 11 p. and standing for some time before that at 5 as. 8 p. the average dropped at the end of January to 5 as. 1 p. Fortunately, London rates do not tend the same way. Indeed, recent advices say that the improvement in the tea market continues steady, and the Board of Trade returns show expansion both in exports and home consumption during the past year. In Ceylon tea 3¾ million pounds less have been sent to London during 1898, than in 1897, while foreign trade is developing steadily. Altogether, things look very encouraging for the present year.

Coffee in Paraguay. The *American Grocer* remarks that Paraguay seems well adapted to the production of coffee—not only for consumption in South America, but for export to foreign markets. Among the varieties already grown is the Yungas, which, it is claimed, can compete with the best kinds known to commerce. The berry is well developed, is of fine aroma, green-yellow in color, and in size and weight resembling Mocha. Coffee plantations have existed in Paraguay for many years, but the plants receive little attention, the main reliance being upon the climate. The land is well suited for coffee production, being damp, level, and easy to cultivate.

Ceylon Tea Shipments. The tea shipments to the United Kingdom and to the Australian Colonies from January 1st to February 1st, 1899, were as follows:—

To United Kingdom.

	lbs.
Total export, Jan. 1st to Feb. 1st ..	8,438,000
At same period last year	9,406,000

To Australia and New Zealand.

Total export, Jan. 1st to Feb. 1st ...	1,125,500
At same period last year	1,385,900

These figures show a falling-off to the United Kingdom of 968,000 lbs., and to Australia and New Zealand of 260,400 lbs.

The Agri-Horticultural Society of Madras. Mr. J. M. Gleeson, Superintendent of the Agri-Horticultural Gardens, Madras, has compiled an excellent Catalogue of the Trees, Shrubs and Herbaceous Plants in the Gardens of the Agri-Horticultural Society of Madras and in the neighbourhood. Vernacular and trivial English names have been inserted, the former being intentionally given in a sort of phonetic transcript of the nomenclature of the Native *mali*. The lists are very carefully arranged, and

a very comprehensive index facilitates ready reference. To all amateur gardeners and all who take an interest in plant-life, this little publication will be of great service; and the printers, Messrs. Higginbotham & Co., have made it as clear and attractive as it is useful.

Ramie Fibre: A New Company.

The China Trading and Ramie Syndicate, Limited, was registered on January 3, by Foss and Ledsam, 5, Fenchurch-street, E. C., with a capital of £100,000 in £1 shares. Object, to adopt and carry into effect an agreement made between H. C. Bennertz of the one part and this company of the other part, for the acquisition of a secret process relating to the manufacture of yarn by the degumming of ramie or China grass or other like materials, to develop and work the same, and to open stores in the treaty ports and elsewhere in China and Corea. The first directors—of whom there shall be not less than three nor more than seven—are to be elected by the signatories Qualification, 250 shares. Remuneration, £100 per annum each: chairman, £150. Managing Director, H. C. Bennertz.

Coffee Adulteration.

The *Times of Ceylon* offers a word to the wise, remarking:—The days have long gone by when local Planters' Associations took an interest in the question of coffee adulteration, though the time was when it was a burning question out here, and the home Government was approached on the subject. But, at the late Mr. Gladstone's instigation, protection for Ceylon coffee-growers was refused in the sacred name of Free Trade. Our South Indian friends are travelling the old journey, however, for we see that at Ooty, on the 27th ultimo, the Nilgiri Planters resolved to ask the United Planters' Association to petition the Home Government for more stringent legislation against the adulteration of coffee, and to endeavour to unite the coffee-producing countries of the world in support of the movement, and in pressing it upon their respective Governments.

Tea in the Dooars and Kurseong.

The *I. P. G.* remarks that a member of its staff was in the Dooars and Kurseong a few days ago, and was astonished to learn the views of tea planters in those parts. One of these gentlemen told him that the Muttigurah Tea Estate, which recently changed hands for Rs.3,300, and directly afterwards for Rs.7,000 (without the forest area) was worth Rs. 20,000 to anyone with a capacity for working it successfully; that even if every tea bush was uprooted and the leaves ploughed into the soil, and the whole area leased out to native cultivators at Rs.5 per acre for the raising of ordinary field crops, the owner could have recovered his entire outlay in one year! Further, that a scare seems to have set in regarding tea gardens, with the result that tea estates were going now for the proverbial "mere song."

Phylloxera defeated.

It has been reported to the Academy of Science, at Paris, by M. Dubois, that he has succeeded in discovering a micro-organism which kills phylloxera and kindred pests. The bodies of the insects so killed contained when inspected a great many bacteria; but the poisonous qualities of the organisms seem to differ according to the nature of the soil and the weather. Dubois placed two roots of vines containing phylloxera upon blotting-paper, and sowed bacteria on to them. Eight other roots he put into vessels filled with earth, and sowed bacteria on these also. After two days all the phylloxera were dea on the two roots on the blotting-paper; after five days o the eight roots; while those two roots which had not receive any bacteria had plenty of living phylloxera on them Others could also detect bacteria within the bodies of th dead phylloxera in some instances.

Structure of a Flower.

Under the laws of morphology complete flower is but modified leaf blade and branch. If we can imagine a long coil of wir drawn in so close that the spirals touch each other, we ma form some idea how Nature draws in the longitudinal growt of a branch to form a flower. At times the branch objects t this summary proceeding, and, after being arrested and eve the parts of the flower formed, will escape from the bondag and journey on as a well-ordered branch should. A branc of a Moss Rose that has fought for freedom in this way wa sent to *Meehan's Monthly* some time ago A few good, clea petals had been formed, when the whole central portion start ed off on its journey as a perfect branch again. Those wh have sharp eyes occasionally meet instances of this behaviou in the Rose and other plants. These departures are ver instructive to the curious in the secrets of Nature.

Coffee in South Sylhet.

A correspondent writes to th *Planter*:—"There would seem to b many more people growing coffee for their own consumptio in Sylhet and Cachar than I have been aware of. A lette from a planter with whom I am slightly acquainted inform me that he planted 100 of the Arabian variety eight year ago, and that they grew splendidly, and gave a tremendou crop in their 3rd year, and then died right out. He ha been informed that coffee always did this when growing at a low elevation. He, however, had a few coffee seeds present ed to him and he tried it again, and was advised by a frien to strip all the maiden crop off the primaries, because whe coffee was growing at a low elevation it was very apt t overbear itself before the plant had reached maturity. H did this and has now fine large bushes five years old whic bore a heavy crop last year, and at the present time ar covered with white tipped flower buds."

Vanilla.

Messrs. George Lueders and Co report the 1897-98 crop of vanilla bourbon as follows:

	Pounds.
Bourbons	275,000
Seychelles and Mayottes	65,000
Madagascar, Mauritius, Comores	55,000
Total	395,000

The expectations for next crop are far below this figure

	Pounds.
Bourbons	175,000
Seychelles and Mayottes	50,000
Madagascar, Mauritius, Comores	30,000
Total	255,000

Considering that the Mexican crop is stated to be 30 to 4 per cent. short, an advance in prices all along the line may safely be predicted.

Renewing Old Seed.

Very interesting experiments are being conducted at the Amhers (Mass) experiment station in bringing to life seeds which are too old to sprout well. It is hoped that tests will eventually lea

to results of great commercial value. Old seeds have been treated with a 2 per cent. solution of asparagin, a vegetable extract obtained from German chemists, and the result has been to increase the germinating power greatly. Seed which before treatment showed only 50 per cent. of germination with one-half worthless, after treatment showed 98 per cent. of germination and only 2 per cent. which failed to sprout. Since asparagin at present costs $1.50 per ounce, the method is not profitable for ordinary seeds. But seeds of new varieties and certain flower seeds which are actually quoted at more than their weight in gold might be treated this way with profit. Experimenters are in hopes of finding a cheaper substance or a cheaper way of making this article for treating the seeds.

Trout Ova, &c., in Ceylon.

The Hon Secretary of the Ceylon Fishing Club, Nuwara Eliya, reports that the first consignment of trout ova has been up to the average. Everything seemed to be against it: the eggs looked unsatisfactory when opened, and apparently had not been sufficiently iced on board, and ever since they were put into the trays the most unfortunate weather has prevailed: perpetual rain, and muddy water at a high temperature. Nevertheless the eggs have done far better than was expected, and 7,000 alevins have been hatched out, and seem lively and prosperous. But for the heat of the water and the muddy sediment there would probably have been 10,000. The Club has had to give up the idea of grayling, owing to the impossibility of getting the ova out before the middle of April; but 12,000 Rainbow trout ova are expected early in March, in addition to the second consignment of ordinary trout ova (20,000) which are due by the middle of next month. The first experiment in Gourami has proved a failure. The fish shipped were apparently full-grown, and only three arrived alive at Colombo.

Tea Cigarettes: What next?

The "Medical Press and Circular" seems to hint that the latest fashionable wickedness is to take one's tea in the form of cigarettes. Judging, however, from what our medical contemporary says of the vice, it hardly seems likely to become general. The first sensation, it appears, though peculiar, is not as unpleasant as might be supposed, but this condition of qualified beatitude does not last long. Then comes "a thickening of the head, and a disposition to take hold of something or to sit down." If the novice perseveres he—or she—may be next rewarded with a feeling of exhilaration, intense but of very brief duration. But the after-effects, our contemporary solemnly avers, are too dreadful for contemplation—even by a medical commentator—and it takes many hours before the beginner even begins to revive. A dustpan and a broom seem to be the only things then required for removing the smoker.

Insect-Destroying Plants.

Physianthus albens is a moth-catching plant. The former United States consul at Auckland became much interested in the cultivation of the different species of Physianthus and trained them up the trunks of the apple trees with the idea that the flowers would catch the codlin moths. Large numbers of the moths thus caught were sent to the United State entomologist, L. O. Howard, and were carefully examined. There were many noctuids and pyralids among them, all undoubtedly more or less injurious in the larval state, but no codlin moths. The plant is undoubtedly of value in the way of capturing injurious insects, but this value has been exaggerated. No doubt the majority of moths caught in this way are either males, or females which have already laid their eggs. The action of the flower is entirely mechanical. The calyx is deep, and the nectar is placed in its base. Attracted by the sight and powerful perfume of the nectar, the moth penetrates into the calyx and pushes forward its proboscis to get the food, but before it is able to do this it is seized between two lips or jaws that guard the entrance and kept a prisoner until it dies.

Fine plucking.

On the subject of fine plucking, one planter has been emphatic in the expression of his views to a representative of the *Indian Planters' Gazette*. He thought that for the next two seasons "two leaves and a bud" should be the order of the day; and that every scrap of Souchong should be burnt and destroyed, rather than overstock the market. "Starve the London market," he said, "and you will soon have Indian tea prices going up with a bound." Asked if he meant by that remark that teas should in future be sold in the Calcutta market in preference to London, he said: Oh, no! I mean that the plucking should be limited to Pekoes and 'teas for price,' and in this way the supply of our teas to the London market would be kept down, the result of which would, I believe, be to run up prices; at any rate we should not then have the stereotyped descriptions to which we have become accustomed during the past season. In a word, we should make it our business to aim at quality rather than quantity. I am, of course, speaking of the Dooars and Terai gardens. In Darjeeling they cannot very well go in for quantity, seeing that their tea bushes rarely attain a height of two feet. Even in our Terai gardens the bushes seldom attain larger dimensions—nothing like the Cachar and Sylhet bushes." From all this, remarks our contemporary, "it may be inferred that matters are not exactly as they ought to be. Our representative suggested 'auxiliary crops,' but the suggestion was received with silence."

How to Treat Bones.

The following information regarding farm methods of treating bones, where no crushing-mill is available, has been furnished, in a reply to a query from a correspondent to a Melbourne paper, by Mr. A. N. Pearson, the Victorian Government Agricultural Chemist:—Bones in country districts, where crushing-mills are not available, may be reduced by means of caustic, lye, quicklime, or freshly calcined wood ashes. A simple plan is to pack the bones layer by layer, with freshly calcined

COFFEE SHADE TREE.

Sun-dried Erythrina Lithosperma loppings, &c., contain per ton:—

61·50 lbs. Nitrogen.	14·92 lbs. Lime.
57·38 „ Potash.	13·68 „ Phosphoric Acid.

Seed cured under Messrs. Sutton and Sons' advice.

Orders should be booked early for the 1898-1899 crop of seed from the parent trees of above analysis at Rs.6 per pound containing about 2,000 seeds. *Germination guaranteed.*

Only thornless variety extant, and is not procurable anywhere save from the

MANAGER, ARIENKOW ESTATE.
Shencottah.

wood ashes, in a barrel, and keep the mixture moistened for some months. Casks may be kept in constant use for this purpose on a farm, receiving every few days a fresh layer of bones and of ashes. A quicker method is to boil the bones in an iron or copper boiler together with a strong caustic lye. The proportions of bones and lye to be used are not exact or invariable. Roughly speaking, five parts by weight of caustic soda, or seven parts by weight of caustic potash, dissolved in fifteen parts by weight of water, should disintegrate about fifteen parts by weight of bones by two or three hours' boiling. If the bones be allowed to remain in the caustic liquor, even without boiling, they will, in the course of a week or so, become disintegrated. Another method of softening bones is by mixing in heaps with quicklime and loam. A layer of loam 4 inches deep is made, and on this is placed a layer about 6 inches deep of bones, and above this is a layer 3 inches deep of quicklime. The layers of loam, bones, and lime are repeated in succession until the heap reaches a convenient height, when it is finally covered with a thick layer of earth. Holes are then bored in the heap from the top, and water poured down them to slake the lime. The mass will become hot, and remain so for two or three months, after which the bones will be friable, and the whole heap may be mixed up, and is ready for the ground.

LETTERS TO THE EDITOR.

LONDON INDIGO ASSOCIATION.

TO THE EDITOR OF *Planting Opinion.*

SIR,—The attention of the Committee of the London Indigo Association, has been called to articles which have appeared in various Indian newspapers, putting forward the view, that Indigo is more or less rapidly going out of consumption, its place being taken by substitutes, and that consequently the profitable cultivation of Indigo in India must be looked upon as a thing of the past.

These statements will naturally have appeared very alarming to Planters both European and Native, and we have therefore been requested to point out how little foundation there is for them.

So far from there having been any reduction in the consumption during the last 12 months, all the most reliable statistics procurable, shew a distinct increase. Taking the statistics for England, which is the largest consuming country in the world, we find—

Deliveries to the Home Trade in 1898	10,041 chests.	
Do do. do. 1897	9,145 do	
Shewing an increase of	902 chests, or, say, 9 per cent.	

That, however, does not shew the whole difference, as the Home Trade took 1,718 chests more BENGAL and OUDE in 1898 than in 1897, which, allowing for the heavier chests and higher percentage of colouring matter in BENGALS, would make the increased consumption equivalent to at least 1,500 chests, or, say, 15 per cent or more.

If equally reliable statistics were obtainable from Continental markets, we have every reason to believe that a more or less similar result would be shewn.

According to the most reliable information, not only is the so-called substitute quite unsuitable for the most important purposes for which real Indigo is used, but the cost also, debars it from being very seriously in competition. We have had before us a properly authenticated statement shewing the result of experiments made on an extended scale and under careful supervision; it establishes clearly that there is a difference, at present prices, of over 40 per cent. in favour of real Indigo, which is a difference that no consumer can afford to ignore.

In conclusion we can assure our planting friends that the position of Indigo is not so much jeopardised as has been represented, and, so far from there being any reason for Planters to give up, or seriously reduce their cultivation, we believe that what is most wanted to give increased stability to the article, is good crops and moderate prices. By "moderate" we do not mean such abnormally low prices as have ruled of late, which must have been very discouraging to producers. An advance of 6*d* per lb. on present rates would still leave prices moderate, and yet give a fair return to growers. We enclose statement of London Stocks and Deliveries for 1898, which, we think, will fully confirm the views we have expressed above.

We are, Sir,
Yours faithfully,
On behalf of the Committee,

F. P. BROWN,
Secretary,
LONDON INDIGO ASSOCIATION,
38, Mincing Lane,
London.

M. G. J. LAVERS
S. G. PARSONS.
J. A. FLETCHER.

LONDON, *20th January, 1899.*

GENERAL ARTICLES.

THE POLICY OF ABANDONMENT.

MR. ROBERT H ELLIOT, of Mysore, writes to the *Ceylon Observer*:—Since writing to you, on January 25th, a letter which you were good enough to publish in the *Observer* of Jan. 30th, I have received letters on the subject from Ceylon Planters of past experience and am now more than ever convinced that the policy of judiciously abandoning unprofitably or only slightly profitable portions of estates is really the only course open to us in order to diminish, as far as possible, the results of the disastrous Currency policy of the Indian Government. For what hope can there be of turning the Government from its course? - a Government which practically consists of Indian officials, who want to get their savings remitted home on the most favorable terms. They started the movement and they will certainly persevere with it to the end, and while they have all the power of the Indian Government, at home and in India, at their back,—we have merely the purely nominal power of the House of Commons, the members of which, with but very few exceptions, neither know nor care anything about the subject.

Then so far from having any security that the officials will content themselves with a 16d Rupee, we have the Government (*vide* Sir David Barbour's speech of June 26, 1893) assurance merely that "it is not attended to do more *at present*" than aim at this rate. A higher rate then is evidently determined on, and what that may be no one can tell; and even if the existing officials were contented with a moderate further rise, it by no means follows that their successors may not aim at a much higher rate. The whole situation in short bristles with uncertainty so far as the Currency is concerned, and it is therefore evident that we must betake ourselves to our only certain refuge—judiciously abandoning every acre we can, and there by reducing production, labourers' wages, labourers' advances, and the risks of the season, which of course, are far less on rich, sheltered lands than on the poorer and more exposed portions of estates.

FIRE AT A TRAVANCORE TEA FACTORY.

A correspondent of the *Western Star* sends the following particulars of a serious fire that recently occurred at the Poonmudi a Tea Factory :—

On Sunday morning the 22nd ultimo, at about 8 o'clock, we were startled by a sudden outbreak of fire, at the Poonmudi Tea Factory. The work was going on as usual, and Mr. Ross, who was in charge of the Estate in Mr. Valentine's absence, being on the spot. The Factory is a very large two storeyed building. The top was used for withering the leaf, and the bottom or ground floor, contained the Engines, and all the usual machinery for the manufacture of tea. The strange part of the affair is that the fire broke out, not on the Engine side, but on the opposite end upstairs, where it could not be at once noticed by the workmen, all of whom were engaged on the ground floor, and even now, nobody is sure, of the exact spot where it first commenced. It was only after the fire had taken a firm hold, that it was noticed, and the alarm sounded. Mr. Ross, who was then in the office, rushed to the place, only to find dense volumes of smoke issuing from the building. Buckets for water, and a large number of coolies were without a moment's delay set at work, but unfortunately, owing to a strong wind that was blowing at the time, the fire spread rapidly, and the whole building was a huge blaze in a few minutes. Notwithstanding the greatest exertion on Mr. Ross' part, with a large number of coolies and subordinates and enormous quantities of water, it was not found possible to save practically anything more than the Engines, and a part of the room in which they stand. It is a sad sight to see doors and windows and every bit of woodwork of so large a building reduced to ashes, and machinery, &c., damaged beyond repair. All that is now left of the building, is some stone work on the ground floor

I understand that, the damage is estimated at 50,000 rupees, for which amount, I believe, the building is fully insured Great sympathy is felt for Mr. Valentine and Mr. Ross in the sad disaster, and it will take months before this fine Factory and machinery can be restored.

GINGER.

The *London Commercial Record* says :—We have lately been frequently asked what views we entertain regarding the future of Ginger, and to state if possible some details as to crop prospects and condition of trade in India. In compliance with these requests we regret that we cannot draw as rosy a picture as we should like, but the position of the article does not warrant it. This year, the same as in former ones, an attempt has been made to raise the value of Ginger in our market, but so far the attempt has been a failure, although it had the hearty support of Indian speculators. The heavy stocks acted as dampers and prevented effectively the spreading of the enthusiasm which some operators possessed and tried to create in others The transactions which resulted were thus confined to a limited quantity, and came to an abrupt end the moment 24s. c.i.f. for usual assortment Calicut was touched. Prices had gradually been driven up for cut assortment from 21s 6d. c i.f. to 27s. c.i.f., but no business resulted as far as we can ascertain at the lowest figure. Small quantities of special sizes also changed hands, and at one time arrival contracts excited so much interest in certain quarters that a boom seemed quite within the reach of possibility, but the dull and stagnant spot market cut short all hopes for an improvement. C.i.f values as compared to spot prices showed no margin, and no speculator was daring enough to pay a premium in anticipation of an early rise in the value of available Ginger, and the movement died a natural death. A standstill in the upward tendency of a speculative market, artificially inflated, is always fatal, and it has proved itself to be so in this case, for when the few outside operators ceased to evince further interest in the article over 27s. c.i.f., holders became uneasy and nervous, and soon began pressing their purchases for sale, with the result that prices steadily gave way without effecting the much-desired sales London antipathy to deal had a cooling influence on Indian operators, who now are slowly climbing down from their extravagant ideas; 23s. 6d. c.i.f. would readily buy assortment to-day, but, the lower India goes, the less inclined will London be to purchase until a perfectly safe basis be reached. Last year we started operations practically at 19s per cwt. c.i.f. for usual assortment and, although we do not anticipate such an exceptionally low price again, we should think that purchases in the neighbourhood of 23s. to 24s. c.i.f. should form a sound basis for a bull operation. There is no longer any doubt about the yield of this season's crop, it is short, in Cochin as well as in Calicut, and, as a large portion of it has alreadybeen bought up by Natives—who had a little gamble in rough descriptions among themselves—the available total in India for export to Europe cannot possibly be very great. Should London operators a little later feel disposed of taking Ginger up, they will stand an excellent chance of making money, but it will be advisable to wait for a time when prices in India have been forced down to the indicated level by larger arrivals and slackness of demand in London. At the present moment Natives are holding supplies back in the hope of creating thereby an increased demand: they will change their tactics, however, quickly enough when they observe that we are utterly indifferent to their manœuvres. Then is the time to buy, for spot values by then will have improved, and a spurt, such as we have seen every year, will be possible on a healthy and sound basis.

ATTAR OF ROSES.

In our last we gave a note of a somewhat primitive and slow method of manufacturing Attar of Roses, with the assistance of the sun. We now give a few remarks of a more modern character, which should be of use to anyone who thinks of starting the distillation of Attar of Roses:

This delightful perfume is procured from several species of rose, but most commonly from the *Rosa centifolia provincialis* and *damascena*.

Chemically speaking, otto or attar of roses is a mixture of two bodies, one a solid, non-odorous, white stearoptene, melting at 95 degrees F., and boiling at 300 degrees F., constituting from 7 to 14 per cent. of the whole; the other, the odorous portion, being a yellowish liquid hydrocarbon of undetermined constitution. The stearoptene is readily soluble in the liquid portion, from which it may easily be separated by cooling.

The rose is extensively cultivated in Turkey, Bulgaria, Roumelia, and France; the three first named countries producing the distilled otto or attar of roses, and the last named mostly producing the fine rose pomade by the maceration process.

In 1887 Bulgaria produced 57,868 oz. of otto of roses, valued at, when pure, from 25s. to 30s per oz.

In the year 1888 Roumelia produced 90,750 oz. of otto of roses, so that the rose farms in that country may be said to represent an annual value of from £113.000 to £136,000. As the present value of otto of roses is about 40s. per oz. these figures are subject to enlargement.

At Adrianople, in Turkey, some 12.000 to 14,000 acres are under roses supplying the most important source of wealth in the district.

An average crop generally returns about £15 per acre, clear of all expenses, and in a favourable season this return may reach as high as £25.

Otto of roses is largely adulterated by the addition of geranium oil, the presence of which is easily discovered from the brownish tint, resulting from the addition of a little iodine.

The distilling apparatus used in Bulgaria is a very simple affair, consisting of an elongated copper boiler, in the shape of a truncated cone, surmounted by a narrower neck, upon which is fitted a peculiar dome-shaped head, having very much the appearance of a half opened mushroom. Into this head is fitted a straight tin condensing tube at an angle of about 45 degrees with the vertical. This tube passes through a cask, into which a supply of cool water is admitted to effect condensation. No worm or coil is used as in an ordinary still. The peculiar dome-shaped head of the still probably allows of the use of such a restricted cooling tube, as the steam passing through the narrow neck of the boiler would, on entering the head, expand a good deal, and, by so doing, be more readily condensed.

The capacity of the still is generally 24 gallons, and each charge consists of 22 lb. of roses to 16½ gallons of water.

The still is generally placed on a built furnace of brick or stone, fitted with a central chamber and flue to carry off smoke. When distilling, the water in the boiler is brought rapidly to boiling

point, the temperature being then carefully moderated and regulated by withdrawing the long pieces of wood used for fuel. The operation lasts about an hour and a-half, and is stopped when 9 quarts of liquid have been collected in the receiving vessel. The still is then recharged after being emptied of its contents, the refuse water being set aside to cool for use a second time. The product of four first distillations is returned to the still, and from the 9 gallons, only 9 pints are drawn off and put on one side to cool, when the oil separates from the wayer and is drawn off.

In France the rose is cultivated in a very simple manner. The land is manured and ploughed, rooted rose plants being placed in the ground at distances of 2 feet apart and 5 feet from row to row. Each root before planting is cut back to two or three buds. In the fourth year the plants are fully developed, and when well cared for last about seven years. In an average season the product of an acre is about 2 tons of flowers, valued at from 3d. to 6d per lb. It required about 1000 lb of roses to perfume 1 lb. of fat by the maceration process.

VARIETIES OF COFFEE.

The 1897 report of the Superintendent of the Royal Botanic Gardens, Trinidad, contains interesting remarks on Coffee, which treat of several varieties of the plant. We quote as follows:—

Plants of **Coffea arabica** have been in demand, but there is little disposition at present among the planters to regard them as valuable Charges at the rate of one half-penny per plant are considered too high, and many use plants dug up from under growing trees (rat-planted coffee) in preference to our nursery plants, simply because they can be obtained at a cheaper rate. In countries where coffee is scientifically grown, such procedure is strongly condemned, and very rightly so. I know estates in Central America where all the plants are not only raised in the nurseries, but they are trained there for two or three years, until considered to possess sufficient vigour to stand the hardships of the field, and all weakly and inferior plants are rejected. The value of practice is seen, when the observer notices what a high place is accorded on the markets to Costa Rican and Nicaraguan coffee.

Liberian coffee has been in more demand for the neighbouring island of Grenada, than for Trinidad, although it grows here rapidly into small trees and fruits abundantly, an illustration of the fact, that it is not as yet considered a good enough "minor product" by the Trinidad planting community. In the Dutch Colony of Surinam, however, Liberian coffee is being largely planted, some estates having as much as 250 acres in a bearing condition Trinidad might very well grow Liberian coffee to the value of many thousand pounds per annum, as there are thousands of acres of land available, and admirably suited for this crop. There are minor difficulties in the way, no doubt, such as the general want of knowledge among the labouring class of the methods of harvesting and preparing for market; but these would, I believe, entirely disappear, if the culture was generally and earnestly taken up. Large quantities of Liberian coffee plants were sold in my predecessor's time to private buyers in Jamaica, and to many in the other islands, soon after its introduction in 1875; so that it cannot be said that plants have not been available and yet in Trinidad few trees have been planted except in a desultory and careless manner by the side of, or under the crops or in out-of-the-way corners where nothing else could be got to grow.

Another competitor for public favour has proved itself this year under the name of **Coffea stenophylla,** Don.-or hard-leaved coffee. This coffee grows freely but is not in any way so robust as Liberian but has more of the character of growth of the Arabian although it is decidedly distinct from the latter Our trees four years old are some eight feet in height and beautifully furnished with branches from the ground upwards Though fruiting for this year for the first time, it gives promise of becoming an abundant bearer, and its produce is of a quality to take its place at once upon the markets as a first-class coffee of the Mocha type of bean. The "cherry" is small and of a deep purple colour when ripe, not red like the Arabian The beans are small and roundish, less in size than the Arabian, but when in the parchment are clean and smooth like the seeds of that species, and the parchment is readily removed. The beans are small and roundish. less in size than the Arabian, but when in the parchment are clean and smooth like the seeds of that species and the parchment is readily removed The flavour of the coffee when roasted and ground is of a very high order.

A fair crop of seed produced during 1897, has enabled the foregoing observations to be made, but a further series will of course be necessary before the question can be decided whether **Coffea Stenophylla** will be a profitable crop to grow or not.

All that can be said at present is, that in growth, in crop, in quality and in facility for preparation it promises to prove a plant of the best class for cultivation in the West Indies.

There is in the gardens also a variety of the Arabian known hitherto as "Narrow-leaf coffee." This coffee has been on trial for some years but until lately it was not possible to carry out suitable observations. It can now be recorded after observations made during the past three seasons, on young plants specially grown for the purpose, that it is an abundant bearer, producing beans of fine size, and of the highest class

A variety called "Hybrid Mocha" by Mr. Prestoe, does not appear to be anything more than a prolific variety of the ordinary Arabian.

Under no circumstances could it be a hybrid, as the Mocha itself is nothing more than a variety of the well known Arabian. Whatever its origin may have been - and it appears to be involved in no little amount of uncertainty—it is still however a variety of coffee of the quality and deserving of a place on every estate. Our little experiment ground for Arabian coffee is covered with about 50 trees which have been, like Cook's tours, "personally conducted." The result has been to show that coffee when properly treated grows and fruits well, and can be profitably grown at an elevation little above sea level in Trinidad. It should however be pointed out that our soil is a dry one, and our position is some 130 to 150 feet above sea.

Abbeokuta Coffee—This is a coffee that has been sent to us from the Royal Gardens, Kew. It is an African coffee, and has much the appearance of the Liberian, but it is too early to say or to estimate what it will turn out to be like.

Maragogipe Coffee.—This variety of coffee grows well in the gardens and yields fairly well, but so far it does not compare with the ordinary varieties for productiveness. It is a Brazilian of coffee arabica.

Mexican Coffee.—Coffee arabica var. Mexican, a is a coffee which promises to be a very prolific variety.

I am glad to be able to report that so far. the coffee disease of Ceylon has not made its appearance in Trinidad, and we suffer from little else than the common Cercospora coffeciola, which does but little harm, except to young plants.

THE BRAZILIAN COFFEE POSITION.

In their latest report on the Brazilian coffee position, Messrs. W. H Crossman and Brother complain bitterly that. "notwithstanding the fact that their reports and figures during the past three years have been absolutely absurd, the Brazilians continue sending forward just as erroneous reports, with the only difference that they cloak them with the dignity of boards of trade, associations of dealers, a d commissions of one sort or another. They have never concerned themselves to correct, later on, when any of their early estimates and reports have been proven to be entirely wrong; but they go on with predictions for the future—if anything more sensational and biased than ever. They are doubtless encouraged in this by the large holders in consuming countries, who welcome any information in the direction of damage to the crops small estimates, and so forth; for if it fail in effect with the more experienced coffee dealers, the hope is still held that such reports may be believed by outside speculators and interior buyers."

Proceeding. Messrs. Crossman state that "the three consecutive crops in Rio and Santos of 1896-97, 1897-98, and 1898-99 give a total of about 28,000,000 bags. The Rio and Santos crop of 1899-1900 promise to add not less than 10,000,000 bags to these figures, and such an immense quantity will certainly appeal to the most casual observer as something enormous compared with any four coffee crops ever grown. The crop yield during the past three years has been so large that they have been under-estimated —a fault which we have committed as well as others. The reports that we have received at the end of the year from most conservative sources uniformly represent the growing crops in both Rio and

antos in a most excellent condition, and foreshadow a yield the argest ever known. All this, together with the fact that the Brazilians seem to be indifferent as to the gold price which they eceive for their product, as long as they obtain a high price in heir native currency, makes dealings in this staple extremely precarious, and existing and prospective conditions will necessitate ow values for a long time to come.

"The decrease in the visible supply for the world on January 1 f 368,000 bags has failed to have the influence in the market that t otherwise would have done, as the coffee world is well enough ware that this decrease is largely due to the artificial holding ack of receipts during November and December, 1898; and when he month of January shows larger receipts than during November r December, a temporary decrease in the visible supply loses its effect, and is rather a warning that the position is constantly sustained in an artificial manner It may be mentioned that arguments and hopes are put forward by parties favourable to higher prices for coffee that the present abundance of money has brought out speculative propensities in all lines of securities, investments, &c., and while it is known that the same has created higher figures for very doubtful properties, they think that coffee might be included n the list of speculative lines. We would point out, however, that he lower prices ruling for coffee during the past two years have ontributed materially to the abundance of money and prosperity n the country. In panicky times, like the year 1873, and again in 893, coffee values ruled very high; but in better times, such as existed from 1879-80 up to 1885-86, coffee continued to decline, nd the large saving in volume of money paid abroad for coffee stablished a definite relation between low prices for coffee and prosperity in this country, meaning really some $50,000,000 to 60,000,000 a year less sent out of the country for coffee, compared vith the years 1887 to 1896.

"The much-discussed question whether present values are remunerative to the coffee growers in Brazil is," Messrs. Crossman candidly admit, "difficult to determine, when the planters seem to care little or nothing how much gold their country receives, leaving t therefore to the rate of exchange, and the consequent currency or milreis-price they receive. Foreign investors in Brazil plantations who paid gold for their lands naturally demand gold in he payment of interests and dividends, and figure their profit or oss upon the basis their investments cost them. The Dumont Fazenda in Brazil was incorporated many years ago at a high valuation, and did well enough during the period of high coffee prices. . . . The fact that 99 per cent. of the planters in Brazil have no concern for the gold (cost and freight) price, and only look to the amount they can obtain in paper currency value for their crops, would indicate that the question of price at which coffee can be grown with profit is a very difficult one to debate The fact remains that crops continue to be large, with every evidence that the cultivation is still pursued with the greatest vigour; and we do not look for theories while results are so apparent—which are that we are still in the midst of a period of over-production that is certain to continue for a long time to come, and that supply and demand fix the value. Whether same is profitable to the producer, whether agreeable or disastrous to the speculator, one thing is quite certain—the value will follow the natural tendency, the same as it has done in the past."

MANURING OF TROPICAL PLANTS.

(Continued from issue of 28th January 1899.)

B.—ARTIFICIAL FERTILISERS.

All the food-plant ingredients mentioned can be purchased separately in the form of artificial fertilisers, and in an available state, so that the varying needs of different soils and plants may be cared for.

(i). Nitrogenous Fertilisers.

1. Nitrate of soda contains nitrogen in the easily soluble form of nitric acid, which is immediately absorbed by the plant, and is therefore very effective.

2. The nitrogen in sulphate of ammonia is also very soluble, but must be converted into effective nitric acid in the soil; the change goes on quite rapidly in hot climates and calcareous soils, so that the efficacy of sulphate of ammonia is almost equal to that of nitrate soda.

3. The nitrogen in dried blood, horn-meal, wool-dust, &c., must be converted into ammonia by putrefaction, and then into nitric acid; these fertilisers, therefore, act slowly, but their effect is more lasting. To this class belong the above-mentioned oil-cakes, tankage, bone-meal, guano, &c.

As decomposition takes place much more rapidly in tropical regions than in temperate zones, the organic nitrogen supplied is proportionally of greater value, and will yield the best results, especially when applied to plants which, like sugar-cane, coffee, tea, &c., have a long period of growth.

Investigations conducted by Prof. Wagner, of Darmstadt, have shown that nitrogen is most available in the form of nitrates. To illustrate: If the availability of nitrate of soda be taken as 100, then that of various other nitrogenous fertilisers will be as follows:—

Nitrate of soda	100
Sulphate of ammonia	90
Dried blood, horn-meal, oil-cakes in a green (not yet decomposed) state	70
Steamed, finely powdered bone-meal, fish-scrap, tankage	60
Stable-manure	45
Wool-dust	30
Ground leather	20

The above figures may vary somewhat in tropical regions, as the more easily decomposed organic fertilisers are quicker in their action, especially in the case of oil-cakes.

H. C. Prinsen Geerligs has conducted important experiments at the West Java Experiment Station, regarding the conversion of organic nitrogen into ammonia and nitric acid, the results of which are given in the following table:—

From 100 parts of nitrogen contained in the oil-cakes and in sulphate of ammonia were formed in the soil—

The oil-cakes contained	Old Mouldy Earth-nut Cakes.	Fresh Home-pressed Earth-nut Cakes.	Chinese Soja-bean Cakes.	Sulphate of Ammonia.
Nitrogen ..	5·88 per cent.	4·03 per cent.	7·10 per cent.	
Fat	10·17 „	20·37 „	11·80 „	
Ashes.. ..	19·20 „	10·80 „	5·08 „	

	Old Mouldy Earth-nut Cakes.				Fresh Home-pressed Earth-nut Cakes.				Chinese Soja-bean Cakes.				Sulphate of Ammonia.		
	Nitrate.	Ammonia.	Organic Matter.	Loss.	Nitrate.	Ammonia.	Organic Matter.	Loss.	Nitrate.	Ammonia.	Organic Matter.	Loss.	Nitrate.	Ammonia.	Loss.
After 1 month ..	4·8	23·7	64·1	7·4	6·0	27·1	62·1	4·8	2·7	36·7	51·6	10·0	15·3	82·9	1·8
„ 2 „ ..	19·6	17·4	51·9	11·1	20·0	16·7	53·8	9·5	14·9	31·9	41·1	12·1	47·4	51·1	1·5
„ 3 „ ..	52·6	1·7	28·2	18·5	44·3	..	41·4	14·3	27·9	21·5	38·5	12·1	89·4	8·0	2·6
„ 5 „ ..	54·4	8·5	11·8	25·3	72·4	3·8	9·9	14·3	70·3	4·8	12·8	12·1	..	..	..
„ 7 „ ..	63·7	0·4	10·6	25·3	85·1	..	0·6	14·3	77·9	0·9	5·1	12·1	..	..	..
„ 9 „ ..	70·4	0·7	3·6	25·3	..	..	..	..	85·2	0·7	2·0	12·1	..	..	..

(To be continued.)

BOARD OF TRADE RETURNS.

Imports into the U. K. in December 1898.

Cocoa (raw) the receipts were one-third larger than in 1897, while the deliveries were about as much more, and the stock in bond underwent little change.

In the twelve months.	1898.	1897.	1896.
Imports .. ... lbs.	43,227,123	34,533,531	38,281,803
Home consumption ... „	32,087,084	27,852,152	24,523,428
Exports ... ... „	9,666,345	14,728,311	12,238,804
Stocks in bond ... „	16,954,000	16,016,000	25,256,000
Value of imports	£1,334,339	£927,620	£1,053,962
„ exports	310,733	405,805	322,258

Coffee – Very light quantities came forward, say about half those in the same month of 1897 and 1896, and although the duty payments fell off somewhat, there was a diminution in the uncleared stock

In the twelve months.		1898.	1897.	1896.
Imports	cwts.	928,315	756,590	713,589
Home consumption ...	,,	250,817	248,501	248,042
Exports	,,	558,910	451,333	443,742
Stocks in bond ...	,,	318,000	207,000	157,000
Value of imports ...	...	£3,744,454	£3,585,674	£3,559,454
,, exports ...	...	2,132,535	1,932,485	2,007,677

Tea.—The position in the main was not much altered, but the official statistics in detail were very interesting, and the stock was more on an equality with that of a year or so ago

In the twelve months.		1898.	1897.	1896.
Imports China ...	lbs.	27,098,706	28,760,297	35,299,730
,, British East India.	,,	140,699,017	134,734,297	127,721,885
,, Ceylon ...	,,	98,136,157	96,325,578	94,859,965
,, Other countries..	,,	7,467,404	6,980,239	7,512,542
Total imports ...	,,	273.401,284	266,800,411	265,394,122
Home consumption China	lbs	14,695,334	17,242,246	19,831,680
,, ,, B.E.I.	,,	133,430,351	124,534,194	122,941,098
,, ,, Ceylon ...	,,	82,471,745	85,493,552	80,294,475
,, ,, O.C. ...	,,	4,816,675	4,129,782	4,718,256
Total ...	,,	235,414,105	231,399,774	227,785,509
Exports—China ...	lbs.	15,786,150	19,992,024	20,073,413
,, British East India.	,,	7,855,495	5,711,240	4,399,640
,, Ceylon ...	,,	11,522,434	10.683,885	8,496,663
,, Other countries ...	,,	1,179,173	967,574	1,058,090
Total	,,	36,343.252	37,354,723	34,027,806
Stocks in bond ...	lbs.	101,638,000	100,957,000	103,799,000
Value of imports ...	.	£10.367,672	£10,405,084	£10,562,773
Of which British Indian ..		5,450,683	5,450,525	5,240,916
,, Ceylon ...	.	3,710,305	3,728,166	3,799,713
Value of exports ...	...	1,509,050	1,545,675	1,443,168

PRODUCE AND PLANTING.

More Cheerful.—There has been so much croaking in the Press and elsewhere about the outlook for tea that an article of a hopeful character in the *Scotsman* is very welcome. We reprint it in another column as a proof that there are signs of a return to a more reasonable view of things We find the *Globe* taking up the same strain. It says: "For a long time the Indian and Ceylon tea planters tried in vain to place their goods in the Continental, American, and Australasian markets. While their superior growths drove the Chinese herb out of England, popular taste abroad adhered to the latter. Happily, this is no longer the case; recently published statistics prove that prejudice is rapidly giving way to common-sense. The annual exportation to Australasia in particular is advancing by leaps and bounds. Last year it amounted to 29,000,000 lbs. North America has not yet become nearly such a good customer, but her consumption has risen to 8,000,000lbs. while the Continent absorbs over 12,000,000lbs. Altogether the exports to foreign countries other than Great Britain now amount to 58,000,000lbs. and although this is small compared with the British consumption—last year's was 231,000,000lbs.—it represents a wonderful expansion to have taken place so quickly. But popular taste still has its vagaries. While Australasia, the Continent, and Canada give decided preference to Ceylon growths, the United States have greater relish for the Indian. But this is of little importance; the gratifying fact is that the joint exports to these new customers should have very nearly doubled during the last three years. The planters are thus rid of the misgiving that over-production might precipitate a ruinous fall of prices After the British demand is satisfied, 40,000,000lbs. still remain to be disposed of, but now that 58,000,000lbs. are required for new markets, demand must be in excess of supply just at present No doubt increased production will soon redress the balance."

The Tea Trade of China.—Professor Douglas, in his lecture on China, referred to in another column, deplored the loss to China of its tea trade. He has good reason to call it a "great misfortune" for the Celestials. In 1878, out of a total of about 157 million lbs. used, under 37 million, or, say, 23½ per cent., came from India and Ceylon. In 1898 our consumption had risen to 231¼ million lbs. and of this 9 ¼ per cent. was of Indian and Ceylon origin. China tea, as everyone connected with the tea trade knows, is in a very bad way indeed, so far as this market is concerned, and as Professor Douglas says, the growers in China have realised it, and are striving to remedy it, although somewhat late in the day.

Last Week's Tea Market.—"The tendency of the market for Indian teas," says the *Produce Markets Review*, referring to last week's sales, "has been exceptionally strong, and a general advance from ¼d to ¾d has taken place, notwithstanding the heavier supply brought forward. The principal upward movement has been in the medium and fine grades, most of the direct garden consignments showing the greatest rise These descriptions, which were obtainable at unusually favourable prices during the two or three months before Christmas, are, even at the advance, still good value as compared with other growths. There appears to be every prospect of prices being maintained, and it is not improbable that a further advance may be seen later on, as the future supplies of these kinds are by no means likely to exceed the consumption. For the commoner sorts there has also been an active market, with an enhancement in values of from ¼d to ½d per lb; but, although present rates may be supported, any further material rise in the face of the heavy shipments of these grades is not immediately probable. The finest descriptions, as usual at this period, are getting into a much smaller compass, consequently any parcels which stand out are eagerly bid for at improved rates. This market for Ceylon teas has been better supplied, the quantity brought forward at public sale having shown a large increase on recent auctions. The demand throughout, however, was brisk, the bidding being particularly keen, and full prices were paid generally (except for a few thin liquoring sorts), with a decidedly upward tendency. For the lower grades of leaf tea the inquiry continues good, and there is very little to be bought under 5½d per lb The medium kinds have also been much sought after, but no change can be quoted in these descriptions, although the market remains very firm. In broken Pekoes the selection under 8¼d is still very limited, and values were consequently firm, while the better sorts were more liberally represented, but were readily taken at occasionally enhanced rates."—*H. & C. Mail.*

BRITISH GROWN TEA.

(FROM AN OCCASIONAL CONTRIBUTOR.)

At the opening of another year it cannot but be interesting to your readers to have placed before them the most recent and reliable statistics of the British-grown tea industry.

According to the latest report of the statistical department of the Government of India published, the area under tea throughout India at the end of 1897 is 493.710⅞ acres, but this includes an

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estimate of 30,000 acres for Travancore, although in regard to that province it is stated that "the planters were unwilling to furnish information, and the recorded figures are quite unreliable." If we go back to the reports previously issued by the Government of India, it will be found that the total area under plant at end of 1894 was returned as 423,006 acres. and if to this we add the area at which the extensions since 1894 are returned in the last report issued, namely, during 1895, 15,190 acres. 1896 17,396 acres, and during 1897 no less than 6[illegible],430¾ acres, equal in all to 93,016¾ acres since close of 1894, the total area till end of 1897 would come out higher, say, 516,022¾ acres. But no doubt the area returned for Travancore must be treated as entirely unreliable. Though the Government of India has failed to obtain the desired information from the Travancore planters, we learn, through the courtesy of the London office of the Ceylon Association, that Mr. Ferguson, of the *Ceylon Observer*, has succeeded in obtaining returns from every property in Travancore, and in a fully-detailed statement brings out the total area under tea in that State till middle of 1898 at 16,276½ acres. This does not say much for the methods of the Government of India for obtaining complete and trustworthy statistics. It is therefore well that, at the suggestion of Mr. Stanton, of Messrs Gow, Wilson, and Stanton, who may be looked upon as the statistician of the Indian tea industry, the statistics for the Government of India are in future likely to be collected and furnished to it by the Indian Tea Association.

It is much to be regretted, especially at a time like the present, when there is a scare in regard to too rapid extensions and over-production, that the Government of India should magnify the evil (bad enough no doubt) by the issue of unreliable and exaggerated statistics.

The following statements of area are perhaps as accurate as can be obtained without the aid of an expert from each district with an intimate knowledge of it. The figures, for various reasons, should possibly be taken as over rather than under the actual areas

AREA UNDER TEA THROUGHOUT INDIA ACCORDING TO GOVERNMENT. RETURNS FOR 1897.

	Acres.
Assam	178,444
Cachar	61,190
Sylhet	70,200
Darjeeling	55,822
Julpaiguri (Dooars)	65,072
Chittagong	4,024
Hazaribagh and Lohardaga	3,049
Kumaun	3,159
Dehra Dun	4,806
Kangra Valley	9,970
Nilgiris	5,479
Travancore	16,276
Burma	747
Andaman Islands	650
Total	478,888

AREA OF BRITISH-GROWN TEA ACCORDING TO RETURNS FOR 1897.

	Acres.
India	478,888
Ceylon (for 1898)	363,807
Natal	2,302
Fiji	210
Mauritius	100
Straits Settlements (area not known at Colonial Office), say	100
Total	845,407

In regard to India there are small areas under tea in Goalpara, the Naga Hills, Khasi and Jaintia Hills, in Simla, Malabar, and Cochin, and possibly some recent extensions on the Annamalai Hills in Madras Presidency, which, though apparently excluded from the above table, the 478,888 acres may be taken as ample to cover all From the latest Colonial reports the areas in Fiji and Straits Settlements have been diminishing annually. Tea has been experimented with in Borneo, St. Helena, and other colonies, but the areas are too inconsiderable to be noticed. Neither is the cultivation of much account in any foreign country except China, Japan, and, perhaps, Java. The crops, but not the area, from Nepaul is included with India. In Brazil, Caucasus, Azores, and even in the United States and Italy tea has been grown experimentally, and it is more than probable that in these and other countries it will not get beyond the experimental stage.

From the "Trade and Navigation" Returns issued within the last few days it is encouraging to learn that the consumption of British-grown tea continues to increase, and that the displacement of China and other foreign produce also goes on, and, in fact, is now all but complete. The following table shows this:—

Year.	China, &c.	Per Cent.	Indian.	Per Cent.	Ceylon.	Per Cent.	Total.	Per Head of Population in lb.
	lb.		lb.		lb.		lb.	lb.
1800	20,358,187	100	—		—	—	20,358,827	1·25
1850	51,000,000	—	—	—	—	—	51,000,000	1·75
1866	97,681,000	96	4,584,000	4	—	—	102,265,000	3·42
1879	126,340,000	78	34,092,000	22		—	160,432,000	4·68
1887	90,508,000	49	83,112,000	45	9,941,000	6	183,561,000	5·02
1897	21,272,030	9	124,534,191	54	85,493,554	37	231,397,778	5·86
1898	19,512,009	8	133,430,361	57	82,471,745	35	235,414,105	5·95

As far as can be gathered from the Customs' returns and other sources, the conquest of colonial and foreign markets seems to go on apace, 61¾ millions of lbs. having been taken by markets outside the United Kingdom last year, as compared with say 51½ millions in 1897, 28¾ millions in 1894, and 14½ millions in 1891. We understand that the efforts of our Ceylon friends—to whom we owe so much in the exploiting of new markets—have made satisfactory progress in Russia last year, with every promise of doing five times as much in 1899. In this respect all honour to Ceylon, and may she go on prospering.—*H. & C. Mail.*

THE INDIAN TEA OUTLOOK.

The following is from the *Scotsman* of January 2, 1899:—

"There are not wanting signs that the Indian tea trade is gradually emerging from the depression which overtook it in 1897. This is the more satisfactory because until quite recently it had become the fashion to speak of the future in terms almost of despair. In 1897 there was a general reduction of net profits and of dividend. In order to make modest distributions among their proprietaries numerous companies had to supplement the year's net earnings by drawing on reserve funds, and others, which in 1896 paid substantial dividends, and carried forward good balances, had to report actual losses on the twelve months' operations. It was, therefore, hardly to be wondered at that the reports issued by many of the companies should have had nothing of a favourable character in them, and that chairmen at the several meetings should in numerous instances have painted the picture in gloomy colours. Yet it was recognised by experts that the case was really not so bad as was made out. In the first place, the business had been run at too hard a pace. Then there came a famine in India, which raised the cost of living and the cost of production, and furthermore a considerable rise in the rupee, and a fall in the price of tea. Such a combination of adverse conditions was bound to cause distress to the whole industry and stimulate people of a pessimistic turn of mind to predict general disaster, as if there was no sort of probability that affairs would mend, but on the contrary, everything to warrant a conviction that they must go from bad to worse. This would seem to have been the attitude of the Darjeeling Tea Planters' Association when, about two months ago, it enlarged on the 'critical position' of the Indian and Ceylon tea industry, which it viewed with 'great alarm,' tracing the trouble almost entirely to the high rate of exchange. The remedy for this state of affairs was, in the opinion of the Association, to be found in the imposition of a duty on foreign-grown teas in proportion to the difference in exchange, or the removal of the duty on British grown teas, in order to counterbalance the bounty which, it was alleged, was practically being offered to foreign teas by the existence of the rupee at 1s 4d. There can, of course, be no question that the high rate of exchange proved a great drawback to the British industry, the appreciation of the rupee having been in 1897 equivalent to an addition of about 30 per cent. to the cost of production. But, as

already hinted, that was not by any means the whole cause of the trouble, and its removal would probably only prove temporarily beneficial.

"The growth of the Indian tea industry in the past ten years has been of quite phenomenal dimensions. Thus in 1887 there were 312,803 acres under cultivation, while last year the total was 493,710 acres, being an increase of, roughly, 57 per cent., while in the same interval the production increased from 92,252,082 lbs. to 163,782,208 lbs., being an expansion of about 67 per cent. Concurrently with this movement there has been a steady shrinkage in the price, from an average of 11½d per lb in the earlier year to 8¼d in 1897. While production was large, and the crops brought remunerative prices, it was natural that the industry should undergo a steady and rapid extension. That is the usual experience in the case of every calling prosperity stimulating competition, and bringing about a lowering of profits. The consequence was that a 'boom' set in, and there took place a great rush of new companies, many of which were notoriously over capitalised. This last fact is in no small degree responsible for the troubles of large numbers of British investors, who now find that that they paid too dearly for the enterprises placed before them two or three years ago. It also afforded another instance of overdoing a good thing. There can be no doubt that had it not been for the adverse events which beset the industry in 1897 the same process would have made headway, and that if even all other conditions had remained favourable, excessive competition and over-production, glutted markets, and reduced prices would by themselves in time have brought about a sharp reverse without the aid of any other causes. For this reason the evils complained of were not of an altogether unmixed character. A lesson was taught which it is to be hoped will not soon be forgotten. Indeed, if the recommendation of the Darjeeling Tea Planters' Association was to meet with a favourable response from the Government, which is a by no means likely contingency, it is highly probable that the advantage which would be conferred on the trade at the outset would quickly apply a fresh stimulus to competition, and bring about a repetition of the old trouble of low prices, thereby sweeping away any benefits that might flow in the first instance from a removal of the tax on British-grown tea or placing of a higher impost on foreign teas. Fortunately the growers are not waiting for help of the kind. They have wisely taken matters into their own hands. They have, in brief, ceased to extend the area under cultivation, and are labouring strenuously to keep down expenses. The flow of capital into the business has been checked, and in the meantime new markets are expanding.

"That there will soon be a repetition of the unfortunate experience of 1897 is, it need hardly be said, improbable in the extreme. The famine and the high price of rice proved a terrible incubus on the industry, and incidents of the kind are of such rare occurrence that they may safely be eliminated from calculations as to what may happen in the next few years. As to the question of the exchange, it is possible to exaggerate the effect of the late rise. It is perfectly true that, as already mentioned, it has been a serious burden, but not of so grave a nature that it will not be susceptible of remedy by a slackening of competition, greater care and economy in working, and an improvement in price. That this is a fair view to take of the situation is, we think, pretty easy of demonstration. As already stated, the planters complain that the artificial rise in the exchange was equivalent to an addition of 30 per cent. to the cost of production. But to this disadvantage there were added others previously referred to, among them being the increased cost of rice, which the planters have to supply to their people at a fixed price of three rupees per maund (80 lb). Now rice during the famine rose to about double that figure, so that here we had a further leakage of profits. Yet on looking into the accounts of twenty-four representative companies, whose experience may be said to sum up that of the whole industry, we find that whereas the net profits amounted in 1896 to, in round figures, £376,000, in 1897 they had diminished to £253,000, being a falling off of about 33 per cent. The rise in the rupee was, therefore, only one of the adverse influences which brought about this state of affairs, and the natural assumption is that with an amelioration in other directions there should take place a gradual improvement, notwithstanding that the rupee be maintained at its much execrated rate of 1s 4d. In the old days the companies divided their net earnings pretty well up to the hilt, thus making too small a provision for the contingency, to which they are so much exposed, of a rainy day. In more recent periods they have improved on this. In 1896 the twenty-four companies referred to added to their reserves or carried forward £77,000; but in 1897 they paid away the whole of their profits and drew upon their reserves in order to distribute dividends which fell lamentably short of those declared in 1896. Inconvenient as a high exchange may be, it is not a matter that threatens the Indian tea trade either with extinction or with really serious embarrassment. The trouble has been very much a matter of prices. When the exchange stood at 1s 4⅛d in 1887, and tea commanded 11½d per lb in the London market, the trade did well, and it flourished in 1890, when, as a result of the passing of the Sherman Act, the exchange rose to 1s 6⅜d, notwithstanding that the price had come down to 10½d per lb. The Indian industry pushed ahead as well under a high as under a moderately low rate of exchange, and it was not until it came to be forced with an undue rapidity that it began to feel the effect of the alteration in the exchange. We are fully aware that underlying the fears expressed as to the ruinous effect of a highly valued rupee is a dread that the China industry may become suddenly stimulated because of the advantage enjoyed by the Celestials in respect of their cheap silver, and doubtless if the industry could be conducted in the latter country under as favourable conditions as those existing in our great Eastern Dependency there would be good ground for apprehension. But the conditions are not yet so favourable, and only very distant signs have so far been forthcoming that China will for some time to come figure as a really formidable rival. On the whole, we strongly incline to believe that the Indian tea industry has got through its troubles, and that with care it will be again placed in a prosperous condition."

DISTRICT ASSOCIATIONS.

CENTRAL TRAVANCORE.

The Annual General Meeting of this Association was held at Penshurst Bungalow, on Saturday, 21st January, at 10 a.m., when there were present. Messrs. F. M. Parker (*Chairman*), F. Bissett, H. J. Blandford H. D. Deane. R. H. Goldie, R. S. Imray, B. Laurie, H. S. Holder. W. H. J Leahy, J. E. Pigott, D. MacArthur, the Hon. V. B. Wilbraham, A. E. Veale. and as visitors Messrs. E. Lalter. W. MacGrath, N. MacGowan and E. Williams.

The Chairman, Mr. F. M. Parker, in opening the Meeting, read a letter from Mr. H. W. Baker, the Honorary Secretary, expressing his great regret at being unable to attend the Meeting owing to illness and on account of which he had been unable to prepare the usual Annual Report.

The Minutes of the last Meeting having been taken as read, the agenda paper was proceeded with.

Accounts for 1898.—The accounts for the past year were passed subject to revision by Mr. A. E. Veale.

Election of Officers.—The ballot resulted as under :—

Chairman	...	Mr. R. H. Goldie.
Honorary Secretary	...	„ A. E. Veale.
Committee	...	Messrs. B. Laurie.
		„ F. M. Parker.
		„ R. S. Imray.

Votes of thanks.—Cordial and hearty votes of thanks were proposed and carried unanimously to Mr. F. M. Parker for his valuable services to the Association as Chairman during the past two years; and to Mr. H. W. Baker, the late Honorary Secretary for the able way in which he had conducted the arduous duties of his office.

Mr. F. M. Parker briefly replied.

Subscriptions.—Proposed by Mr. Laurie and seconded by Mr. H. D Deane that the subscription for the current year be fixed at the rate of annas five per cultivated acre *Carried.*

Read and Recorded Mr G. L. Acworth's reply to vote of thanks.

Shipping facilities at Cottayam.—Mr. H D. Deane in proposing "that H. H Government be asked to erect a covered landing stage with a boarded floor at Cottayam," said, that he had frequently seen tea and rice turned out of carts and wollams into the mud and exposed to the rain and which in consequence suffered much damage, so much so that he had received complaints from his Cochin agents of the dirty condition in which his tea invariably arrived at that port. He also pointed out that planters would by no means be the sole gainers by the erection of the proposed landing stage, all merchants and others importing or exporting goods by backwater from

Cottayam would derive equal benefit therefrom. Several other members having spoken to the same effect, the proposition was seconded by Mr. Imray and carried *nem con.*

District Roads.—Proposed by Mr. Imray and seconded by Mr. Parker, "that the attention of H. H. Government be drawn to the delay in granting outlet roads to land bought as far back as 1895; the delay seriously interfering with the development of the land and retarding progress in the district; which the tea industry can ill-afford in the present crisis.

"The following roads being particularly mentioned to the Dewan:

"1. Bridle path from Arlady through Kolikarnum to meet cart road at Maimalai gap.

"2. Cart road from Kolikarnum through Fairfield to Cardamom Hill road.

"3. Cart road from Granly Estate through Mount to Periyar River." Carried *nem. con.*

Bridges.—Proposed by Mr. Laurie and seconded by Mr. Holder, that the Chief Engineer's attention be drawn to the extremely dangerous condition of all the bridges in the district, and that he be requested to issue orders to have them promptly put in a safe condition." Carried *nem. con.*

With a vote of thanks to the Chairman the Meeting terminated.

"The following papers were laid on the table:—

Proceedings of Coorg Planters' Association.
Do. Wynaad do. (2)
Do. Shevaroy do.

(Signed) A. E. VEALE,
Honorary Secretary, C. T. P. A.

NILGIRI.

Proceedings of a General Meeting held at the Masonic Hall, Ootacamund, January 27th, 1899. PRESENT:—Messrs S. Bayly, A. H. Gerrard, L. W. Grey, J. Harding Pascoe, H. D. Wilbraham, J. W. Minchin, W. L. Edmiston, and E. G. Windle (*Honorary Secretary*). Mr. Edmiston was asked to take the chair.

I. Proceedings of last Meeting were taken as read and confirmed.

II. The Honorary Secretary reported progress on the different matters which had come up before the U. P. A. S. I.

III. **Planting Opinion.**—*Read* circular dated October 3rd, 1898, from the Proprietor, announcing that *Planting Opinion* was now conducted by him, and asking for support.

IV. **London weighing of Tea.**—*Read* circular dated June 1898, re correct and incorrect methods of packing, etc.

V. **Producers' Co-operative Co.**—Shevaroy proposal was read and recorded.

VI. **United Coffee Producers Co.**—(for selling coffee direct to consumers).—The Honorary Secretary put the scheme of the proposed Company before the Meeting; the prospectus had been drawn up the previous day and would be issued very shortly to planters and others interested; considerable support had already been promised.

VII. **Adulteration of Coffee.**—Mr. Windle moved "that this Association request the U. P. A. S. I. to petition the Home Government for more stringent legislation against adulteration of coffee and to endeavour to unite the coffee-producing countries of the world in support of the movement, and in pressing it upon their respective Governments." Seconded by Mr. L. W. Grey and *carried unanimously.*

VIII. **Place for N. P. A. Meetings.**—The Meeting, with one exception, was in favour of retaining Ootacamund as the place for holding Association Meetings, it being the centre of the district and head-quarters of the official Honorary Members: the District Board and Game Association Meetings also being held there to furnish additional inducement for attendance

IX. **Deterioration in the quality of E. I. Coffee.** The Honorary Secretary brought up this, giving it as his opinion that the recent irregular seasons and probably the increasing custom of judging coffee by liquor instead of appearance were the main factors in the poor prices recently obtained. The Honorable Mr. H. Percival Hodgson, in a letter which he sent on the subject, held that better and more scientific curing was required to enable E. I. coffee to hold its own against the large South American crops, whilst Mr. L. W. Grey considered that his experience pointed to shade as being the best method of improving quality.

X. **Plague Precautions.**—*Read* Collector's letter dated December 1898, giving particulars of precautions against plague in the Nilgiri District. The Acting Collector stated that the mention of inoculation have caused great alarm amongst the natives in Wynaad and elsewhere, Ootacamund and Coonor would be the only centres for inoculation. All Superintendents of Estates are requested to inspect labour coming from infected districts. Further measures were also discussed, Mr. L. W. Grey advocating a plague camp for the Buckapuram Ghât as soon as the Kakenhulla had to be closed owing to malaria.

A vote of thanks to the chair closed the proceedings.

(Signed) W. L. EDMISTON,
Chairman.
(Signed) E. G. WINDLE,
Hon. Secretary.

N.B.—All Managers of Estates are now to be regarded as the "local authority" for inspection of coolies from plague-infected districts. Copies of the Collector's notice to this effect and rules for inspection can be had on application to the Hon. Secretary, N. P. A., by those who may not have received them direct.

MARKET REPORT.

[*Advices by the Mail of 20th January*, 1899.]

COFFEE.

The *Record* says: Only moderate supplies have been brought to auction during the past week, including the first arrivals of new crop Coorg and Wynaad, and these, like the Neilgherry, are deficient in quality; Coorg chiefly sold, but competition was slow, and Wynaad was nearly all withdrawn for want of reasonable offers. There has been a fair demand for Central American descriptions, with rather dearer prices for desirable qualities. "Futures" have been dull, and prices for the week are easier, closing as follows:—

London	... Santos	... March delivery	...	31*s.* 0*d.*
New York	... No 7 Rio	... „ „	...	5·55 cents.
Hamburg	... Santos	... „ „	...	31½ pf.
Havre	... Santos	... „ „	...	37¾ francs
Holland	... Good ordinary Java		...	32½ cents.

Imports Deliveries and Stock of COFFEE in London are as follows:—

	STOCK.		IMPORTS.		HOME CONSUMPTION.		EXPORT.	
	1899.	1898.	1899.	1898.	1899.	1898	1899	1898.
West India...tons	420	505	53	251	14	13	20	48
Ceylon	69	112	5	6	4	5	—	8
East India.....	843	1069	27	110	78	111	34	33
Mocha	507	483	37	19	21	30	18	2
Brazil	3540	3206	11	435	82	63	59	45
Other Foreign.....	8446	4730	569	881	384	372	574	454
Total tons...13825		10105	702	1702	583	594	705	590

The preceding figures exhibit—

In the Imports a decrease this year of	1000	tons
Home Consumption a decrease of	11	„
Export an increase of.....	115	„
Stock an increase of.....	3725	„

Auctions have passed off as under:—

CEYLON.—*Native.*—63 bags retired unsold.

EAST INDIA.—333 bags partly sold as follows:—*Coorg*, smalls 50*s.*, middling 69*s.* 6*d.*, bold 91*s*, peaberry 106*s.* to 104*s.*; *Wynaad*, triage 36*s.*, smalls 46*s.*

LAHAT.—90 bags bought in.

WYNAAD.—*Liberian.*—11 bags sold—bold 30*s.*

JAVA.—*Liberian.*—106 bags sold at 42*s.* 6*d.*

SOUTH SEA.—18 bags withdrawn.

MOCHA.—44 half-frazils bought in.

JAMAICA.—86 barrels 13 bags partly sold—ordinary mixed 32*s.*, good ordinary 34*s.*

COSTA RICA.—769 bags partly sold—new crop, smalls 31*s.* 6*d.* to 38*s.* 6*d*, low middling 52*s.*, middling to good middling 65*s.* to 73*s.*, good bold colory greenish 92*s* 6*d.* to 97*s.*, peaberry 70*s.* to 90*s.*; old crop, ordinary 40*s.* to 42*s.*, low middling 51*s.*, faded peaberry 41*s.*

GUATEMALA.—808 bags, barely half sold. common pale 34*s.*, fine fine ordinary 48*s.*, low middling greenish 54*s.* 6*d.*, bold 70*s.*, peaberry 69*s.* 6*d.*

SALVADOR.—183 bags sold. new crop low middling gray 44*s.* 6*d.* to 45*s.*, greenish 49*s.* 6*d.* to 50*s.*, peaberry 60*s.*, old crop 46*s.*

NICARAGUA.—119 bags sold, foxy 37*s.*, fine ordinary dull greenish 44*s.* to 44*s.* 6*d.*

MEXICAN.—251 bags sold, greenish 48*s.* 6*d.* to 52*s.*, peaberry 62*s.*

VERA PAZ - 994 bags s ld, ordinary dull brownish 37*s.* to 39*s.*, fine fine ordinary to low middling 47*s.* 6*d.* to 54*s.*, middling to good middling 60*s.* to 67*s.*

COLOMBIAN —1,010 bags mostly sold, smalls 29*s.* to 42*s.* 6*d.*, dull soft mixed 42*s.* to 44*s.* 6*d*, low middling soft 45*s.* 6*d.* to 57*s*,. middling to good middling 61*s.* to 75*s.* 6*d.*, good bold colory to fine blue 79*s.* 6*d.* to 86*s.*, peaberry 61*s.*

PERUVIAN. - 26 bags ordinary pale greenish sold at 31*s.*

BRAZIL.—250 bags Rio bought in.

Receipts in Rio and Santos.

To day's auctions offered 273 bags East India, 57 barrels 25 bags Jamaica, 37 hf-frazfls Abyssinian, 87 bags Peruvian, 430 bags Colombian, 175 bags New Granada, 1 164 bags Vera Paz, 163 bags Coban, 296 bags Costa Rica, 242 bags Guatemala, 62 bags Venezuela. 220 bags Salvador, and 14 bags Guayaquil Colory Costa Rica sold under yesterday's prices, but nearly all offered in sale were placed. Tone of the market dull

Prices realized at auctions for the principal Marks of East India :—

COORG.	A	B	C	PB	T
Chisholm's Coorg Corringabetta	91/-	69/6	50/-	104/-	46,6
Arbuthnot's Yemmagoondi	87/- bid	66/- bid	—	100/6	45/-

WYNAAD.	A	B	C	PB	T
Walker's Estates Touramulla	70/- bid	56 6	45,6 bid	75/-	36/-

NATIVE KIND @ PONDICHERRY.

IVA 43/-

TEA.

INDIAN.—An increased quantity was brought forward, aggregating 55,500 packages contrasted with 44,900 packages in the previous week and 62,300 packages at this time in 1898.

Common to fair Pekoe Souchongs and Pekoes with useful cup often advanced ¼*d.* per lb., while the better lines of these were occasionally quite ½*d.* per lb. dearer. Medium Broken Pekoes, unless with special point, did not mark much change, but quotations for fine and finest "tippy" lots were higher, among the best Broken Orange Pekoes being:—Hapjan Estate, AF TCo., 2*s.* 10½*d.*; Subansiri Estate, J (A)TCo., 2*s.* 4*d*; Beesakopi Estate, DD TCo., 2*s.* 3½*d* ; Samdang Estate, DDTCo., 2*s* 2½*d* ; Mazengah Estate, Am. Co., 2*s.* 1½.; Borbarrie Estate, Raj. TCo, 2*s.* 0¼*d.* per lb South India was represented by 1,500 packages, chiefly from Travancore, quality on the whole being of a saleable style, though not calling for special notice.

Although supplies since the commencement of the year have appeared somewhat large, viz , 131,000 packages, this is considerably under those in the corresponding period of the preceding January when 161,000 packages were offered, and has apparently not been too much for buyers, as demand was good throughout, and prices in most cases bave tended upwards. It is to be hoped that this improved condition of things will not induce importers to unduly force the market, as the statistical position is unusually strong, and it seems that the 1898 crop should (if deliveries continue as of late) be easily absorbed.

For 42,400 packages on estate account, 9¼*d* per lb. was realised *versus* 8½*d.* per lb. for 49,500 packages, and 9½*d.* per lb. for 42,600 packages in the two former seasons.

Entries for export to Great Britain since 1st April, 1898. to 15th inst. were 126,867,000 lbs., against 125,320,000 lbs. to the same date in 1898

CEYLON.—Public auctions were smaller, totalling 16,200 packages, whereas on the 10th inst. 27,400 packages passed the hammer and 21,100 packages on the 18th January, 1898.

Notwithstanding the reduced amount catalogued, there was some irregularity in the biddings. parcels with desirable flavor generally bringing more money, while the less attractive ruled against sellers. Continental orders were scarce, partly owing to the Russian new year holidays; but in spite of this, leafy sorts below 6½d per lb. hardened slightly in value. Medium grades were not so much sought after, but the few finest commanded full figures

The average is the same as on the 12th inst., when it stood at 8½d per lb. A year ago it was 8½d per lb

JAVA.—In the absence of business there is nothing to report, except that about 1,300 packages are advertised for the 26th inst.

PEPPER.

Black.—An active demand was experienced at the commencement of the week and higher prices were paid, but demand has latterly fallen off and market is now quiet. About 450 to 500 tons have changed hands, including Singapore on the spot at 5 3/32d to 5⅛d, Jan.-March shipment at 5 7/16d, Feb.-April at 5⅛d, and March-May at 5¼d—the later month closing at 5 5/32d sellers. Tellicherry on the spot has been sold at 5⅛d, February-April shipment has been sold at 5¼d landed terms, also some business in February-April at 5¼d c.i.f. New York.

At auction on the 18th inst., of 343 bags Singapore 20 bags sold at 4¼d for greyish. 70 bags Penang about half sold at 4¼d for 3 lbs. 13 ozs. per gallon, dust 4 %. 80 bags dusty small Java bought in at 4½d per lb.

On 20th inst. prices were lower. 20 tons Singapore Black March-May shipment sold at 5 3/32d—a drop of 1/16d, also some business on the spot at 5¼d.

The shipments of Black Pepper for the first half of January compare as follows:—

	1899.		1898.	
U.K.—Singapore ...	*nil*	70	120	130
,, Penang ...	70		10	
Continent ...		50		200
U.S.		100		60
Total tons...		220		390

In *White* a considerable business has been done—in all 400 tons, viz., Singapore on the spot at 8⅜d to 9d for fair to good Jan.-March shipment at 8⅞d, and Feb.-April and March-May at 8½d; Penang on the spot at 7½d for fair, Jan.-March at 8d, and Feb.-April at 8 1/16d per lb.

At public sale on Wednesday, of 20 cases 717 bags Singapore brought forward, 180 bags sold—fine bold at 9⅜d, good bold but rather dullish 9d, fair 8½d per lb.

The shipments of White Pepper for the first half of January compare as follows:—

	1899		1898.	
U.K.—Singapore ...	60	200	*nil*	20
,, Penang ...	140		20	
Continent		*nil*		60
Total tons...		200		80

COCOA.

Moderate supplies, amounting to 4,296 bags, were offered at public sale on Tuesday, of which 2,500 bags pound buyers at slightly under valuations 660 bags Trinidad one-third part sold at 74*s.* to 75*s* for fine red and 72*s* to 73*s.* for middling to good, being about last auction's rates. 160 bags Grenada met a quiet demand, 100 bags selling at 67*s.* to 70*s.* for fair to fine red and 64*s.* for common, or about 6*d.* cheaper. Of 452 bags Guayaquil 150 bags were placed at late rates—70*s.* for Caraquez 46 bags Surinam and 97 bags Columbian retired unsold, also 226 bags Samana. Of 378 bags Bahia 78 bags good fermented realised 67*s.* to 68*s.* which was below valuation. 282 bags Jeremie half sold at 62*s.* for ordinary gray 720 bags African about one third sold at a slight decline—good fermented 67*s.* 432 bags Ceylon were all placed at 70*s* to 72*s.* for dull to good red bold and medium, and 56*s.* to 61*s.* for black and pickings. Private transaction include 200 bags Dominica at 65*s.*, 1,000 bags African at 65*s.* to 68*s*, and 2,000 bags Guayaquil, Summer Arriba at 76*s.* to 80*s.* 6*d.*, Winter Arriba and Caraquez 69*s.* to 74*s.* per cwt.

GINGER.

Cochin is a very slow market. and the small offerings 47 cases 35 bags—retired with hardly a bid being made—bold A cut at 86*s*, washed rough at 25*s.* per cwt.

As high as 27*s.* c i.f. has been paid for assortment March-May shipment, but owing to the dapession for spot prrcels the c i f. quotation has since receded to 26*s.* c.i.f., with resellers under this price—as low as 25*s.* c.i.f. so it is said.

Japan.—320 bags plump limed were bought in at 22*s.* per cwt.

BALAM and CO.,

MERCHANTS & AGENTS,

191, MINT STREET, MADRAS.

Have always in stock, Planters' Tools, Galvanized Corrugated Iron Roofing and Fittings, Piping and Fittings, Cements, Paints and Oils and other requisites for sale.

Terms unchallengeable.

A Trial Order is solicited.

w. 11-2-99—t.f.o.]

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

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ADVERTISEMENTS.—The charge for line advertisements is 4 as. per line for the first, 3 as. for the second, and 2 as. for the third and succeeding insertions. Five-line (or shorter) advertisements from Subscribers will be inserted for three issues for one rupee; non-Subscribers will be charged two rupees.

DOMESTIC OCCURRENCE.—The fee for inserting a domestic occurrence will be *One Rupee* for each insertion, payable in advance.

N. B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 24th instant. Season reports should be sent direct to the Printers, Messrs. HIGGINBOTHAM & Co.

Please note the change of address.

Coorg.

POLLI BETTA, *15th Feb.*—Rain on the 7th and 8th: 7th out West. 8th East. Since weather has been clear. *Crop.*—Stripping, and gleaning of present crop still in hand. In some cases ripe picking still being done. Rain on 7th and 8th, bringing out a blossom. No bees to be seen. Pruning is being pushed on with. *Labour*—Sufficient. *Health.*—Good. *Grains*—cheap.

THE UNITED STATES AS A MARKET FOR TEA.

IN a recent report, MR. BLECHYNDEN expressed the opinion that the prospects for Indian tea in the United States were hopeful, as during a short tour he had made he had found Ceylon and Indian teas displayed under their own names in quite small places. He also referred to certain criticisms, of which details were lately given in our columns, and remarked that it was gratifying to find that, unsolicited by him, several independent representatives of importers had replied to those who had objected that China teas were purer than Ceylon and Indian. No doubt our readers will remember that one ground of argument was that manuring was resorted to in India and Ceylon, but not in China. MR. BLECHYNDEN retorted very effectually that in China night-soil was employed as a fertilizer for tea; but it can scarcely be said that he was equally happy in his reply about India and Ceylon. Doubtless the critic who made the comparison honestly thought he was right; and he had at least this authority to fall back upon, that in 1894 the United States Consul in Colombo, reporting on "Ceylon Tea for the United States" remarked:—"To

keep up the quality manuring is necessary, but the price of tea in Europe (18 cents per pound) does not pay for fertilizing; neither will manuring pay in the higher altitudes, though the price of high grown tea is about 25 per cent. more than of that which is grown in the low country nearer the sea." Without indorsing these opinions, we may at least refer to them as giving some support to the critic who said that Ceylon tea-plantations were manured. While on this point, too, we may refer to one or two further statements in the same report, that remind us of the difficulties that Indian and Ceylon tea producers had, and in a measure have still, to overcome before the Amercian market can be regarded as conquered. The American Consul held that as "most low grown teas are too poor in quality for anything but blending purposes, some not being even fit for that, it follows that, as a rule, only high grown Ceylon tea is suitable for the American market." The problem was to supply a better article than the Chinese and Japanese leaf, at as low a price, or even a lower. To do this, he conceived that nothing cheaper than 20—25 cents. per pound could be successfully used, and he observed that very little tea of this class was sold in the local market. Supplies being generally sent to London, tea suitable for the United States would have to be bought there, after its cost had been greatly enhanced by many intermediate expenses and charges. Hence, he judged that it was by no means certain that China and Japan teas would be easily or largely displaced in a country where they were already used to the extent of 85,000,000 lbs. per annum.

One factor to be considered was that there was no element of reciprocity of trade between the United States and Ceylon; but although the progress that has been made since 1894 is not very startling it at least shows that a considerable amount of success has been achieved in the face of adverse circumstances. Tactics have been modified. Advertising and pushing of trade with retailers has been followed by an appeal to wholesale dealers. Naturally, these gentlemen do not care to buy until they have a reasonable prospect of selling; but they have already realised that for blending purposes, at least, Indian and Ceylon teas are very useful. We take it that the use of blends of this kind will in time help to "educate the palate" of American consumers to an appreciation of pure Ceylon and Indian teas. We have mentioned instances of late that have shown that there is no mere prejudice against these: in some cases there is a sort of natural aversion to them. This may be overcome by a process of "acclimatisation," so to speak, conducted by means of blends of China and Indian teas. If the strength and quality of Indian teas are maintained and prices kept down, the natural tendency of dealers will probably be to go on increasing the proportion of Indian leaf in their blends, and thus the taste of buyers may be "converted" by slow and imperceptible degrees. This is a process that should be warmly encouraged by the Indian Tea Commissioner and his coadjutors, though there is no reason why they should relax their efforts to push *pure* Indian teas among consumers. Advertising must be continued, of course; personal canvassing is essential; lecturing appears to be useful in the United States; and "demonstrations" should be freely resorted to. Some of the large stores are now making such demonstrations on their own account. Sample cups of Indian or Ceylon tea are to be had for the asking, and doubtless efforts of this kind will, in time, result in an increase of demand. A glance over statistics shows how much scope there is for this, and while planters may sometimes feel that the American campaign has proved very costly, and has yielded no results proportionate to the outlay occurred, there is always a very large teapot indeed casting a shadow over the future and hinting at the prize that may yet be secured by persistence and perseverance.

We do not feel that South Indian tea planters sufficiently recognize the possibilities of the American market, nor do we think that they are making sufficient effort to extend trade in that country. It is not our desire to set South India against North, or either against Ceylon. "Union is strength" in this matter of canvassing new markets, and India and Ceylon do well to stand together. But hitherto South India has given very little support. It has not borne a fair share of the financial burden, it has not done a fair share of the work of canvassing, and proselytizing: it has stood almost inactive. This is not as it should be, and even if tea in the South is a small thing compared with tea in the North; even if the financial capabilities of Ceylon Tea men are beyond comparison with those of South Indian tea planters; still every year promises to bring about an improvement in these respects, and it would be well for a start to be made. By the time the next meeting of the U. P. A. S. I. is held we hope to see some definite plan of action under consideration. Coffee-men want to push coffee; let tea-men push tea simultaneously; and let the Association help both, fairly and impartially. Let South Indian planters take a direct interest in the American campaign and make the merits of Nilgiri and Travancore Teas known to their American cousins. Amalgamation with the Indian Tea Association's plan would, no doubt, be possible; independent action would be equally so, but much more expensive. It is for planters themselves to consider *how* they should act; but there is really no room for doubt as to the expediency, nay, the necessity, of taking action of some kind.

HANDBOOK OF AGRICULTURAL CHEMISTRY FOR INDIAN STUDENTS.

Mr. S. H. Collins, F.I.C., Assistant Agricultural Chemist to the Government of India, has published a very useful little Handbook of Agricultural Chemistry. He has only been employed by the Government of India for 5½ years, but his position has naturally afforded him quite exceptional opportunities for the acquisition of information and experience. He has also made use of Dr. Leather's work, and various gentlemen, on his office staff and elsewhere, have assisted him to compile the analyses, &c., required for his publication. The analyses given are chiefly Indian and based on the average results of the treatment of several samples. The arrangement of the book is good. Starting with the Chemistry of the Plant and its life history, we are carried to the Chemistry of the Animal and then of the Dairy; the Properties of Soils, the Chemistry of Soils and Manures are next considered. Then come chapters on the Supply of Combined Nitrogen and Water; and finally, a copious analytical index. The absence of an index of chapter-subjects is rather noticeable, but is not a very serious defect.

We commend this book to the notice of all our readers. It is no more than it purports to be: a *hand-book;* but there is a great deal of very useful information in it, and the planter unversed in science who dips into this little work will acquire a little general knowledge which will probably make him anxious to "drink deeper" at the spring of scientific

instruction. The price of the book is only 12 annas ; it is published at the office of the Superintendent of Government Printing, India. The printing, by the way, is far from creditable to the Government Press.

NORTH BORNEO AS A RIVAL.

Rhea.—The *British North Borneo Herald* reports that as yet, although Rhea has been largely sown, no sufficient crop for decorticating has been produced. Rains, wild cattle, and want of experience are largely responsible for past disappointment, but a very short period should see the young plants now in place producing a crop of commercial value. A new concession for this product has been taken up on the new railway line.

Pepper.—This is entirely in Chinese hands, and is grown in small plantations. It promises to become an important export as the country is gradually opened up.

Rubber.—The plantation opened by the Mortgage Investment Co. on the Labuk is said to be doing well, but, says the *B. N. B. Herald*, the plants are, of course, as yet too young to produce any gum ; and some years must elapse before the enterprising planters reap their due reward. The variety known as Ceará proves to be indigenous. Guttapercha has not yet been planted.

Tea.—The Government experimental plantation at Sapong is well reported on, and tea may in time become an article of local commercial importance.

Coffee.—The low prices ruling for some time have depressed what looked like an increasing industry in North Borneo. As we close the year, says the above contemporary, prices, which had risen, have again fallen and are quoted at $19 to $20 per picul of fair clean Liberian coffee. Cultivators, however, have not been in the main discouraged, the laws of supply and demand being pretty sure to bring about an improvement in the market. Of the Taritipan Coffee Estate in Marudu Bay we continue to hear good accounts. The latest report is that the older coffee never looked so well, which the Manager attributes to judicious forking and the crop on this estate again shows an increase on the previous year.

COFFEE IN CENTRAL AFRICA.

Favorable reports have been received regarding the coming coffee crop in Mlanje. The following is from the *Central African Times* :—"The late rains have brought out in some cases a third blossom on the coffee, and crop prospects are even better than they were a month ago. Everything points to next year being a record one. Cholo particularly seems to be going to redeem the promise of its earlier years." Again, "next year, it is estimated by some, the coffee export will touch a thousand tons and it will be impossible with our present means for that amount to be transported to the river before the rains come on, unless the crop is abnormally early. This year a good deal of the coffee was not away when the first rains came." To support the above, we have a statement lately made by Colonel Manning, Deputy Commissioner and Commandant of the Forces in British Central Africa, who arrived home last month. Speaking of the general development of the Protectorate and its commercial prospects, Colonel Manning says that there has been steady development during the past year. A very large amount of country has been opened up for coffee plantations, more, possibly, than during any former year. The coffee crop during the past twelve months, owing to the drought, which has been almost unprecedented, fell somewhat below what it should have been, but, owing to excellent rains since the last crop, the prospects for coffee this year are the very brightest. Such a blossom as has been on the trees this year has never been seen before in the Protectorate. The crop is estimated at 1,000 tons, and should not fall much below this figure if the present conditions continue. A very gratifying feature is the belief of the planting community in the possibilities of the country, and the plucky way in which they have worked under somewhat adverse conditions. The price of Nyassa coffee last year on the London market reached 114s. per cwt. being the highest price that any coffee has fetched anywhere. No doubt the experience gained by the planters during the past few years will enable them still further to improve the quality of the coffee, and a further increase in price may be looked for. In a few years time, says Colonel Manning, "the Protectorate will be one of the great coffee centres of the Empire, with a class of coffee better in quality than any yet placed on the market."

TEA FOR GOLD.

An anonymous correspondent of the *Pioneer* has sent an interesting letter upon Indian Trade with Yarkand and Thibet, and has told how "There is gold enough on the roofs of the Lamaseries in Lhassa and Potala to pay off the whole gold debt of India." It does not propose to *loot* this, but suggests "peaceful trade" as a means of getting it—perhaps with some idea that the mercantile missionary might be once more useful, with Bible under one arm and Cash-book under the other. The *Times of India* seems to think the "peaceful" process might lead to war, and observes that it is unfortunate that really useful schemes for the development of Indian trade with Thibet should have been so frequently associated of late with proposals involving conquest and spoliation. But the Indian Tea Association has suggested a peaceful way that it no doubt thinks would be just the thing. According to its plan, we should barter bricks of tea for roofs of gold, and thus arrive at an exchange very favorable to India! Here again, however, there is a cold water thrower at hand. *Capital* wonders if it is known how much tea is consumed in Thibet and of what character, and says :—"The amount used is an unknown quantity, and we do not for a moment believe that so much as 500 lbs. of Indian tea finds its way into that heathen country. From all that one can learn, the only kind of tea drunk in Thibet is brick tea, a vile decoction of old tea leaves, rotted and fermented in rice water, until it becomes sufficiently consistent to make into bricks ; a piece of this, after it is dried, put into hot water, and worked up with a swizzle, is the favorite beverage of the Thibetan, and we must give him credit for a high taste to say the least of it."

When writing this, however, our Calcutta contemporary had probably no visions of "roofs of gold" before it. None of its representatives had had the pleasure of standing afar off, and scanning the yellow glow of sunset as reflected from the golden roofs of Lhassa. Hence, *Capital* is sternly practical. Now, it asks, what is the use of the Tea Association wasting its energies on such a paltry question as that of Indian tea being put on the Thibet market when so many other opportunities offer to push new markets? "Why do they not go upon something substantial, such as the removal of the duty that is levied on the tea exported to

Afghanistan? Some years ago the whole of the produce of the plantations in the north-western corner of our frontier went across the border, and at very remunerative rates, whereas the quantity thus dealt with now is infinitesimally small. Does not this point to some grave mismanagement, or, to put it more mildly, want of forethought on the part of some one, when treaty obligations have been discussed with our neighbour, and supposed ally, the Ameer of Afghanistan?" Still, our contemporary advocates new markets. It merely suggests that there are markets of far greater moment than that of Thibet. Perhaps it is right, so our efforts to get gold in exchange for tea should take some other direction.

SOUTH INDIAN PRODUCE IN LONDON.

Reports from London concerning *Pepper* continue to reflect a strong demand, with large orders for America for all sorts, including Tellicherry and Aleppy descriptions. The American cupboard appears to be nearly bare, in fact, and replenishments are likely to lead to a steady demand in London. Reports from India have not tended to lower the value of the spice. They have told of unseasonable cold, and heavy rain, which is supposed to have damaged crops. Then even the Plague has served a certain useful purpose, for we find a Home paper remarking:—"How the Pepper, or for the matter of that, all produce, is to be brought down from the interior to the export-ports is a riddle which European shippers are sorely puzzled to solve. A squeeze for Pepper, Coffee, Ginger, &c., may thus occur at any moment. This would amount to a calamity, particularly to the planters of East India Coffees, who have had a specially unfavourable season, and who entirely depend upon the coolies for the conveyance of their yield to the coast." On the contrary, however, fears (in London) of a squeeze of this kind may help the planter a little, and many of our friends will not be sorry to learn that London importers are a little doubtful as to the amount of supplies that will be forthcoming. As regards Coffee, it is reported that the arrival business in fine colory sorts, such as Coorg, Wynaad, Mysores, Neilgherries, &c., has been an exceptionally poor one; probably not more than 500 tons of Estate Coffee have been disposed of on arrival terms. A London paper states that the high prices which the first offers commanded gave rise to an utterly false notion of the strength of our market in the mind of Planters. "They held out for impossible prices, with the result that European buyers withdrew. Australia, which for some little time paid values much above London parity has completed her requirements, and there is nothing left for the Planter but to ship his Coffee on consignment to London, where, we fear, it will not receive a warm welcome, particularly if the quality should show no improvement on that of the first arrivals. East Indian Coffees so far have with few exceptions, been very poor in size and colour, and intending purchasers now congratulate themselves on having resisted the temptations of a speculative purchase of East India Estates. Low Coffees having lost in value to a very great extent, we fear that Indian descriptions will meet with a poor demand here unless their quality be such as to suit the taste of our trade." These last remarks we fully indorse. If once the great superiority of Indian Coffee is lost, prices will be influenced more and more by those of Brazilian descriptions, fluctuations will be more frequent and more violent, and the level of values will be lowered—probably, not in strict proportion to the deterioration in quality but according to a scale of geometrical progression that will mean disaster to the Indian coffee-planter. Should he at any time sacrifice quality to quantity, he would simply leave the higher level of values to African and some Central and South American descriptions, and enter the lower lists in competition with Rio and Santos sorts. This could not last very long.

TELEGRAPHIC QUOTATIONS.

	Feb.	10	11	13	14	15
London.—						
Bar Silver	...	27½	27½	27½	27 7/16	27 7/16
Bank Rate	...	3 %	3%	3%	3%	3%
Coffee	...	...	...	[steady]	[steady]	
Mysore ave. (B) size		76	..	76	76	
Middling Ceylon	...	105	..	...	...	
Stock tons	...	...	...	...	13,342	
Fortnights landings		...	...	...	1,200	
Do. del.	...	...	...	...	1,500	
New York.—						
Coffee—Fair Rio	...	6½	6½	...	6½	6½
„ Futures, May		6·21	6·23	...	6·28	6·35
Silver—Comml. Bars		59¾	59¾	...	59¾	59¾

NOTES.

Good news from Brazil. "The low price of coffee has led Coffee planters to think of growing other products."

Tea in Ceylon. It is asserted that Mr. Kelway-Bamber is confident of being able to do much for the improvement of Ceylon tea on many plantations, if not over many districts.

The British Import Duties. During 1898 the British Exchequer realised from the import duties on tea £3,923,566; on Coffee, £175,565; on Cocoa, £191,073, and on Chicory £53,157.

Extensions. At a recent meeting of the Duars Planters' Association, reference was made to the fact that since 1894 tea gardens in a particular locality had expanded from 2,700 acres to 8,900 acres.

Soil Analysis. The Director and Chief Chemist of the Experiment Station in Hawaii states "that he has established a new method of 'Soil Analysis,' which aims" at knowing the actual amounts of the essential elements in the soil that are available for the immediate future crop.

The Progress of Tea Consumption. The *Grocer* observes, that progress in the consumption of tea is essentially of a steady-going nature, moving regularly onwards without fits or starts, and illustrating in a substantial and practical form the industrial and domestic habits of the British population as a whole.

Opening up. There is an enterprising gentleman in Cholo, B.C.A., who "begs to intimate that he is prepared to take Contracts to open up in coffee for one or two years, or to bring into bearing, any extent from 100 to 500 acres. Large experience in opening up." This is *one* way of solving the Labour problem, as far as the estate proprietor is concerned.

The Nuwara Eliya District P. A.

The annual official estimate of the crop for 1899 from returns from Nuwara Eliya, Ramboda, New Galway and Kandapola shows 26 estates with an average of 6,482 of which 5,519 are in bearing and a probable crop of 2,637,650 lbs. or about 478 lbs. per acre as against 429 lbs. estimated in 1898.

The "Pepper Tree."

The exact meaning of the following extract from an African paper is not quite clear :—"Planting is being rapidly pushed forward at Bulawayo, there being about 40,000 trees already planted out, and another 10,000 ready in the park for this purpose, the trees being of swamp mahogany, pepper, and blackwood varieties." If the pepper vine is receiving attention in Africa, the eventual result can hardly be conducive to firmness of price.

Cinchona Bark.

Major D. Prain, Indian Medical Service, successor to Sir George King, M.D., as Superintendent of the Calcutta Botanic Gardens and Supervisor of the Government Cinchona Gardens, has been enquiring if bark could be purchased from the planters. Apparently he has not yet been informed of the action taken by the Madras Government in respect to this matter. Planters having pressed Government to try their cinchona, inquiries such as Major Prain has been making are surely superfluous.

The Tea Association of New York.

The Tea Association of New York has filed with the Secretary of State a certificate of incorporation. The association is formed to foster trade and commerce, and to look after the interests of its members who are engaged in the importation of teas. The Directors are Thomas N. Phelan, Frank S. Thomas, Thomas M. McCarthy, Joseph H. Lester and James W. McBride, of New York City ; George C. Cholwell, of Norwalk, Conn.; Russell Bleecker and George L. Montgomery, of New-Brighton, and William J. Buttfield, of Plainfield, N.J.

The Fate of Coffee: Falling back on Cocoanuts.

The *Malay Mail* thinks that coffee planters are indeed to be pitied. The market price of coffee has fallen to such a price that it is impossible to grow it at a profit, while hosts of caterpillars are now playing fearful havoc on some estates, whole trees being stripped absolutely bare of all leaves. The planters will have to make up their minds as to the utility or otherwise of going on. It seems to our contemporary that the only hope of financial salvation lies in cocoanuts, and from an economical point of view taking up land along the sea shore would be to their advantage, a small gang of men only being retained to keep down the lalang on their coffee estates.

The London Tea Market.

In their telegram of 9th instant to Colombo, Messrs. Gow, Wilson and Stanton reported that the market generally was unchanged, while that for teas with quality also showed no change, and the market for poor liquoring teas showed a tendency to advance. The price of fair liquoring Ceylon Pekoe Souchong was 6½*d* and the average 8*d*.—Reuter reported :—Tone of Ceylon Tea—Teas for price realized full rates. Fair Pekoe Souchong 6*d* and the average 8⅛*d* (both the same as the previous week). 24,000 packages of tea were offered for sale, of which 23,000 sold. Of Indian Teas 39,000 packages were sold out of 42,000 offered, and the average, 9½*d*., showed a decline of ½*d*.

Ipecacuanha.

We made reference to this product some time ago. Latest advices from London state that there has been quite an excited and important market. A firm of exporters quietly bought up practically the whole available stock, and astonished the trade on the 24th ultimo by demanding 11*s* for Rio and 7*s* 9*d* per lb. for Carthagena, which prices compared with 9*s* 6*d* and 6*s* 3*d* accepted at the auctions on the previous Thursday ; these advanced rates were paid, and immediately values rose by bounds until 12*s* 6*d* was paid for Rio (subsequently 15*s* asked) and 9s for Carthagena root. Early in the week Carthagena sold to arrive at 6*s* 6*d* per lb. c.f.i., but this last was not maintained.

Game Protection in Ceylon.

With an energetic Secretary, Mr. North C. Davidson, pulling the wires, the Ceylon Game Protection Society is doing excellent work, and now that the Governor of the Island is a sportsman, real progress is being made. Mr. Davidson, in his annual report, shrewdly remarks that as veterans who no longer shoot still pay their subscriptions for the benefit of the sporting community generally, so, too, "young planters and others should bear in mind that the C. G. P. S. is making efforts to protect game for the young planters' shooting in the near future as soon as the said young planters can afford the time and money to go in pursuit of it, and they should plank down their R.5 each."

India-Rubber in Peru.

India-rubber is the principal product exported from the Amazonian region of Peru. According to statistics published there by a financial paper, the quantity exported in 1894 was 1,294 tons, valued at £179,437 1., but according to Mr. Rhind's report on the production, commerce, and finances of the States of Amazonas and Para for 1895, the quantity of the rubber exported through from Peru through Pará during that year was only 783 tons, valued at about £145,000 1. Mr. Rhind's statement may be regarded as the correct one. Of late a considerable decrease in the export of this product appears to have taken place, as in 1890 as much as 1,163 tons were exported *viâ* Pará.

Pineapples.

Writing from Florida, a correspondent says :—"To give you an idea of the value of an acre of pineapple plants—shed and all—I will say that an acre was sold here the other day by E. F. Sperry for $3,000 to a Northern gentleman as an investment With ordinary good luck and no freezes, the product of this acre will repay the purchase price and leave a good, comfortable balance in the bank at the end of the first year. Two pineapple growers here (Van Houton and Thornton) have just completed filling an order for 85,000 plants to go to Jamaica, the price being 10 cents each. They were the product of about six acres of land, the fruit being extra to be added to this income. Can you tell us of any crop under the sun, grown anywhere, that will beat this?"

What is Manure?

Says an American writer :—"If the commonly accepted theory about manure and manuring be true, our waste and refuse matter would pollute the soil. The new light shining for the scienti-

fic farmer is proving to be the truth, and answers "What is manure?" "What is humus?" "How does humus perform a part second only to the soil itself in converting manures and fertilizing matter into available plant food?". The new philosophy proves that the soil is only a medium, that the countless numbers of bacteria attack manurial matter in the warmer season in the field and in the manure heap at all seasons, digest it and reconvert it into plant food. It tells how to build up the soils so as to make more plants. More plants mean more animals, more animals mean more gold for the farmer, and more manure to make the soil still richer."

St. Andrew's Coffee Stands.

There are, in different parts of New York, five coffee stands, at any one of which the hungry and thirsty may be satisfied for a pittance. These stands are partly self-sustaining, any deficiency being made good by the St. Andrew's Society, which sells meal tickets, and is supported by donations of those disposed to aid a worthy benevolent enterprise. The poor wayfarer may obtain a cup of good hot coffee and a roll for one cent, or a plate of beans or other palatable and nutritious food. If some philanthropic Native gentleman would but apply the same principle in a few of the chief towns in India, he would not only benefit the poor but help to solve the problem how to stimulate Indian demand for coffee. And the same plan might be adopted with regard to tea.

A Curious Story.

A correspondent writes to a contemporary :—"I read a strange story some little while ago, which ran somewhat as follows :—Many years ago, a case of butterflies was sent from Assam to England. A professor on entomology on examining them pronounced some to have come from China, but was told that such was not the case, as all had come from Assam in India. On receiving this reply, he remarked, "If that be so, there must be tea in Assam, as such and such butterflies feed only on the tea plant." This extraordinary statement being reported to the Court of Directors, they ordered enquiries, with the result that the wild tea forests of Assam were discovered. Can any of your readers inform me how this yarn could ever have arisen? I can find no trace of it in any book on tea." It would be interesting to know *where* the story first appeared.

Colombo Tea Sales.

At the public sales of Tea at Colombo on the 8th instant, about 6,670 pkgs. = 522,245 lbs. were offered, of which about 6,074 pkgs. = 479,460 lbs. were sold. The *Times of Ceylon* remarks :—"The small tea sale marked a distinct rise for nearly all grades. This was especially noticeable in all leaf kinds which, in many cases, showed a rise of quite 2 cents. per lb.; quality offering was fair for the time of year Among the finest teas in the sale were: Queensland, St John's, Naseby, and Mocha. Among low-grown teas, good invoices were offered from Polatagama, Weoya, Rondura, Rayigam, Ravana, and Kelani. Two invoices were offered to-day for sale from St. John's and Queensland. The former averaged 68 cents. and the latter 55 cents. Queensland B. O. P. fetched 88 cents., and St. John's 79 cents. The Orange Pekoe from St. John's was bought for the Russian market."

Tea at Dibrugarh.

A correspondent writes :—"A number of planters in this district have been, and are now, eradicating plots of poor *jât* China and planting indigenous plants on the same places where the China has been producing fairly average crops for, say, the last thirty years. Now after a few years there is no perceptible difference between those plots, and pieces which have been planted out on new extension (*i,e.*) where large forest trees have been cleared away before planting. That there is a great difference during the first two years can be easily understood by any one having knowledge of soils The rich deposit of almost pure vegetable matter found on all land previously occupied by large forest trees, has an extraordinary stimulating effect on the tea bush ; more especially if a 15 or 18-inch cubic hole has been dug out for the reception of the plant and the top spit turned into the bottom of the hole."

Castilloa Rubber.

Mr. Rhodes James is not alone in his desire to try Castilloa and Coffee together. There is an inquiry from Burma for Castilloa seed to try on a coffee plantation (up to 3,000 feet elevation) on the Toungoo range in Burma. For fifteen years coffee was grown profitably without the leaf fungus ; but at last the disease reached this out-of-the-way solitary estate. The owners write to the *Ceylon Observer* :—"In the first instance, we have decided to try and resuscitate coffee, but it will be necessary to introduce a new strain of seed before doing so. Do you know of a good seed which you could recommend? [The *Ceylon Observer* has recommended Blue Mountain, Jamaica seed.] I should also like your opinion on the suitability of growing Castilloa rubber. I find Ceara does very well here, but imagine the price is not nearly so remunerative as the former. The highest portion of the estate is barely 3,000 feet above sea-level and most of the land a good friable soil."

Import Duty in Canada.

People *in England* are beginning to think the duty on coffee might as well be removed, it yields so little ; but the *Times of Ceylon* continues to urge that if there is to be a duty on Tea *in Canada* there should be a corresponding duty on coffee, and that "this, of course, should be equally in favour of British growers of that product ; but what has taken place in the United States justifies our keen interest in seeing that a competing drink like Brazilian, Central American, and Java coffee is not allowed to enter Canada free. Coffee has become very cheap, and to give it a further important advantage would be decidedly against our interests." Our contemporary adds :—"Very little coffee is grown on British soil now, and most of this comes from the Straits and South India. Coffee planters in these countries would be benefited by our proposal as against foreign cultivators ; and at the same time we, as

COFFEE SHADE TREE.

Sun-dried Erythrina Lithosperma loppings, &c., contain per ton :—

61·50 lbs. Nitrogen.	14·92 lbs. Lime.
57·38 „ Potash.	13·68 „ Phosphoric Acid.

Seed cured under Messrs. Sutton and Sons' advice.

Orders should be booked early for the 1898-1899 crop of seed from the parent trees of above analysis at Rs.6 per pound containing about 2,000 seeds. *Germination guaranteed.*

Only thornless variety extant, and is not procurable anywhere save from the

MANAGER, ARIENKOW ESTATE,
Shencottah.

a tea-producing country, would not be handicapped." The capabilities of South Africa are overlooked, as also is the fact that coffee really does not come seriously into competition with tea in British countries. There is room for both.

The Florida Velvet Bean.

When the last Mail received left Florida it was harvest time. Picking, threshing and stripping were in full swing. Everybody, it was observed, seemed to want to try this phenomenal forage and fertilizing plant, and consequently the call for seed was heavy. It was remarked indeed that "cotton, sugar cane, and oranges are liable to take a back seat as a money product in favor of pineapples, velvet beans, and tobacco—the three new favorites." The chief advantages of the Florida Velvet bean may be briefly recapitulated. It is very prolific, producing a large amount of seed and much forage. The fodder if cut when the vines are green, is eaten eagerly by stock. When the plant is growing it may be pastured without material injury. In common with all legumes it is a soil renovator. It is claimed to be a standard crop in Florida, and recently an effort has been made to introduce it all over the United States, and seed was distributed in many States and in Europe. A correspondent of *Indian Gardening* states, by the way, that the bean is being grown at an elevation of 5,000 feet on the Nilgiris, facing north, but the plant does not seem to thrive for some reason.

Rubber in Brazil.

Mr. A. Scott Blacklaw writes to the *Ceylon Observer* that Indiarubber has not escaped the attention of the coffee planter in Brazil. A great deal of writing in the newspapers during the last six months has induced the public authorities to encourage the production, by procuring seed, and selling it at cost price, or even below that, to planters; and to small farmers who will promise to plant it, it is given gratis. *Pará Rubber* will not grow in the Coffee Districts so far South as Rio and S. Paulo, but there are other two kinds—first: the *Mangabeira* (*Hancornia Speciosa*). It gives a delicate fruit, called in Brazil Mangaba, which is said to be harmless to sick people and in the Northern States of Brazil where it grows wild in the forest has the name of "fruit for the sick." The rubber from this tree has been exported from Bahia and Pernambuco for some years, but not in large quantities. It sells at less than the Pará Rubber. Judging by newspaper reports, this tree is being planted on a large scale in the west of the State of Rio Paulo. Second: *Ceará rubber* (*Manihot Glaziovi*) you are already well acquainted with. It is being distributed in the State of Rio. It will grow in any part in Brazil, but hitherto has been exported only from Ceara in the north. Its price has kept low owing to the careless manner of collecting.

GENERAL ARTICLES.

PIONEERING AND PLANTING IN COIMBATORE, S. INDIA.

A Planter writes to the *Ceylon Observer* under date Feb. 3rd.—The weather is very bright and fine over here and jungle is being felled on several blocks and there have been some good burns.

A Mr. Fox, from Knuckles, came over here to take charge of Messrs. Finlay Muir & Co's land, but unfortunately he has fever in his system and the new clearing work seems to have brought it out badly and so he had to leave. He also brought some Sinhalese, but they were a discontented lot, evidently expecting little work and lots of pay; and so the beauty and size of our jungle frightened them away. Though my Sinhalese people have had some rough times, yet with a few exceptions they have done splendid work and are quite happy, looking forward to going to "Lanka" in March, with a nice little sum to enjoy their New year, and I have no doubt that several will come back here again later in the year.

There are a good many iron-wood trees in the jungles here and also some very fine cedar trees, red and white, three or four feet in diameter. My bazaar is all built of cedar; it is built after the fashion of bazaars in Ceylon and is much patronised by Appuhamy and Ramasamy. My head carpenter finds the work to his taste here and has gone to fetch six more of his trade to assist him.

The next estate has a field of coffee planted last year which is coming on splendidly.

TEA CULTIVATION IN BRAZIL.

Owing to the low level of Coffee prices, Tea cultivation has been seriously contemplated in Brazil, Mr. A. Scott Blacklaw writes to the *Ceylon Observer* that an acquaintance, Col. Joao Antonio Alves de Brito, who owns a large Coffee Plantation in the borders of Minas and Rio, says that he had ordered through his agents, Tea seed enough to plant two hundred acres of virgin forest land. The seed to be the best kind grown in Ceylon. Mr. Blacklaw adds:—

"I did not press him or give him encouragement to go in for tea cultivation indeed I told him it would be a losing game attempting to compete with Ceylon and India, where labour was plentiful at from nine-pence to a shilling a day, while here in Brazil it was scarce and cost from two shillings and six-pence to three shillings. He replied that Ceylon and Indian Teas had been selling here, and in other parts of Brazil, at never less than twelve milreis a kilo for some years; at exchange of eight pence per milreis this was equal to three shillings and eight pence per lb. On his tea—which would be all absorbed by local consumption—there would be no duty, and this would pay even with the extra cost of production, better than Tea in Ceylon and India, which sold for nine-pence to ten pence. But I said, "competition in growing, and filling up the local market would bring down the price."

"Future competition!" he cared nothing for that, he would be the first in the field, and would make a large pot of money before others had time to develop Tea plantations.

This gentleman, Col. Joao Antonio Alves de Brito, is a member of the Union Parliament at present sitting in Rio de Janeiro, but he has been absent on leave for over a month. His properties are on very high land on the borders between the State of Rio and Minas. The district is not subject to dry spells, but receives regular rains, and as far as climate goes is very suitable for tea planting. His coffee plantations bear well and he is well supplied with Colonist labour.

WILD AND CULTIVATED TEA IN SOUTH CHINA.

Szemao, or Esmok, Mr. Jamieson tells us (*N.-C. Herald*), in the Report to Lord Salisbury which we noticed two days ago, is the most southerly town of any importance in China, and is situated in a pleasant little mountain plain 4,400 feet above the sea, five days east of the Mekong, in latitude 22° 47′ north. To reach either the provincial capital or Mêngtze involves a journey of eighteen stages, and the nearest posts on the French and British frontiers are respectively five and thirteen stages off. The staple industry of Szemao is the preparation of the celebrated Pu-erh tea in which some twenty-five firms are engaged, of which seven or eight are only brokers. There are five tea "hills," as the Chinese call them, in what is technically the Pu-erh prefecture, south-east and south-west of Szemao on the left bank of the Mekong. Mr. Jamieson gives a table showing prices and particulars of the different kinds of leaf, which may be of interest if Pu-erh tea ever becomes appreciated in Western markets, and gives some particulars of the duty and likin paid on it. He then discusses the total output, which it is not easy to discover, Chinese having no tendency whatever towards the collection of statistics. He says that the merchants value the total trade of Szemao at 130,000 to 140,000 taels per

annum; but after working out the figures given him of the duty and likin collected, he puts the real value of the total trade at about 230,000 Taels. Then he gives an interesting account of the double duty on tea which is collected during three months of every year, although theoretically the collection of duty remains uniform throughout the year. Mr. Jamieson gives a brief account of the tribute tea which is sent annually to Peking, and of the mode in which the tea is made up into cakes, the whole secret, as pointed out by Mr. Bourne, consisting "in a judicious arrangement by which the delicate young leaves are made to take up a conspicuous position on the outside of the cake, the coarser leaves being carefully stowed away in the centre." Mr. Jamieson adds that "Dr. Augustine Henry, the well-known authority on Chinese botany, has found wild tea on the mountains south of the Red River, and is of opinion that tea occurs wild in the mountainous belt running from the south of the Red River through Yunnan to Assam, where also it has been found in a wild state He informs me that among the numerous specimens found elsewhere in China, Formosa, and Japan, there is not one which can be considered as undoubtedly from wild trees."

TEA GROWING IN THE CAUCASUS.

Writing on the agriculture of the Trans-Caucasus for 1898, the British Consul at Batoum states:—

"The tea plantations in the neighbourhood of Batoum continue to occupy the serious attention of a few Russian tea planters, who appear to be more or less sanguine as to the ultimate results that are likely to be attained Messrs. Popoff have erected a factory for manipulating tea on one of their estates near Batoum, and have gathered their first crop this year, but I regret to say that, owing to the mystery with which they attempt to surround their industry and the secrecy which they maintain in respect to all matters concerning their plantations and the cultivation of tea on them, it is quite impossible to procure information of a reliable nature in regard to them. Although the tea crop from these gardens was all forwarded to Moscow and St. Petersburg, it does not, according to the St. Petersburg papers, appear to bear comparison with the imported article in general use in the Russian Empire.

"The Imperial Domain authorities expect to obtain a crop next season, and are making preparations for the erection of a factory on their estates, and I am given to understand that the order for the buildings and plant has been placed in the United Kingdom. It seems probable that the results of tea-growing on the last-mentioned estates stand a better chance of success than those obtained on the other estates, thanks to the fact that they have not confined their sowings to one quality only, but have laid out plantations of several kinds, of Indian teas as well as Chinese and Ceylon hybrids. By adopting this rational course they will be able to judge which quality is more especially adapted to the prevailing climate and other local conditions. Their acreage under tea has been largely increased during the present year.

"I may here mention that, according to the opinion of persons who have had a wide experience in tea-planting in other parts of the world, the only favourable portion of the Caucasus for tea-planting is the coast land situated between Soukhoum and the Turkish frontier, the general aspect of the land being southerly, and, therefore, sheltered by the hills from the very cold winds which strike their northern slopes. The rainfall is fairly evenly distributed throughout the year, the driest months of the year being, I should think, as a rule, May and June. The heat is never too excessive for tea-growing. Labour, I believe, is expensive as compared with prices paid in India and Ceylon, and the hands available are of course entirely ignorant of the principles of gardening; but I am of opinion that this difficulty could easily be overcome if tea-planting in this district became general, as labourers, being sure of obtaining permanent work on the plantations, would be sure to flock to this district from the surrounding country, which only grows a poor quality of maize, and is not very remunerative. Up to the present diseases among the tea plants have been *nil*."

PRODUCE AND PLANTING.

Tea and the Duty Question.—The revenue derived by the Customs from tea during 1898 was £3,923,566, in lieu of £3,856,663 and £3,796,425 in the two former years. Those tea proprietors who think that the reduction or total abolition of these duties would be prejudicial to their interests need not fear that the Chancellor of the Exchequer will be in a hurry to abandon such an easy source of revenue. Considerable political pressure would be necessary before the official mind would be induced to forego this contribution to the national exchequer. The desire to please the consumer, therefore, will have become more intense than it is at present ere any important change is made.

The Duty on Coffee and Cocoa.—As compared with tea, coffee and cocoa play quite unimportant parts as their contribution to the Government till. The yield of the former was only £175,565, and on the latter £191,073, showing about the same figures as in former years.

Indian Tea and the Thibetan Market.—The Thibetan market would be a great advantage to Indian tea planters, and if this "splendid outlet," as the *Globe* describes it, were open, it would no doubt prove particularly useful just now. There, however, as our contemporary points out, lies the difficulty; the country, although ostensibly under mere Chinese suzerainty, is governed by a host of Celestial officials who set their faces resolutely against the importation of Indian tea. Their main reason for this hostile attitude is that they make fine pickings out of the duties they levy on imports from China, a source of income which they believe would shrink miserably if the embargo on the Indian competition were removed. The Indian Tea Association knows all about it, and it will no doubt do all that is possible to secure a Thibetan market for Indian tea.

Londoners as Tea Drinkers.—Some statistics on the subject of London thirst show that while no less than 275,000,000 gallons of water find their way annually down the throats of Londoners, its tea drinkers are an army of millions, and call for twenty-five million pounds of tea, which, when reduced to liquid consistency, means something like 1,250,000,000 pints or nearly a pint for every inhabitant in the world. London's teapot, if properly shaped, would comfortably take in the whole of St. Paul's Cathedral, for it contains over 928,000 cubic yards.

Last Week's Tea Sales.—The comment of the *Produce Markets Review* on last week's tea sales is as follows: "The market for Indian tea continues active at a further advance, in many cases, and nearly the whole of the large supply offered has been sold. According to the most recent reports the shipments available for this market are likely to be somewhat short of last year, attributable in a measure to the increased export to other markets The difference as compared with the previous season in the quantities sent to the latter is as follows; 22,612,000lb, against 15,972,000lb, of which 14,751,000lb were this season shipped direct from India, and 7,855,000lb from here, showing the important increase of about 40 per cent. As there is evidently an increasing taste for this growth in other consuming countries it is highly probable that greater strides will be made in this direction in the future, as when once the taste of Indian tea is acquired a material development in the consumption generally follows. This will have the effect of relieving this market of the larger production that may be looked for, owing to the extended cultivation during the last few years, and should at the same rate of progress absorb the surplus growth over the requirements here The supplies of Ceylon teas brought forward this week have been only on a limited scale, and firm, with occasionally higher, prices were paid all round. Whole leaf descriptions were more particularly in request, and the medium grades were keenly competed for, previous values being well maintained. Teas for 'price' were much sought after; the market for this class being, if anything, dearer than last week, and 5¾d is now practically the lowest quotation, while even at this price there is not much to be obtained"

Indo-China and Produce Prospects.—M. Doumer, the Governor General of Indo-China, is now in France, where he is engaged in expatiating upon the glories of the fine domain "three times the size of France," which he governs. It is to be a great market for French manufactures, and as for produce, there are no bounds to the prospect it offers. The first step, M. Doumer pointed out, was to apply intelligence and capital to the cultivation of rice, tea, coffee, pepper, dyestuffs, and other tropical products for the French markets, in order to displace those now received from English dependencies. Already this substitution had been accomplished in respect of pepper. Next in importance was the construction of public works, and here the propect was excellent, for the financial condition of Indo-China was "incomparably flourishing." Already

the Colonial Administration had devoted considerable sums to these objects, £40,000 having been spent upon irrigation works in the rice-growing districts, and £100,000 on canals and on the improvement of navigable rivers. The exports of rice from Cochin China amounted to between £1,600,000 and £2,000,000 per annum, and those of Tonquin to about one-eighth of these sums. As yet the exports from Annam and Cambodia were comparatively trifling, because of the want of means of transport in those parts of the colony. Efforts were being made to supply the deficiency, and the cultivation there of the more valuable products had been begun—that of tobacco, for example, had been introduced from Sumatra. A start had also been made in the growth of tea and coffee in Annam, and progress had been accomplished in the production of raw sugar, which was at present refined at Hong Kong. When, however, refineries were set up at the place of production markets would be found for the production in Southern China and in Japan. The cotton grown in Cambodia was exceptionally fine, and nearly all of it was sent to China. M. Doumer added that he anticipated the establishment of a very large trade before long between Indo-China and Yunnan.—*H. & C. Mail.*

COFFEE AND EXCHANGE IN BRAZIL.

Writing from Brazil to the *Ceylon Observer*, Mr. A. Scott Blacklaw, says:—When I last wrote to you

THE PRICE OF COFFEE

was so low it could scarcely pay for production, and in places where pack-mule or bullock-cart transport made it costly to take to the nearest railway station, it has been produced at a loss—even now although the crop at present being shipped is expected to be much less than the former one, the price has not risen. It has not been much above 6 cts. per lb. for No. 7—the middling Brazilian Type in New York. It was believed that the crop for 1898-99 would be a short one, and that the seasons were unfavourable, but somehow the buyers in consuming countries seemed to wait for a lessening of the number of bags being received by rail in Santos, and Rio de Janeiro. With the exception of the two months July and August, between the old and the new season's shipments, there has been little diminution, and both ports continue to receive equal to last year's quantities, and stock in Rio and Santos as well as in consuming countries are large.

There is a great uncertainty as to the quantity expected for season 1898-99, but some authorities which can be relied on put Santos at 6,500,000 sacks of 132 lb. each, Rio 2,000,000 to 2,500,000 sacks; but such conflicting reports have been received as to the ravages of dry weather from July to November in the districts which have Rio for a shipping port, one cannot form a safe calculation, and to make it too high is to bring a hornet's nest about one's ears, for planters believe that low prices continue because of exaggerated estimates made beforehand, and the newspapers are open to attack any poor unfortunate who ventures on this precarious ground.

As is usual in all coffee-producing countries, a long spell of dry weather immediately before blossoming time, brings out a copious flower after the first rains; the same has occurred here during the flowering time—latter end of September, October and beginning of November,—but since then there has been rain almost every day; nice refreshing evening and night showers say I, but a lot of newspaper reports say embryo fruit is rotting and falling off in many places.

EXCHANGE.

The low rate of exchange all during last year, certainly favoured the coffee planter, for although the price was low in consuming countries, it represented gold, and owing to the low rate of exchange, the amount in currency came to a respectable sum. Colonist labour was fairly plentiful at not much above the former rates. Therefore the cost of production was not much above what it used to be when exchange was high During the latter end of 1897, exchange ranged from 7d to 7¼d per milreis—thirty-three to thirty-four milreis to a pound sterling. In the first five months of this year it fell from 7d to 5⅝d per milreis raising the pound sterling from thirty-four to forty-two-and-a-half milreis—the par value of the milreis is twenty-seven pence—or eight mil eight hundred and eighty-eight reis to a pound sterling.

This state of matters if favouring the coffee planters, was the opposite of cheering to commercial people; to the poor people in the towns—for whom nearly all the necessaries of life had to be imported, and therefore had to be paid for in gold—it meant semi-starvation, and to the Government with its gradually diminishing revenue—owing to *protective*, one may say *prohibitive*, duties on all imports—who had to meet annual payments in Europe of over three million pounds sterling: this low exchange was indeed a blue look out.

In July of this year,

A FINANCIAL ARRANGEMENT

was made in London, and after that exchange rose in a short time to 8⅝d; although it has not remained at that figure, it has not fallen much below it, and it is expected—if the Government is able to fulfil its part of the contract which if public men are in earnest it can have no difficulty in doing—the value of the milreis will rise to eighteen pence in three years

I need not inflict on you and your readers the dry details of this arrangement, or "accordo," as it is called here, but in a few words it is this:—

1st. A loan of ten million pounds at five per cent.

2nd. The amortization of the external debt is suspended for thirteen years.

3rd A yearly sum of three million pounds is to be taken out of this loan for three years. This sum is to go towards the payment of interest on the external debt, and guaranteed interest on railways, as well as salaries and expenses of representatives of Brazil in Europe and other payments, such as railway materials, &c

4th. The Government is not relieved from the payment of these sums, but only relieved from remitting to London. The equivalent of these amounts have to be paid in paper money calculated at eighteen pence per milreis, into one or more of the foreign or national banks (nearly all of them get a part of it) as a deposit, and from time to time the paper money forming this deposit has to be destroyed.

Two results are expected from this "accordo":—first, the Government not requiring to enter the market for remittances to Europe, exchange is sure to rise. Second, a large amount of paper taken out of circulation will increase the value of what is left.

TEA, &c., COMPANIES.

Nyasaland Coffee Company, (Limited).—At the Annual Meeting of the Nyasaland Coffee Company, held in September last, the report and accounts were adopted. The accounts show that R63,742·30 had been absorbed in developing the Company's properties, and that there was in hand a balance of R28,537·70.

A general meeting of Shareholders was held at Blantyre on 24th December 1898. The following report was presented:—

Acreage:—10 acres Coffee planted December 1895. 240 acres Coffee planted December 1896—February 1897; 383 acres Coffee planted, December 1897—February 1898. Total 633 acres under cultivation; 2,843 acres reserve. Total 3,476 acres.

Progress of Work.—During the financial year under review 383 acres were felled, cleared and planted. The Directors, however, regret to report that owing to scarcity of labour and heavy growth of weeds due to an abnormal rainfall, the clearings have not been a success, and will require much supplying. The scarcity of labour has been occasioned by disturbances in the districts from which labour is recruited, but these having now been suppressed and the natives pacified, the Superintendent anticipates that he will not experience further difficulty in this direction.

Estimate for Season, 1898-99.—Under the circumstances reported above, the Directors do not consider it advisable to attempt to open further land this season. They have instructed the Superintendent that last year's clearings must be fully supplied next rainy season, and nurseries for this purpose have been laid down. A crop of some 3 or 4 tons may be secured this year, but it is left to the discretion of the Superintendent as to whether it is advisable to allow the trees to bear any crop or not.

Finance.—The attached accounts close the Company's books to the 30th June, 1898. To this date R63,742·30 has been absorbed in developing the Company's property, and there remains a balance in hand of R28,537·70, which will cover the expenditure for the current season. Store buildings and machinery will have to be erected in season 1899-1900, but the crop of that season should more

than provide for these and ordinary working expenditure. Prices of Nyasaland coffee have been well maintained notwithstanding the general fall in price of coffee.

Mazawattee Tea Company, (Limited):—The report of the directors of the Mazawattee Tea Company (Limited) for the year to December 21 last states that the board have to record the most satisfactory year in the history of the business; satisfactory as regards every department, and from every point of view. The profit and loss account shows that the profit on trading amounts to 60,360*l.*, as against 56,695*l.* for the previous year, showing an increase of 3,654*l.* More particularly, the volume of trade has surpassed the expectations of the directors, and shows a large percentage of increase over that of any previous year. Some idea of the magnitude of the business which the shareholders in the Company possess can be gathered from the fact that on April 27 last the Company paid for Customs duty on British-grown tea only a cheque amounting to 63,000*l.* odd, which is over 12,500*l.* more than any other cheque that has ever been paid for tea duty. The balance brought forward from the profit and loss account of 1897 was 20,833*l.*, out of which there has been paid dividend on the preference shares 4,833*l.*, dividend on the ordinary shares 13,533*l.*, commission to directors (1897) 521*l.*, together 18,888*l.*, leaving a balance of 1,945*l.*, which, with profit on trading, 60,360*l.*, and transfer fees, 146*l.*, amounts to 62,451*l.*, which is dealt with as follows:—Managing directors' remuneration and directors' fees, 1,600*l.*; office expenses and other charges, interest on loans, and amount written off for depreciation of leases and plant, 5,731*l.*; placed to reserve, 15,000*l.*; further, an interim dividend has been paid on the preference shares at the rate of 5*l.* per cent. per annum, and on the ordinary shares at the rate of 8*l.* per cent. per annum, amounting to 18,366*l.*; a dividend at the rate of 5*l.* per cent. per annum is due on the preference shares for the half-year ended December 21 last, and the directors recommend a further dividend at the rate of 8*l.* per cent. per annum for the half-year on the ordinary shares, which will together absorb a further sum of 18,366*l.*, together absorbing 59,064*l.*, and after making these payments the amount of 3,387*l.* will, subject to such sum as may be voted for the commission of the directors, form the balance to be carried forward.

After reading the above Company's report, a correspondent wrote to a London paper that it occurred to him to refer to the original prospectus, and to compare the profit earned for the past year with the average of the three years previous to flotation. "I find," he says, "the accountants return the average income for that period as £45,798 16s., against a profit for last year of £60,359 15s. 8d. Rarely, I think, has a business shown such a remarkable record on being issued to the public. The amount placed to the reserve will bring that item up to £39,000; yet the price of the shares to-day is only 28s. cum. div., against £2 on being first issued to the public." "We fear it is too true," says a financial contemporary, "that the public is not even yet fully alive to the merits of tea shares."

The High Forests Estates Co., Ltd.—The Fourth Annual General Meeting of the shareholders in this Company, was held at the office of Messrs. Whittall & Co., Colombo at 11 a.m on 11th instant, Mr. J. G. Wardrop presided.

The Annual Report said:—ACREAGE.—Tea in bearing, 432 acres; tea in partial bearing, 156 acres; tea planted in 1896, 246 acres; tea planted in 1897, 174 acres; tea planted in 189-, 132 acres; forest and patna, 492 acres—total 1,632 acres. The total crop harvested during 1898 was 221,028 lbs. tea, which realized a nett average price 50·72 cents per pound compared with a nett average price of 44·69 cents in 1897. The improvement in price may be considered very satisfactory, in view of the state of the tea market during the year.

After making the usual provision for depreciation of buildings and machinery the result of the year's working shews a profit of R37,416·17, to which has to be added the balance of R2,739·30 brought forward from 1897. The Directors now recommend a dividend of 4 per cent. per annum on the capital of R875,000, at 31st December, 1898, and at the rate of 4 per cent. per annum on the capital of R50,000 called up during the year and made payable on 15th March, 1898, which will leave a balance of R3,560·47 to be carried forward to the current year's account. During 1898 a sum of R26,969·03 was expended on capital account, viz., R24,535·74 on the opening of 132 acres and the upkeep of 420 acres not then in bearing, R2,223·10 on buildings, and R210·19 on machinery. During 1899 the expenditure on capital account is estimated at R21,226, which includes the cost of 30 maunds of tea seed and nurseries, of opening up 25 acres tea and of the upkeep of the acreage not yet in bearing It is not anticipated that it will be necessary to make any call during this year on the holders of part-paid shares, but in 1900 it will be necessary to make a call to cover the cost of increased factory accommodation which will then be required to deal with the increasing quantity of tea coming in from the acreage planted in 1896-97. . . . . The yield of tea in 1899 is estimated at 230,000 lbs. on an expenditure of R64,132·62 on the estate. It was resolved that a dividend of 4 per cent. per annum be declared and paid forthwith.

The Kalutara Company, Ltd.—The Third Annual General Meeting of shareholders in this Company was held at the office of Messrs. Whittall & Co., at 11-30 o'clock on the 11th inst., Mr. J. G. Wardrop presided. The Report stated:—

ACREAGE.—Tea in bearing, 426 acres; tea in partial bearing, 117 acres; tea not in bearing, 115 acres; arecanuts, grass, ravines, &c., 10 acres; forest, 416 acres—total 1,084 acres. The crop amounted to 255,130 lbs. tea including purchased leaf, which realized a nett average of 33·8 cents per lb. against 36·87 cent per lb. in 1897, on an expenditure on the estate of R55,382·65, equal to 21·71 cents per lb. of tea, which included a sum of R3,038·38 spent on manuring 100 acres, and R1,124·21 for the purchase of 27,887 lbs. leaf. The new withering shed, which was urgently required for the efficient manufacture of the teas, should have been completed in April, but, owing to delay on the part of the contractor, it was not finished till well into October. Since its completion the quality of the teas has improved, and the Directors think they may fairly anticipate better prices during the current year. About 10,000 rubber plants have been put out in suitable places on the estate, and their growth shews promise. The Directors also considered it advisable to prospect for plumbago, and with this object a sum of R961·67 was spent on this work, of which R206·58 was recovered by sale of the plumbago mined. For the past two months the heavy rainfall has stopped the work, but when the weather settles, it is hoped that arrangements can be made with natives to work the pits on the share system. After making ample provision for depreciation of buildings and machinery, writing off the balance of expenditure on plumbago, and a sum of R500 to a Coast Advance Reserve account, there remains a balance at credit of profit and loss account on the year's working of R15,325·83, after payment of dividend the on the preference shares. To this has to be added the balance of R20,448·83, brought forward from last year, making a total of R35,774·66. Of the R50,000 which the Directors were authorized to issue in cumulative preference shares of R500 each, only 35 shares have been subscribed for during the current year, and the Directors therefore recommend that, in order to provide part of the further capital required to balance the expenditure already incurred, the sum of R20,000 be transferred from profit and loss account to an Extension Fund account, and that a dividend of 3 per cent. on the ordinary shares be declared for the past year. This will absorb R32,000, leaving R3,774·66 to be carried forward to next year. The estimate of crop for this year from the Company's estates is 285,000 lbs. tea on an expenditure of R64,411·86, which includes the cost of manuring 150 acres. During 1898 R23,913·15 was spent on capital account on the erection of a withering shed, additions to machinery, a cart road between the two estates, the planting of rubber and upkeep of acreage not in bearing, and the estimate for 1899 is R8.538·41, chiefly for a new set of lines, balance of withering shed account, planting of rubber, further expenditure on cart road, and upkeep of tea not in bearing.

A dividend at the rate of 3 per cent for the year 1898, was declared and made payable.

The Upper Maskeliya Estates Company, Limited.—The Annual General Meeting of this Company was held at the office of Messrs. Whitall & Co., at 12 noon, on 11th inst., Mr. A. E Wright presided. The Report stated:—

ACREAGE.—Brunswick and Bloomfield: Tea in full bearing 446; Grass, timber trees, &c., 72; Total 518 Caskieben: Tea in full bearing 200; Tea not in bearing 7; Total 207. The crop for 1898 was estimated at 323,000lbs. of tea on an estimated expenditure of R.92,300 on the estate; the Directors regret to state that the crops have fallen far short of their expectation. The Visiting Agent in his last report states that the estates have been, and are, in excellent heart, and that the shortfall can only be attributed to climatic influences, and in support of this the Directors are glad to say that for the first twenty days of the current year the yield shews an increase of over 6,000 lbs. made tea over the quantity harvested for the same period last year. The

total crop secured was 256,032 lbs. made tea, which averaged for the quantity sold 39·76 cents per lb. as against 42·51 cents last year. The capital Account outlay for 1898 amounted to R.5930·34, chiefly for additions to machinery and the erection of boutiques. After writing off for depreciation of buildings and machinery the sum of R.3.23·25, which brings the Depreciation Account up to R30,000, a balance of R18,124·36 is left at the credit of Profit and Loss Account, and the Directors now recommend a dividend of 5 per cent. for 1898, leaving a balance of R624·36 to be carried forward to the current season's account. The crop for this year is estimated at 300,000 lb., against an expenditure on the estate of R87,659, which includes R10,374 for manuring 253 acres.

A dividend of 5 per cent. for the year 1898, as recommended in the Report, was declared and made payable forthwith.

VANILLA.

The following interesting review of the trade in 1898, notes on the cultivation and preparation of the Vanilla Bean, &c., have been contributed by Messrs. Brookes and Green, brokers, to the *London Commercial Record*:—

The year which has just closed was noticeable for the fairly high range of values of Vanilloes, and the result must have been very satisfactory to those planters who succeeded in getting fair-sized consignments of the article forward to public sale. The first auctions of the year 1898 were held on 14th January, when 1,143 tins (being a "record" for the high quantity in one series of sales) were submitted to buyers, and with a large attendance of the home and export trade met a splendid demand; altogether about 1,100 tins were sold at good prices all round. This result was almost entirely due to the large buying of the (English) home trade buyers, who took off fully 80 per cent. of the total quantity offered.

The above auctions, as it turned out, were the best of the whole year. During February, March, April and May a quiet tone prevailed and values eased downwards, and in the month of June several lots of Seychelles were sold in public sale at 4s. per lb. reduction upon the prices paid under the hammer in January, 1898. July showed more firmness in the market, but August and September were mostly noticeable for lower prices. The last three months of the year (October, November and December) experienced a much better demand, and prices continually advanced, the year closing with a good strong tone at high prices. During the year 1898 5,261 tins Vanilloes were offered in the London public sales and it is safe to estimate that the English manufacturers purchased fully 75 per cent. of the quantity disposed of.

The buyers who had to hold their stocks last year were serious losers in consequence of the unusually large percentage of Vanilloes which deteriorated by mould; many experts consider the goods were hurried forward too soon and not thoroughly cured.

This is such a serious matter, says our London contemporary, that we have got **Messrs. Brookes & Green** to allow us to print the following **special** Hints on the preparation of Vanilla for the London market, published by this firm in January, 1888, *viz* :—

FERTILIZATION.

Self-fertilization in the Vanilla (especially some species) to any useful extent is rather an exception owing to the intervention of the reticulum, a portion of the inner face of the style; we have always understood that artificial fertilization is desirable, the process consisting in removing the Pollen from the Anthers of the flower, and applying it to the stigma; this can be done with a small camel hairbrush or the Anther itself may be applied. This is best done at mid-day in bright weather, but if to avoid the heat early in the day is preferred, only dry mornings should be chosen for the work.

HARVESTING THE VANILLA.

When the pods are ripened, which mostly occurs in Mauritius towards the end of the month of June and throughout July, the work of harvesting commences; the Vanilla plants flower very irregularly, and, in consequence, all the pods are not in fit condition to be gathered at one time, and care is required at the first gatherings not to touch pods which are unripe; if gathered too early the pods or beans will mostly shrivel during the process of drying, and lean shrivelled beans do not realize so good a price in the markets. At the same time the pods must not be left on the plants after they have ripened, or the valves will open, sometimes nearly an inch, and split beans are of inferior value.

DRYING AND PREPARING THE PODS FOR MARKET.

Without doubt the most difficult and anxious time in the culture of Vanilla is the process of drying and completing the preparation of the pods.

All the care and success during the early cultivation may easily be lost, if through want of knowledge or watchfulness the drying process is imperfect.

The successful operation of drying the beans at the time our information refers to was as follows:—

A large oven (similar to an ordinary bakehouse oven) is heated by fire underneath, until the thermometer fixed on the iron door in front registers a heat of 103° to 105° Fahrenheit. The fire is then withdrawn; meantime pieces of wood should be prepared, laid crossways, to fit the bottom inside the oven, so as to prevent the pods actually coming in contact with the oven; upon these cross-laid pieces of wood about 70 to 75 lb. weight of Vanilla pods should be placed, well wrapped in banana leaves, which are again covered with a woollen cloth, and the whole placed in the oven, where they are allowed to remain until the thermometer falls to about 85° Fahrenheit; they are then removed and placed in a wooden box for the moisture to exude and the pods cool gradually, when nearly cold they are placed on blankets, which have been lying on boards and warmed by the sun, and the pods spread on these blankets are exposed to the sun. We have known some growers, who instead of exposing the beans to the direct rays of the sun, prefer to cover the pods with a black woollen cloth, which by absorbing a considerable amount of heat from the sun as well as moisture from the Vanilla pods assist the process of drying, and some state, impart to the pods a superior flavor and color than they otherwise would have. After thus being exposed for two or three days they should be of a dark brown color. The pods are next laid on perforated shelves in an airy room where they are allowed to remain for three or four weeks, or until properly dry, when they should be of a good black color.

SORTING AND PACKING THE BEANS IN LENGTHS AND QUALITIES.

We find all merchants are careful in keeping the size of the beans in the bundles arranged regular and even, and also the weight of the bundles are fairly correct, and upon these points they do not require any information, but we often notice the tins contain very mixed sizes; for instance, one-half of the bundles will measure 6 to 7 inches and the other 4 to 5 inches. This is a mistake, and where practicable should be avoided. If the parcel in hand is large enough for careful division, the measurements of the bundles in a tin should not vary more than half-an-inch, or one inch at the outside, thus 8 x 9 inches together, 7 x 8 inches, 6 x 7 inches, 5 x 6 inches, &c.

In bundling the beans we are well aware that it is easier to make the tie with damp rafia than when the fibre is dry, but the former should not be allowed on any account. We have seen bundles of Vanilla arrive in London quite mouldy round the tie, caused, we feel certain, by the rafia being damp when used for tieing the beans together. This, we feel sure, only requires to be pointed out to be avoided in future.

Bundles of split beans should always be sent in separate tins by themselves, and not mixed with sound beans, as this prejudices the sale; we found this mixture in some parcels we recently inspected.

First Auctions of the Year 1899.

The first auctions for the present year were held on the 5th ulto.; the catalogues included the large supply of 1,095 tins, principally new arrival from Seychelles. The crop has been late in arriving, but the improved condition of the goods raises the question whether planters would not do well to see the beans are

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always thoroughly cured and not let them come forward in a damp or immature condition. Yesterday's important auction attracted world wide attention, and there were some good orders sent from America and Europe, **but the English home trade buyers purchased two-thirds of the lots sold;** brown beans were scarce and dearer, whilst good and fine qualities met splendid competition and sold at good prices, maintaining the high quotations ruling at the close of last year. This is a most satisfactory opening of this year's auctions, and again proves conclusively that **London** is the best market in the world for quick and complete disposal of Vanilloes.

The following particulars of present values of various qualities are copied from **Messrs. Brookes & Green's** special Madagascar and Mauritius Price Current:—

	Inches			Per lb.		
Very fine black beans, mostly frosted	8	a	9	26/	a	28/
" " "	7	a	8	25/	a	26/
" " "	7	a	7½	23/	a	24/
" " "	6	a	7	21/	a	22/
" " "	5	a	6	21/	a	—/
" " "	4	a	5	20/	a	—/
Fair to good black beans, part frosted	8	a	8½	24/	a	26/
" " "	7	a	7½	21/	a	23/
" " "	6	a	7	20/	a	21/
" " "	5	a	6	19/	a	19/6
" " "	4	a	5	18/	a	19/
Brownish beans in good condition, well frosted	7	a	7½	18/	a	20/
" " "	6	a	7	16/	a	18/
" " "	5½	a	6½	14/	a	15/
Ordinary brown beans, part dry	7	a	8	17/	a	20/
" " "	5	a	7	14/	a	17/
" " "	3	a	4½	10/	a	15/

DISTRICT ASSOCIATIONS.

SHEVAROY.

Proceedings of the Committee of the Shevaroy Planters' Association at a Meeting held in the Victoria rooms, Yercaud, at 1 p.m., on Monday the 6th February 1899.—PRESENT: Rev. J. M. Kempf, Messrs. Thurston Short, S. M. Hight, J. C. Large, C. Rahm, C. G. Lechler, *Chairman;* R. Gompertz, *Honorary Secretary.*

1. *Read* and discussed existing rules with certain proposed Amendments and Alterations.

Resolved that the rules as altered and amended shall be submitted to the next Quarterly General Meeting for disposal.

2. *Read* letter from Mr. W. J. Lechler, complaining that the Constable told off to visit his estate had been very remiss.

Resolved, that a copy of Mr. Lechler's letter be sent to the District Superintendent of Police for favour of enquiry.

Read and recorded the following letters:—

15/U. W. Circular from the Secretary, U. P. A. S. I., forwarding copy of order of Government of India, stating that it sees no reason to alter the Forest Act.

16/U. W. Circular from the Secretary, U. P. A. S. I., informing that the *Madras Times* has a very interesting and important telegram on the subject of the S. of I. Planters' Enquiry Committee, copy of telegram attached.

19/D. Notification of the Government of Madras regarding certain areas in India which has been declared infected with plague.

20/D. Letter from Mr. W Mahon Daly, requesting that his name may be taken off the list of members of the S. P. A.

16/S. Letter from Mr. W. H. Stanes, informing that he cannot pay the back subscriptions but will continue to pay his subscriptions from 1st January 1899.

11/L. Letter from Mr. W. J. Lechler giving the dates that the special Constable has visited his estate.

29/C. Letter from the Collector, informing that as the Chembanarth Road is out of the Union limits, the matter has been referred to the President, Taluk Board.

The following papers were laid on the table:—

Planting Opinion, 4 copies, dated January 7th, 14th, 21st and 28th.

African Times, 4 copies, dated November 5th, 19th, 26th and December 3rd.

George White and Co., Ceylon Tea Memoranda, No. 180.

Proceedings of the Wynaad Planters' Association, dated 4th January 1899

Do. Coorg do. 28th November 1899.

The Agricultural Ledger No. 16 Flemingia congesta.

Do. „ 17 Iron.

Commercial Circular „ 3 Petroleum.

Do. „ 4 Resin, Turpentine, and Tar.

Do. „ 5 India-rubber, Caoutchouc, or Gum Elastic.

Do. „ 6 (2 copies) Tea-chests—Packing Cases.

Do. „ 7 do Bamboos—Bambuseae.

Do. „ 8 do. Agar-Aquilaria Agallocha.

Do. „ 9 do. Bamboos—Bambuseae.

Do „ 10 do. India-rubber, Caoutchouc or Gum Elastic.

Do. „ 11 do. Cutch—Aracia Catechu.

Do. Agricultural ledgers Series D. A. D No. 2, Cotton Cultivation in Berar in the Hyderabad Assigned Districts.

(Signed) C. G. LECHLER, *Chairman.*
(„) R. GOMPERTZ, *Hon. Secretary*

MARKET REPORT.

[*Advices per Mail of 27th January* 1899.]

COFFEE.

During the week supplies at auction have been very moderate, says the *London Commercial Record*, and no material change in value occurred. Further small quantities of East India offered, but the quality has not provided much attraction to the trade, though full relative values were obtained. Foreign growths were mostly old crop, which with difficulty sold at easier prices; the few lots of good colory new crop brought some advance. "Futures" have shown more firmness, and prices for the week are rather dearer, viz.:—

London ...	Santos ...	March delivery ...	31s 3d
New York ...	No. 7 Rio ..	„ „ ...	5·65 cents.
Hamburg ...	Santos ...	„ „ ...	31½ pf.
Havre ..	Santos ...	„ „ ...	38¼ francs
Holland ..	Good ordinary Java	„ ...	32½ cents.

Statistics of Imports Deliveries and Stock of COFFEE in London exhibit—

In the Imports a decrease this year of ...	..	1174 tons
Home Consumption a decrease of ...	...	18 „
Export an increase of	...	205 „
Stock an increase of	...	3427 „

Auctions this week have passed off as under:—

CEYLON.—*Plantation.*—11 barrels and bags sold—smalls 72s, low middling 92s, good bold to extra bold 111s to 115s, peaberry 117s.

EAST INDIA.—68 bags *Coorg* mostly sold, smalls 50s, middling 70s 6d, good bold blue 95s 6d, peaberry 102s.

COSTA RICA.—755 bags offered and 500 bags sold, smalls 29s, good middling colory 73s, good bold 87s, peaberry 79s: old crop "without reserve" good ordinary 35s 6d to 36s, low middling to middling 44s to 55s 6d, peaberry 31s.

GUATEMALA.—1,398 bags partly sold, smalls 35s to 37s, good ordinary faded greenish 40s 6d to 41s 6d, low to good middling 53s to 57s, good bold 88s 6d, peaberry 65s 6d to 76s 6d.

VERA PAZ.—Of 1,903 bags offered about 600 sold, smalls 37s 6d, good to fine ordinary 40s to 46s 6d, low middling to middling gray 50s to 62s 6d.

SALVADOR.—411 bags bought in.

VENEZUELAN.—81 bags bought in.

PORTO RICO.—34 bags withdrawn.

ECUADOR.—30 bags good ordinary bold pale 35s 6d.

MOCHA.—100 packages retired.

NYASSALAND.—117 bags sold, fine fine ordinary to low middling 51s 6d to 57s 6d.

AFRICAN.—*Liberian.*—43 bags sold at 24s to 30s for medium yellow to bold brown.

To-day's auctions consisted of 15 casks 15 barrels 4 bags Plantation Ceylon, 1,064 bags East India, 86 bags Mexican, 244 bags Nyassaland, 20 half-barrels Mocha, 29 barrels 84 bags Jamaica, 622 bags Guatemala, 150 bags Savanilla, 100 bags Bahia, 93 bags Salvador, 389 bags Costa Rica, 126 bags Colombian, 246 bags

Coban and 20 bags Santos. The sales went off most irregularly, and in some cases 6d to 1s lower.

Prices realised at auctions for the principal Marks of East India :—

	A	B	C	PB	T
COORG.					
Grant and Abbs's Cowerie Betta Coorg	95/6	70/6	50/-	102/-	45/-
NEILGHERRY.					
JM ◇ Oland Nilgiris	60/- bid	52/- bid	47/-	71/- bid	39/6

	A	B	C	PB	T
NEILGHERRY—(*continued.*)					
Chengal	no bid	62/-	50/- bid	71/- bid	36/6
Fairfield Nilgiris	no bid	no bid	51/-	71/- bid	36/6
Manaar	no bid		50/- bid	48/6	66/6 bid 37/6

TEA.

INDIAN.—Public auctions were rather lighter, viz., 47,300 packages versus 55,500 packages last week, and 44,500 packages a year ago.

A strong demand again prevailed for most descriptions at about previous rates, particularly for those with full autumn flavour, and exceptionally high prices were recorded for the choicest parcels. Quotations for common to medium whole leaf Teas, with desirable cup, were quite maintained, but the less attractive ones, as also medium to fine Broken Pekoes, exhibited some irregularity and were at times easier. Finest Orange Pekoes and Broken Orange Pekoes did not show much change.

Including what is printed for sale on Monday 30th inst., the total of the 1898 crop sold to the end of this month will be, say, 96½ million lbs., opposed to about 98 million lbs. to 31st January, 1898.

For 33,600 packages on Estate Account, 9¼d per lb. was realised, against 8¼d per lb. for 35,300 packages and 9⅜d per lb. for 34,300 packages in the two preceding seasons.

CEYLON.—A larger quantity was brought forward, amounting to 20,900 packages, contrasted with 16,200 packages on the 17th inst., and 20,000 packages at this period of 1898.

There was a better enquiry generally, and spirited competition for nearly all kinds from the Home trade, while Continental orders also were more frequent than of late.

Pekoe Souchongs under 6d per lb., and Pekoes up to 8d per lb. were in request and occasionally dearer, more attention being also given to the fine lines of Pekoe and Orange Pekoe. Fair to medium Broken Pekoes with coloury liquor, often ruled in favour of sellers, while Broken Pekoes and Broken Orange Pekoes over 1s 2d marked an advance, the following being noticeable, viz. :—Henfold Estate, 1s 7¼d; West Holyrood Estate 1s 6¼d; Talawakelle Estate 1s 6d; Campion Estate 1s 4¾d; Tillicoultry Estate, and Valamaly Estate 1s 4½d; North Cove Estate 1s 3¾d; and Kotiyagalla Estate 1s 3¼d per lb.

The average is 8¼d per lb. compared with 8⅛d per lb. in the foregoing week, and 8¼d per lb. on the 27th January, 1898.

JAVA.—Nearly 1,400 packages of direct import were included in the catalogues, which went off with good spirit well up to valuations. For the next fortnight 3,000 packages are advertised.

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London Warehouses, as per official returns were :—

From 1st to 24th Jan., 1899 ..... 14,424,120 lbs.
„ „ 1898 ..... 13,491,065 „

During the week the following has been printed for sale by public auction :—

	Sold.	Withdrawn.	Total offered.
	Pkgs.	Pkgs.	Pkgs.
India ...	41,931	5,350	47,281
Ceylon...	19,810	1,053	20,863
Java ...	1,357		1,357
Total ...	63,098	6,403	69,501

Also 195 packages from second hands.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon and Java Tea Report, dated January 20th, 1899, says :—

QUANTITY BROUGHT TO AUCTION IN LONDON,
FROM 1ST JUNE TO DATE.

	Indian.	Ceylon.	Java.
1898-1899.	1,063,839 pkgs.	724,409 pkgs.	27,826 pkgs.
1897-1898.	1,080,693 „	755,036 „	26,679 „

55,638 pkgs. Indian
16,659 „ Ceylon
— „ Java
} Total 72,297 packages were offered in public auction this week.

The quantity of Tea used in the United Kingdom per head of population during 1898 was lbs. 5·85, against lbs. 5·81 in 1897, while progress was also made in the total consumed, as shown below.

Indian.—The market was strong throughout the week and is now higher than it was before Christmas to the extent of fully ½d. on Teas below 7d., and 3¾d. to 1d. on the higher grades. The general quality of arrivals is now showing some improvement, making the rise appear slightly more than is actually the case. The official wire gives exports to U. K. for the first half of January as lbs. 4,460,000, against 4,180,000 for same period last year, making total exported to U. K. from first April, 1898 to the middle of Jan. as lbs. 126,867,000, against lbs 125,320,000 last season.

Ceylon.—The small auction met with a steady demand, prices being distinctly firm, with occasional advances for good liquoring Teas, as well as for some of lower grade. Private telegraphic advice gives exports to U. K. for first half of the month as lbs. 2,300,000 against lbs 3,500,000 last year the estimate for the month being lbs. 8,000.000 against 8,000,000 shipped last year. Average for week 8·11d., against 8d for same period 1897.

Ceylon Tea sold on Garden Account, 1st Jan. to date 1899, 60,743 pkgs., av., 8·05d. 1898, 64,796 pkgs., av., 8·27d.

		1899.	1898.	1897.	1896.
PEKOE SOUG.	(Ordinary leaf; fair liquor)	6½d.	6½d.	6d.	6½d.
PEKOE	(Ordinary leaf, little twist; fair liquor)	7¾d.	7½d.	7d.	7¾d.
PEKOE SOUG.	(Rather bold leaf, indifferent liquor)	5¼d.	4¾d.	4¾d	5¼d.
PEKOE	(Somewhat bold leaf; indifferent liquor)	5⅝d.	5¾d.	5½d.	5⅝d.

Java was not represented, 1,357 packages are advertised for sale next week. 8,592 packages are to be offered in Amsterdam on the 26th inst.

IN AUSTRALIA.

MELBOURNE, Jan. 22nd.—At the auction sale this afternoon there was a good demand at full prices, but, owing to the firmness of importers a considerable proportion of the offerings was withdrawn. Of Ceylons, 40 chests and 61 half-chests were offered, and all sold, principally at 7d. to 9½d, choice broken orange pekoe fetching 11d. Privately sales have been made of about 140 chests Ceylon at prices ranging from 6d. to 1/, and 60 packages Ceylon dust.

ADELAIDE, Jan. 22nd.—Enquiries for tea have been moderate, and the sales fair in both Ceylon, India and China.—*Australian papers.*

TEA STOCKS IN MELBOURNE.

Compared with the same period last year on January 21st as follows :—

	1899.	1898.
China	1,362,121	1,734,528
Indian	431,184	716,271
Ceylon	530,922	350,121
Total...	2,324,227	2,801,160

COCOA.

Catalogues on Tuesday offered the goodly quantity of 5,856 bags which experienced a good demand, and about 3,800 bags sold, although at somewhat irregular rates. 660 bags Trinidad sold, out of 734 bags offered, at 72s to 74s 6d for good mixed to fine, showing an occasional 1s advance. Of 1,980 bags Grenada 1,650 bags found buyers at an improvement of 6d to 1s on all except the fine grades which had a tendency to ease; fine red brought 70s to 70s 6d, good 67s to 68s 6d, and common 65s to 66s. 541 bags Dominica realised fully valuations at 63s 6d to 66s for common to fair. Of 45 bags St. Lucia 5 bags sold at 66s 6d. 127 bags Jamaica sold at full prices—at 64s for ordinary. Of 807 bags Guayaquil 180 bags Caraquez sold at 72s 6d to 73s for good Caraquez, 68s 6d to 70s for gray to fair, and 70s for after-crop Arriba, the latter quality being distinctly cheaper. 40 bags Colombian and 61 bags Surinam retired. Of 1,510 bags Ceylon 650 bags were placed at 69s to 72s 6d for good medium and bold red, small and medium 63s to 68s, and pickings 55s to 61s per cwt. Private transactions comprise 100 bags Trinidad and 400 bags Grenada at auction rates, and about 800 bags Guayaquil, including summer Arriba at 80s per cwt.

PEPPER.

Black.—The market has been very firm and dearer, finishing up strong with few sellers. On the spot sales of fair Singapore have

been made at 5⅛d up to 6 3/16d, and Tellicherry at 5 1/16d. For arrival 300 to 400 tons have changed hands, viz, Singapore January March shipment at 5 5/16d to 5½d, and March-May at 5⅜d up to 5½d, also some Tellicherry at 47s 6d per cwt. c.i.f. delivered weights.

Auctions on Wednesday offered only 13 bags damaged Singapore, which were placed at 4⅞d to 5d per lb.

Fine on Friday.—Strong; 100 tons Aleppi March-May sold at 47s 6d per cwt., delivered weights New York.

Sales of 50 tons Singapore—at 5¼d spot, and March-May shipment at 5 9/16d.

White is dearer and very firm. Singapore on the spot has been sold at 8⅜d for fair and Penang at 7¾d. For arrival 100 tons Singapore January March shipment have changed hands at 8 1/16d, and 100 tons Penang January-March at 7 5/16d per lb.

At public sale on the 25th inst. 232 bags Singapore passed the hammer unsold at 8⅞d to 9½d, together with 113 bags Penang at 8d per lb.

GINGER.

Cochin.—Some small arrivals of new crop washed (the first to hand this season) met good competition and sold at higher prices, but old crop of all qualities is difficult to quit except for Calicut rough, for which a demand has sprung up on the spot, and sales of about 1,000 bags are reported at 24s to 25s per cwt. for fair, also some washed Cochin at 25s to 27s, and cuttings at 18s. The business done to arrive so far this season is very much smaller than usual, the total transactions being little, if any, over 100 tons; consequently, the bulk of the shipments will be made on consignment. There is reported to be a considerable Native demand. Offerings at auction comprised 69 cases 419 bags, of which 20 cases 195 bags sold, partly prior to the public sale, as follows: medium, some bold roughly cut limed 54s, dull small and ends cut limed 29s, and bright medium and small washed rough, mixed with some dark and rather lean (72 bags new crop) 28s per cwt.

COCHIN GINGER in demand and firm, but business small. Sales of ordinary to good washed at 25s to 27s, and ordinary brown rough at 25s to 25s 6d.

CARDAMOMS.

On India, 10 cwt. Ceylon Seed February-April sold at 2s 6d c.i.f. London.

INDIA RUBBER.

Constant advices of short receipts at Pará and higher prices there, with very active American buying, have caused an advance of about 2d to 3d per lb., with very large transactions advised.

To-day 35 tons Bolivian sold, fine at 4s 3d, entrefine at 4s 2d. 25 tons hard fine spot and forward at 4s 3d 12 tons scrappy negrohead at 3s 7½d, and ½d to 1d more now asked. Peruvian Ball sold at 3s 6d. Cametas at 3s 1d.

At auctions to-day—

Pará.—10 cases sold, fine rejections part gutty 3s 11d to 4s 0½d, selected virgin part coarse 3s 8d to 3s 9¾d.

Peruvian.—24 cases sold, middling scrappy negrohead 3s 6½d. fair ball 3s 5½d.

Mangabeira scarce and wanted, 2 bales fine Rio sheet sold at 2s 6¾d.

Columbian sells readily at very high prices, fine sheet 3s 7½d good sheet and scrap 3s 7d, fair 3s 5d to 3s 6¼d.

Central American, &c., in good demand. 377 packages offered and 250 sold, fair scrap 3s 5d to 3s 5¾d, rather mixed ditto 3s 3d to 3s 4d, soft virgin scrap 3s to 3s 2¼d, fair to good pressed strips clean 2s 5d to 2s 6d, dirty foul strip and sheet 2s to 2s 2d.

Madagascar.—127 packages offered and 87 sold, 9 bags fine clean East Coast Niggers at 2s 10¾d; Majunga, good scrappy 2s 7½d to 2s 8½d, rather mixed ditto 2s 4d, foul ditto 2s to 2s 2d, fair to good black 2s 3d to 2s 5¾d.

Mozambique scarce and high; 98 bags offered and 39 sold, ordinary to good Lamu ball 3s 0¾d to 3s 3d, middling white ball 2s 9d, fair pickings 2s, clean brown Niggers 2s 9d to 2s 9½d.

Congo.—17 bales good strip sold at 3s 4d.

Penang.—133 cases retired at high prices; some fine red sold at 3s 1½d, middling Rangoon at 3s 2d.

Borneo.—90 cases offered and 22 sold, fair lsts a little barky at 2s 2¾d per lb.

Balata.—60 packages offered and 51 sold; Venezuelan block, good at 1s 2½d, pickings 11½d to 1s 0½d.

CINCHONA BARK

THE MONTHLY SALES.

Offerings at auction on Tuesday presented the very moderate supply of 1,909 packages, for which there was a fairly good demand at steady prices, the average unit being nearly 1d, the greater part of the catalogues found buyers at or immediately after the auctions

119 bales *South American* sold. Bolivian cultivated Calisaya quill 5¼d to 6½d, flat 6½d, and Red 4½d per lb.

253 bales, &c. *Ceylon Cinchona* were brought forward, and 200 bales sold as follows:—Succirubra, chips and shavings 2⅝d to 3½d; Ledgeriana, chips renewed 4½d per lb.

Of 1,015 bales *East India Cinchona* offered, 800 bales sold as under:—Officinalis, chips and shavings 2¾d to 3½d, ditto renewed 2¼d to 4⅝d; Red, chips 2⅜d, chips and shavings renewed 2¼d to 2⅞d, broken quill 3¾d, branch 1½d, root 2⅜d; Ledgeriana, chips 2½d to 4⅝d; Hybrid, chips 3d per lb.

273 bales and bags *Java Cinchona* catalogued and 200 bales, &c., sold; Ledgeriana, chips 3⅛d to 4⅛d, branch 2½d to 4⅛d, and root 3¾d to 4⅛d per lb.

Of 267 bales *African Cinchona* brought forward 225 bales sold:—Succirubra, quill 3⅝d to 4¾d, broken and chips 3½d to 3⅝d per lb.

SULPHATE OF QUININE.

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Sulphate of Quinine—	*in tins.*	*in 1 oz. vials*
Howards & Sons	... 1s 0d to 0s 0d	1s 2d @ 0s 0d (for 1,000 ozs.)
Thomas Whiffen	... 0s 11d „ 0s 0d	1s 1d „ 0s 0d
Brunswick ...	... 0s 10½d „ 0s 0d	
Mannheim ...	... 0s 10½d „ 0s 0d nominal	
Auerbach ...	... 0s 10½d „ 0s 0d	
Zimmer Jobst	... 0s 10½d „ 0s 0d nominal	
Milan ...	... 0s 0d „ 0s 0d	0s 0d „ 0s 0d
Taillandier...	... 0s 10½d „ 0s 0d	
Amsterdam	... 0s 10½d „ 0s 0d nominal	
Pelletier's ...	... 0s 0d „ 0s 0d	1s 5d „ 0s 0d

PLANTING BOOKS.

Map of Ceylon Tea Estates, Rs.9; colored Rs.10; Mounted in case, Rs.14. Map of Ceylon Plantations, Plain, Rs.8. Inga Va, Rs. 2-8. Areca Palm. As.12. Cocoanut Planter's Manual, Rs.4-10. Ceylon Manual of Chemical Analyses, Rs.3-10. Tobacco cultivation, Rs.3-10. India Rubber (now in the Press). Coffee Planter's Manual (now in the Press). All about Spices, Rs.3-10. Coffee Tree and its Enemies, Rs.1-8. All about Grub, Rs.1-5. Brazil as a Coffee Country, Rs.1-8. Cardamoms, Re.1. Ceylon Coffee Soils and Manures, Rs.1-9. All about Aloe and Ramie Fibre, Re.1. Estate Buildings, Rs.4-4. Coffee and Chicory, Rs.1-13. Coffee Cultivation in Ceylon, As.5. Tea Cultivation and Manufacture, As.5. Tea Cultivation in Ceylon, As.6. Tea at high elevations in Ceylon, As.3. Manuring of Tea Estates, As.8. To Economise Labour Supply, As.12 Planting, Pruning and Preparation of Tea, As.12. Salt for Agriculture, As.8. Cocoa, Cocaine and its Salt, Rs.2. On the Importance of Lining, As.4.

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Movements of Tea in United Kingdom from 1st Jan. to 31st Dec., as shown by Custom House Returns.

	Imports.			Home Consumption.			Exports.		
	1898.	1897.	1896.	1898.	1897.	1896.	1898.	1897.	1896.
Indian ...	140,699,017	134,734,297	127,721,885	133,430,351	124,534,194	122,941,097	7,855,495	5,711,240	4,399,640
Ceylon ...	98,136,157	96,325,578	94,859,965	82,471,745	85,493,552	80,294,475	11,522,434	10,683,885	8,496,663
Java ...	27,098,706	28,760,297	35,299,730	14,695,334	17,242,246	19,831,678	15,786,150	19,992,024	20,073,413
Other Countries ..	7,467,404	6,980,239	7,512,542	4,816,675	4,129,782	4,718,251	1,179,173	967,574	1,058,090
Total lbs. ...	273,401,284	266,800,411	265,394,122	235,414,105	231,399,724	227,785,500	36,343,252	37,354,723	34,027,806

Analysis of above exports of Tea from U. K. during the last two years (not including transhipments.)

	Indian.		Ceylon.		China.		Other Countries	
	1898.	1897.	1898.	1897.	1898.	1897.	1898.	1897.
Countries in Europe ...	4,443,836	2,935,422	6,673,087	6,272,596	9,122,760	12,154,903	650,026	730,864
United States ...	705,829	624,711	1,299,716	1,624,774	1,020,822	2,220,688	163,010	56,164
British North America ...	1,506,191	1,180,178	2,063,182	1,561,894	1,122,064	1,712,009	122,842	12,440
Other Countries ...	1,199,639	970,929	1,486,449	1,224,621	4,520,504	3,904,424	243,295	168,106
Total lbs. ...	7,855,495	5,711,240	11,522,434	10,683,885	15,786,150	19,992,024	1,179,173	967,574

(Average for all India 9·12d.) *January 20th.*

Garden.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Frannings, Dust, and Various.	
	Quantity	Price.	Quantity	Price	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.
Neilgherry ...	**361 p**	**6·95**												
Curzon ...	68 p	7½	27½c	8	11	7	30½c	7½	...	...	...	...	...	...
New Hope ...	215 p	6¾	70½c	8½	78	6¾	...	...	...	...	67	5¾ 6	...	...
Pykara Falls ...	78	7	...	...	34	6½	24	8¼	20	6	...	...	...	...
Travancore ...	**1105 p**	**6·47**												
BA ...	6	5½	...	...	...	...	...	..	...	...	6	5½	...	...
BonAccord ...	147 p	7¼	...	...	55	7	55	8	20	6	...	...	17 p	4½ 7½
Braemore ...	119	6	...		52	5¾	44	6¾	...	...	16	5½	7	4¼ 5¾
Cherian Malay ...	150 p	6¾	107 p	7 7¾	15	6	...	..	12	5½	...	...	16½c	6
CMR ...	64	5¾	...	...	50	5½ 5¾	13	6½	...	...	...	...	1	3
Isfield T CoIsfield...	65	6¾	...	...	61	6½ 6¾	4	7¾	...	...	...	...	...	...
Kinmylies ...	50½c	5¾	...	...	46½c	5¾	..	...	4½c	5	...	...	...	...
Mahandragherry ...	30½c	6	..	...	27½c	6	...	...	3½c	5¼	...	...	...	...
Merchiston ...	49 p	6¼	6½c	7	34	6	7½c	7	...	...	...	...	2½c	5¼
ME ...	15 p	5¼	...	...	...	...	...	...	...	...	12	5½	3½c	3¾
P ...	10	5	...	...	...	...	...	...	...	...	10	5	...	...
Patanaveram ...	14	6¼	...	...	10	6½	...	.	...	...	3	4	1	3⅓
Poonmudi ...	162 p	6⅓	42	7	66	6¼	23	7½	25	5¾	...	...	6½c	4½
STTCo Venture ...	124	7¾	...	...	54	7¼	49	8¾	21	6	...	...	...	...
Wallardie ...	100	5¼	...	...	87	5 5¾	1	6	1	5¼	...	...	11	6
Wynaad ...														
Richmond ...	24	7¾	6	1/	6	7½	...	...	12	5¾	...	...	...	...
Wynaad T Co Per...	82½c	8¼	...	...	36½c	8 8½	19½c	10¼	2½c	6¾	3½c	6	2½c	7⅓

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ESTATE REQUISITES AND MANURES.

	Rs.	A.	P.
ESTATE TOOLS—			
Round Eye Felling Axes (steel), 4 lbs. weight per doz. ...	19	8	0
Do. do. do. 2½ „ „ „ ...	13	8	0
Pick Axes, 6½ lbs. (well steeled) ... .. „ ...	16	8	0
Bill Hooks, (Barcutties) 12″ blade, bright steel „ ...	18	0	0
Do. Kentish, with back, steel, 2½ lbs. wt. „ ..	14	4	0
Bushel Measures (Galvanized), Imperial Stnd. each .	12	0	0
"Nonsuch," Watering Cans, (Galvd.) 2 & 2½ gals. Rs 3 8 &	4	4	0
Steel Digging Forks. *Steel strapped all along handle.* 4 & 3 pronged per doz , Rs 36-0-0 &	33	0	0
Digging Fork Handles, ... each...	0	14	0
Grass Knives, socket handle, steel ... per doz...	12	0	0
Hammers, 6, 7 & 8 lbs. ... per lb...	0	6	0
Lining Ropes, } abt. 600 feet „ ..	15	0	0
Tarred Russian Hemp } „ 300 „ „ ...	8	0	0
Mamooties, Steel 10″ x 8″ & 9″ x 7″ abt. 4 lbs. wt. per doz.	12	12	0
Do. Iron 10½ x 8½ & 9½ x 8 abt. 3¾ lbs. wt. „ ...	7	8	0
Quintanies, Steel 15″ x 6,″ 5½ lbs. weight .. „ ...	16	8	0
Do. 9½″ x 5,″ 3¼ „ „ ... „ ...	12	12	0
Manure Pans, (Galvd.) 8″ deep x 18″ top x 10″ bottom „ ...	21	12	0
Pitting Bars (Alavangoes), well-steeled points,			
3″ spade end, 45″ long, 9 lbs. weight ... „ ...	15	12	0
3″ do. 36″ do. 6½ lbs. do. ... „ ...	12	12	0
Pruning Knives, English make, best steel, 4″ blade „ ...	9	0	0
Do. Saws, do. do. 14″ „ ...	18	0	0
Seamless Bags (for coffee transport to coast) 42″ x 20″ „ ...	9	0	0
Shovels, round nose, T handle ... ... „ ...	12	12	0
Tea Transplanting Spades, steel, sharp edges each...	2	8	0
TEA PACKING REQUISITES, Etc.—(*For Nails see opposite.*)			
Hoops, Steel ¼″ (abt. 3,000 feet to the cwt.) per cwt ..	15	0	0
Solder (Sticks) per case of 1 cwt. Rs. 50, or per lb...	0	8	0
Soldering Fluid ... per doz. Rs. 19-8-0 or per bottle...	2	0	0
Do. Irons ... „ „ 21-0-0 „ each...	2	0	0
Stencil Ink black, in tins „ „ 9 12-0 „ „ ..	1	0	0
Do. Brushes ... „ „ 6-12-0 „ „ ...	0	12	0
Tea tasting Pots and Cups ... per doz...	11	4	0
Tea Sieves, brass No. 6, 8, 9, 10, 12 mesh each ..	6	0	0
Do. do. bottoms do. „ ...	3	8	0
Jute Hessian for withering 40″ or 45″; to order, from per yard	0	1	9
Chests Full 24 x 19 x 19 (outside) ⅛ in. planks each...	1	1	0
Half 16 x 16 x 16 („) do. „ ...	0	13	3
Quarter 14 x 12 x 10 („) ⅜ do. „ ...	0	9	0
Deld. Metapol., Palghat, Calicut. Any dimensions, proportionate prices.			
Lead—BEST INCORRODIBLE. 4½ oz. Per case of 2 cwts:—			
142 sheets 37″ x 22″ ... ... „ ...	32	0	0
240 „ 25″ x 19″ ... ... „ ...	32	0	0

	Rs.	A	P.
WINDOW GLASS—per case of 100 sq. ft. (all sound) ..	18	0	0
18 x 10 (180 panes). 12 x 10 (120), 14 x 12 (85), 16 x 14 (64), 18 x 14 (57), 20 x 16 (45), 22 x 16 (41). 22 x 18 (36), 24 x 18 (33), 24 x 20 (30). 28 x 22 (23), 28 x 24 (21), 36 x 24 (17) and 36 x 30 (13).			
COIR MATTING—Per roll of 60 feet long x 3 feet wide:—			
* Machine-made Yarn:—Superior Rs. 15; Fine ...	12	8	0
* Ordinary Twill Bungalow	7	0	0
No. 1 Estate, Double (for coffee drying, etc.) ...	2	8	0
„ 2 „ „ (do.)	2	4	0
Shade (for nurseries, ferneries, &c.) ...	2	0	0
* *Coloured stripes to order. Samples on application.*			
ASPHALTE —			
In barrels of 6¼ to 8½ cwts gross (tare 56lbs.) per cwt. net.	4	0	0
PORTLAND CEMENT—John Bazely White and Bros.			
"Whites" Best ℔ barrel (abt. 375 lbs. net, 400 lbs. gross).	11	0	0
Sole Agents for S. Canara, Coorg, Malabar, Coimbatore, Travancore.			
COAL TAR—			
Best ℔ barrel (abt. 3¼ cwts. net, 4 cwts. gross) ...	19	8	0
GALVANIZED IRON —			
Continuous Iron. For roofing, etc.			
In rolls of 100 ft. x 2 ft. 28 G. (per ft., 6 as.) per roll ...	32	8	0
Nails 1 in. flat headed for fixing the above per 1,000 Nails..	1	0	0
Corrugated Iron (English), 24 G. 2 ft. wide ... per cwt...	11	0	0
Lengths in feet 5 6 7 8 9 10			
Sheets to the cwt. (abt.) 8·25 6·95 5·85 5·10 4·55 4·10			
Selected sheets Rs. 1/9 1/12 2/1 2/6 2/10 2 15 each.			
Iron Ridging, 6 ft. x 6 inch lap ... ...per length..	1	4	0
Bolts and Nuts, ¼″ x ¾″ ... ...per gross...	1	12	0
Rivets ... ... „ ...	0	8	0
Washers, Iron ... ... „ ...	0	10	0
Do. Lead ... ... „ ...	1	2	0
Screws, 2½ in. ... ... „ ...	2	4	0
Lead headed nails, 2½ in. ... ... „ ...	2	12	0
NAILS—Wire, French.			
℔ 1 cwt. keg { 1″ 1¼″ 1½″ 2″ 2½″ 3″ 3½″ 4″ / Rs. 13/12 12/8 11 8 11/ 10,8 10/ 9/12 9/8			
℔ pound annas 2¾ 2¾ 2½ 2¼ 2¼ 2 2 1¾			
Nails ℔ lb. (*abt.*) 600 300 250 150 100 50 40 30			
Triangular Barbed Wire Nails.			
℔ 1 cwt. keg { 1″ 1½″ 2″ 3″ 4″ / Rs. 10,8 9/4 8 8 7,0 6,8			
LUBRICATING OIL FOR OIL ENGINES:—A blend of the finest and best oils. In drums of 5 Imperial gallons, per drum...	13	12	0
PERMANGANATE OF POTASH ... ... per lb. ...	1	6	0
Used by the Medical Authorities for purifying wells, drinking water, etc.			

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Fish Guano. Steamed Bone Meal. Poonac:—Castor, Mowra, Hoongay. **Saltpetre, Crude and Refined** (Nitrate of Potash.) **Nitrate of Soda. Sulphate of Ammonia. Sulphate of Potash. Muriate of Potash. Superphosphates. Phosphate Powder. Kainits Salts. Mixtures** can be made in any proportion without extra charge. **Packing** can be done to suit transport by bullocks, etc.

Prices on application for delivery either at our Karaparumba Works, Calicut, the Calicut Railway Station, Palghat, Mettapollium, Salem, or at our godowns in Cochin, Tellicherry, Mangalore and other places. **Analyses** of manures undertaken at our Manure Works by a qualified European.

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PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

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N. B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 3rd Proximo. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Please note the change of address.

Coorg.

Polli Betta, 22*nd Feb. Weather.*—Some clouds have been showing up since last report. There has hardly been any wind. On the whole it has been fine. *Crops.*—The rain reported as having fallen on the 7th and 8th has brought out a sprinkling of blossom, which appears all right so far. Where rain was heavy the display of blossom has been very fair. Bees in plenty were on the blossom. *Labour.*—Sufficient. *Health.*—Good.

THE TAMIL LABOURER.

It is greatly to be feared that Ramasawmy, the Tamil labourer, has been dipping into the Scriptures of the West, and has acquired that modicum of knowledge in which lurks danger. In fact, it is to be feared that he has read that a prophet is not without honour save in his own country, and has applied the remark to himself as seriously as if he were a prophet himself. At least, he has acquired some sort of a reputation on estates abroad, while nearer home it is difficult to get him to do estate work at all. In the Straits Settlements and Borneo he has actually acquired a name, and, perhaps, also a reputation, that is not his. He is known there as a "Kling," though the genuine Kling is obviously a Telinga or Telugu man, not a Tamil. He is described by a Borneo contemporary as of inferior physique to the Chinaman, or Malay, though at his best he is not so. He is said to be "less strong in constitution, and apt to consider himself very ill on the flimsiest pretexts." Indeed, it is said that it takes 3 Tamil coolies to do the work of 2 Chinese; and it is perhaps true, though not stated, that 3 Tamil

coolies absorb drugs—including castor oil!—enough for 6 Chinamen. Nevertheless, the Kling is a favourite in many quarters, and if he is not an intense worker, he is a useful one nevertheless. As our Borneo contemporary points out, in the Straits Settlements Klings are the principal cultivators of Sugar, Coffee and Tapioca. In Ceylon they are employed as road-makers, house-builders, and on Tea, Coffee, Cinchona, and Cinnamon plantations, &c., &c. They are very amenable to reasonable discipline, and are ten times as quick-witted as the plodding Chinaman or lazy Malay. If they are not engaged at very great distances from their native country, they take their families with them; and "colonies" of Tamils have been established in countries much farther away than the Straits Settlements or Borneo. The work of the women on the estate is a factor of some importance to the planter.

What has led us to make our present remarks is the recent conjunction of two facts, which may almost be said to constitute the obverse and reverse of the Tamil labourer's medal of honour. Only a little time ago we observed that a Borneo paper, while not an enthusiast on behalf of the Tamil labourer, had come to regard him as a *pis aller*. It even ventured to suggest that a small experimental gang might pay, in view of the enormous rates of advances paid to Chinese and other coolies; and once the door were opened the influx would be large. It was thought that competition would be good for JOHN CHINAMAN, who is at any rate grasping in regard to coins of the realm. The suggestion was thrown out that, once JOHN CHINAMAN found that his Kling rival would underbid him, he would return to his duty, at reasonable rates of wages. Yet, on the other hand, a complaint lately reached us from the Pulneys—in the very heart of the Tamil country—that a certain estate had been virtually abandoned, mainly because of the difficulty of obtaining the necessary labour supplies. Naturally, the thought that the Tamil was wanted near home, and could not be got, suggested the idea that when wanted afar off he would not be obtained very easily. But facts in Ceylon were opposed to this idea, and as regards Borneo it was distinctly stated that there was no difficulty. The *North Borneo Herald* noted last month:—"We are glad to learn that one small estate is already meditating the importation of a few Klings by way of seeing whether it will pay. All the necessary machinery is ready. There is an Indian Immigration Agent in Sandakan who has only to write to the proper officials in India to secure as many coolies, from half a dozen to several hundreds, as he may desire; and these at rates which involve, scarce a fourth of the expense (apart from passage money) involved in importing Chinese." As a matter of fact, the experiment was tried sometime ago, and Borneo, like Ceylon, succeeded in attracting the Tamil labourer. Was it a difference of wages, of treatment, of climate; or was it merely that the Tamulian was glad to avoid the evils he knew of to learn something about those previously unknown? It was this question that seemed to us to demand consideration, and it is on this point that we should like to have some information from our readers.

We regret to say that our offer of a prize of Rs.100 for the best essay on the Labour Supply of the various planting districts of Southern India has attracted but little competition, and that there is not a single essay that deals with the Labour Supply in the Pulneys or in Travancore. The Tamulian "at home," therefore, is not referred to in the competitive essays, and we should turn to them in vain for information as to why there is no scarcity of Tamil labour in Ceylon, and yet a scarcity on the Pulneys. If it is a question of climate,—the parts of the Pulneys to which we are now specially alluding being doubtless cold at times—there is some explanation. But is this all? We by no means grudge the Straits planter or the Ceylon planter his South Indian labourer, but we certainly think that the planter in these parts should protect his own interests to the extent of seeing that there is a sufficiency of "indigenous" labour retained "for local consumption." No doubt, the wages offered abroad are higher; but there are certain disadvantages to be set off against this. The matter seems to be one that deserves some little consideration, and we should be very pleased if any of our readers who are qualified to offer an explanation would kindly do so. Probably some of our readers' estimate of the merits of the Tamil labourer is not a very high one; but if that be the case he can hardly be at his best when working on a South Indian estate, for there is no doubt he is capable of doing excellent and steady work. The difficulty is to induce him to give of his best; and here much must depend upon the tact of the employer or the Superintendent.

COCAINE IN PERU.

There are 10 cocaine factories in Peru; 5 in Huanuco; 1 in the Monzon district; 1 in the Puzuzo district; 2 in Lima; and 1 in Callao. Two or three years ago the production of this valuable alkaloid was said to have decreased. This decrease is accounted for by the fact that the extraction of the alkaloid is cheaper abroad, as is proved by the increase of the exports of coca leaves. The following table shows the quantity and values of cocaine exported from 1891 to 1895:—

Year.	Quantity.	Soles.
	Kilos.	
1890	1,730	346,000
1891	3,215	643 000
1892	4,550	910,000
1893	2,357	471,800
1894	4,716	943,200
1895	3,407	600,940

The quantity and value of coca leaves exported from 1891 to 1894 were the following:—

Year.	Quantity.	Value.
	Kilos.	£.
1891	128,543	241,473
1892	388,465	574,396
1893	390,955	707.792
1894	372,360	706,586

However, it is argued by a Peruvian economist that it is a matter of doubt, whether, from a national point of view, the promotion of existing industries and the creation of new ones should be encouraged. The increased want of labour for the

fields and mining is regarded with considerable anxiety by agriculturists and miners, who maintain that the undivided energies of the country should be devoted to the development of her natural resources. This view would seem to be a very sound one. Peru not being sufficiently populated for the cultivation of the immense tracts of fertile land on the coast and on the plateau, it may be asked what can be the use of opening fresh regions unless emigrants can be conveyed there. It has been suggested that the best labourers would probably be Indian coolies. If a proper scheme for their protection could be devised, the greatest advantage would be derived from their introduction into Peru. But it is equally possible that coca might be worthy of the attention of planters in India, and that cocaine factories might prosper as well here as in Peru. "Peruvian" bark has practically left its native home and formed colonies in Java and India. Were enterprise rightly directed, coca might follow this excellent example.

CEARA RUBBER.

A few months ago, Mr. D. Hooper, F.I.C., F.C.S., F.L.S., Officiating Reporter on Economic Products to the Government of India, reported on a sample of a few pounds of ground bark from the Ceará rubber tree received from Mr. Proudlock, Curator of the Botanic Gardens, Ootacamund, in October 1898. Mr. Hooper stated that the facility with which the tree grows in certain localities in South India where the tree has been experimentally planted, encouraged the hope that the juice would be secreted in large quantities, and the raw rubber made available for the home market. These expectations were not realised, since it was found that several well established trees refused to "bleed" when the bark was cut during the dry weather, and the small quantity afforded by other trees growing in more favoured situations was not sufficient to pay for the expenses attending their cultivation. It was next thought probable that the rubber might be extracted by some simple process from the stem bark of the mature trees. An experiment was made in this direction in 1886, when Mr. L. Wray, Junr., of Perak, forwarded to London a sample of bark of *Payena Leerii (Gutta Sundeh)* for valuation and report. The bark was duly analysed and found to contain over 13 per cent. of gutta and resin. The recovery of the rubber by means of solvents involves such a loss that it was considered at the time that the material was useless and the process of separating the rubber was too expensive. The bark in question was boiled for two hours with benzol, the solution filtered, and the solvent recovered by distillation. The residue was treated with spirit to dissolve adherent resins, and the caoutchouc weighed. The amount was equal to half of one per cent. of caoutchouc on the air-dried bark. Another estimation was made with boiling chloroform in the ordinary way, and the total dry resinous extract obtained by means of this solvent was less than one per cent. The cultivated Ceará rubber bark contains such a minute proportion of rubber that it would be useless to endeavour to extract it by artificial means. The bark operated upon contained 12 per cent. of water and a large quantity (17·5 per cent.) of mineral matter. A trace of tannin, a little red colouring matter and some starch were the only other noticeable constituents in the material.

Since then Mr. Hooper has made a microscopical examination of the inner bark, with the result that while the laticiferous vessels or caoutchouc ducts are not absent, they are scantily distributed in the bark and are undeveloped and in some cases empty and he concludes that while the cultivation of the Ceará rubber trees has been fully established in Southern India, it is a matter for regret that the climatic conditions or soil are not suitable for encouraging the secretion of rubber in the trees to make their introduction a commercial success. In fact, he says that the result of the experiment shows that any attempt to extract rubber from the bark of the tree grown in India must end in hopeless failure.

To us this appears a very wide conclusion from an experiment made with a few pounds of bark, apparently taken from trees grown in one place or under similar conditions. Before finally dismissing the Ceará rubber tree from their thoughts, planters should, we think, study the matter for themselves, with a view to seeing whether conditions cannot be found or introduced in India that would induce this tree to secrete rubber more freely than it did in the instance under reference. If any of our readers can already give the result of such experiments, we shall be very glad to hear from them.

MALARIA.

No doubt there are various types of Malaria, and various causes and conditions that produce it. Some few of these will have a tendency to produce it in any country where it is prevalent; others may be peculiar local circumstances, that have a narrower bearing. Any particulars of the former should be of interest to those of our readers who reside in malarial districts or tracts, and it is possible that some remarks by Dr. A. Dunley-Owen on Malaria in Rhodesia may not be without instruction for readers in Southern India. Dr. Dunley-Owen refers to certain causes as arising from the land itself or endemic causes, such as: "low-lying country, porous soil, alternate spells of heavy rainfall and intense dry heat causing rapid growth of rank vegetation, which is quickly dried up and withered by the sun, and the heavy rains following convert the whole into a mass of decaying matter, most pernicious to those living near." He observes also that the overturning of fresh virgin soil, necessary in farming, appears to produce a severe form of malarial fever. The malaria poison also seems to be most virulent an hour before and an hour after sunrise, and he has made cultivations of the malarial bacillus obtained at this time of the day from the grass and soil, but only to the height of 4 feet from the level of the soil—a curious fact, and one with regard to which he would like to know whether it has been substantiated by the observations of others. The conditions which he considers facilitate a tendency to malarial fever and which may be classed as 'ethnological causes,' are: excessive spirit drinking (there is a recognised form of malarial fever termed 'whisky fever,') poor quality of food (fresh meat and vegetables being quite unprocurable in parts) tinned meats, jams, vegetables—in fact, everything is tinned, and becomes in time quite nauseous. Then again, fever is far more frequent amongst men than among women, and more single men are victims than married ones. This he puts down to the fact that women are not exposed to 'roughing it' like men, and that married men have home comforts which are impossible for the single; also that men are more liable to whisky fever. As regards treatment, this authority says that though every

treatise on medicine and also the so-called popular handbooks describe quinine as a 'sheet anchor' in malarial fever, experience tells him there is no greater mistake. Indeed he thinks that quinine is often taken in snch large doses as to produce "an utter rottenness of the constitution," and "when one of these individuals falls a victim to fever he generally has it badly." Dr. Dunley-Owen has found the most successful treatment to be absolute rest in bed, a 15 gr. dose of antipyrin to begin with, followed in an hour by the following mixture: 10 minims of tincture of perchloride of iron, 5 minims of hydrochloric solution of arsenic, with water to 1 oz. 1 oz. to be taken every four hours with a 5 gr. tabloid of sulphate of quinine. At bed time he generally gives about 5 gr. of calomel, followed in the morning by a dose of some effervescent saline. In most ordinary cases of fever this treatment cuts short an attack under twenty-four hours, and then he follows up with a tonic course of Easton's syrup in 1 dr. doses with 1 oz. of water three times a day at meals, for a month, and he finds that most individuals, will thus enjoy an immunity from malarial fever for some months at least although living in an unhealthy district. He adds with regard to food:—"Stimulants are required, especially champagne. This will often stop the obstinate vomiting when even a mustard poultice at the pit of the stomach fails. During an attack I order milk and hot water in equal parts, and in some cases with milk a tablespoonful of brandy to each pint. When the temperature is normal and the paroxysm over I give any food the patient fancies, and I find this answers well. I have one patient who after an attack of fever eats ravenously of cheese, enjoys it, and, what is more to the point, digests it."

THE PLANTERS' ASSOCIATION OF CEYLON.

The annual meeting of this Association was opened at Kandy on the 17th instant. Some of the proceedings may be described as "excited," a good deal of warm feeling having been aroused recently by some remarks of Mr. Harcourt Skrine. It would occupy space to explain the details of this affair, and would besides reopen a matter that can only be regarded as a regrettable one. All we need say is that, at the meeting, Mr. Skrine appears to have eaten his own words in a most accommodating manner, apologising here and expressing regret there, until the meeting at last "agreed to accept his apology," some portion of which has to be communicated to the Secretary of State and the London Association, to counteract the statements originally made by Mr. Skrine. The Annual Report, so far as it is of interest in India, may be summarised as follows:—

TEA.

The past season has not been a favourable one. The tea industry has had to contend during the past season with less rainfall, even in the usually wet districts. Prices, both in the Local and London Markets, have shown, fortunately, only a slight decrease, whilst exchange has also ruled higher. Your Committee cannot fail to note with satisfaction the all round increased exports both from Colombo and from London to Colonial and Foreign Markets. The tea producing industry has been passing through a severe crisis. The worst of the depression appears now to be over, and there are decided indications of a brighter outlook.

COCOA.

The Estimate for the year was cwt. 35,000. The amount actually shipped was cwt. 38,099. The crop for 1899 is likely to be the largest yet picked, and will probably be about cwt. 40,000. During the past year, "Cocoa Disease," which has attracted a great deal of attention, was carefully investigated by Mr. Carruthers.

COCOANUTS, CARDAMOMS, &C.

The season for cocoanuts was reported to have been a favourable one everywhere, but particularly in the Southern and Western parts of the island; cardamom cultivation had been extended very considerably throughout the Central and Uva Provinces; but at present prices were on the decline; and a considerable acreage had been planted with rubber in the low-country amongst the tea.

OFFICIAL ESTIMATE OF THE TEA CROP FOR 1899.

The Committee estimates the tea crop for Ceylon for 1899 at 126,500,000 lbs.

GOVERNMENT ENTOMOLOGIST.

The appointment of a Government Entomologist is a matter worthy of special record, as being undoubtedly, in a country of tropical luxuriance, a step in the right direction. It is earnestly to be hoped that the policy thus inaugurated will now be persistently followed up, and that the necessity for keeping in touch with practical Agriculturists will not be forgotten, and, that by constant reports and investigations into Insect Pests, real progress will be made in combating successfully the numerous enemies to which all products are more or less exposed.

COCOA DISEASE AND THE SERVICES OF A CRYPTOGAMIST.

The services of Mr. J. B. Carruthers, F. L. S., Cryptogamist, were available for the study and investigation of Cocoa Disease until the 25th December, 1898. Your Committee refers members to Mr. Carruthers' Reports. It having been found that the figures mentioned in the second report could not be satisfactorily reproduced locally, it has been decided to have this work done in England under Mr. Carruthers' own supervision, so that they can be included with the reports when published in the Book of Proceedings of your Association.

ANALYSES OF COCOA TREE AND MANURE.

The result of the analysis of the Cocoa tree, and the position proposed Ordinance for the analysis of manure were touched upon, and the questions of the theft of Prædial Products and the issue of warrants for the arrest of absconding coolies were also alluded to.

CEYLON ASSOCIATION IN LONDON.—IMPORTANT COMMENTS.

Your Committee has to report that a somewhat new departure on the part of the London Association appears to have been inaugurated in reference to the relationship of the two bodies, which may require consideration later. The circular issued by the Committee of the Ceylon Association in London during June, 1888, stated that "This Association having its origin in the proposal of the Planters' Association of Ceylon to establish a branch in London, is formed for the purpose of acting in correspondence with the public bodies in Ceylon, for the protection and furtherance of the general interests of that colony." That position had been so far mutually safe-guarded, but has been altered by the fact of a member of your Association while on a visit to England bringing forward a distinct proposition for discussion at Home that on his own motion had been defeated by a large majority at a general meeting of the Planters' Association, thus seeking, by the votes of members of the Ceylon Association in London to reverse or militate against Resolutions duly passed here. The statements made by Mr. Rutherford and Lord Stanmore and Mr. J. Whittall, showing the dependence of the London body upon the Ceylon Planters' Association were next quoted; and some of the remarks of Lord Stanmore and others at the Banquet in honor of the then new Governor of Ceylon at the Imperial Institute on the 15th January, 1896, and eulogistic of His Excellency were also given. The report then continues "With such strong expressions of confidence and words full of encouragement and support in a "forward policy" on the part of His Excellency the Governor, the attitude now assumed so suddenly, and without any official communication beyond a bare brief cablegram, received in December through the Chamber of Commerce, appears to be difficult of explanation, whatever view may be taken on the particular question, regarding which *ex mero motu* a deputation from the Ceylon Association in London was appointed to wait on the Secretary of State."

VARIOUS SUBJECTS.

Among the other subjects dealt with in the concluding pages of the report are those of Exchange and Currency; Reduction of the British Tea Duty; Imperial Penny Postage; Post and Telegraph matters; the number of patients at the Planters' Ward at the General Hospital, Colombo, and at the Baker Ward, Nuwara Eliya; Nomination of visitors to Hospitals and Dispensaries in the Planting Districts; the Ceylon Tea Kiosk; the Victoria Commemoration Buildings' Scheme (in connection with which it was reported that,

owing to the foundation costing R15,000—about three times the amount estimated—an appeal was made to the Ceylon Association in London to co-operate in raising the sum of £1,000 with disappointing result. For the current year the Committee recommended that R1,000 be appropriated from the Association funds towards liquidating the special "Foundation Construction Account." It was expected that the structure would be built before the end of the year). The advantages of the Planters' Benevolent Fund were pointed out, and the District Aasociations were thanked for their ready aid and attention to all matters affecting the Planting community.

REPORT OF THE "THIRTY COMMITTEE."

An exhaustive report was also to be submitted by the "Thirty Committee," from which the following excerpts only need be taken here:—

FINANCES.

The total collections paid into the Ceylon Tea (New Markets) Fund on account of the export duty on Tea, from January to 31st December, 1897, amount to R249,074·86 The Balance in the bank, brought forward from 1897, was R128,282·56.

CEYLON TEA IN AMERICA

The total amount of money as shown by the accounts in Ceylon appropriated by Mr. Wm Mackenzie, Representative in America, since the commencement of his operations in 1894, aggregated as at 31st December, 1898, R662,166 51.

In the course of notes received from Mr. Mackenzie, reporting on the past year's work in the United States and Canada, he says:—"A great blow was struck at the tea industry in the States by the war tax of 5d. per lb. put on at a time when coffee was unprecedentedly cheap Many of our friends were disgusted, and lost heart Several of those who did not believe a duty would be imposed on tea, unless coffee were taxed in proportion, sold forward, and have had themselves to bear the burden of the tax on large quantities of Japan teas. This has caused a very heavy loss, and necessitated a reduction in the tea departments of several houses. Figures, subject however to correction, show that duty was paid on only 12,000,000 lbs. of tea between 1st June and 30th November, 1898, or that the *clearances*, which formerly averaged 93,000,000 lbs. per annum, say 46,000,000 in six months, fell to 12 millions for the half-year. It was hardly an exaggeration to characterize the industry as practically killed by the tax and the low price of coffee.

"Under the circumstances, it is surely gratifying to find that our teas have been taken in increasing quantities. For this year, I should hope 'Ceylons' will exceed 8,000,000 lbs. Of course, all this does not prove that only 12,000,000 lbs were consumed during the six months. Something must be allowed for consumption of stocks on hand."

CEYLON TEA IN RUSSIA.

With respect to Ceylon tea in Russia, Mr. Thomas Christie recommended that the "Thirty Committee" should endeavour, among other things, to get the Russian import duty reduced as the greatest aid to increased consumption; and the "Thirty Committee" reported that steps were at once taken in the matter, which, while unsatisfactory in the result as communicated recently through the local Government, by no means closed the door to further representations, and rather appeared to point to favourable attention and consideration of arguments used with the object of improving the position of the trade with Russia.

CEYLON TEA IN OTHER COUNTRIES, &c.

The report of the Committee deals with the position of Ceylon teas in other European countries, South Africa, &c.

TEA ESTIMATE.

The Tea Estimate is 126½ millions of which 93 millions are for the United Kingdom.

TELEGRAPHIC QUOTATIONS.

	Feb. 18	20	21	22
LONDON—				
Bar Silver	27½	27½	27½	27 7/16
Bank Rate	3%	3%	3%	3%
Coffee	[quiet]	...	...	...
Mysore ave. (B) size ...	74	...	...	...
Middling Ceylon ...	105	..	...	...
Cinchona, per unit ...	1d. (firm)	...	...	...
NEW YORK.—				
Coffee—Fair Rio ...	6¼	6¼	6¼	...
„ Futures, May ...	6·33	6·24	6·24	...
Silver—Comml. Bars ...	59⅞	59⅞	59⅞	...

NOTES.

Prize Essays. Only five competitors have entered the lists for our Rs.100 prize. We hope to announce the result at an early date.

Calcutta Tea Sales. At the sales on 17th instant, 4,959 packages were sold, the rest withdrawn. The market was firm at fully previous rates.

Coffee Prospects. Discussing these in Brazil, the *Rio News* of Jan. 3rd says:—The coffee crop will be large and prices will continue low, though some improvement may, perhaps, be expected later on.

Porto Rico Coffee. Reports on the Porto Rico Coffee crop, which has been gathered in, refer to the enormous proportion of "light coffee," which has caused the total to fall a good deal short of estimates.

Tea in the United States. A Philadelphia firm is advertising special "lines" of Tea as follows:—Amoys 21½ cents, per lb., Congous 23½ cents Ceylon 25 cents and 26 cents, and Foochows 24½ cents. Say, 10¾*d.* to 13*d.*

Ourselves. Replies to our inquiry as to what particular matters subscribers would like the paper to deal with are coming in more freely than we had expected, but by no means as freely as we should wish. The "state of the poll" will be declared later.

An opening for Indian Tea. Mr. J. H. Skrine, C. S., writes to the *Englishman*, that as a market for Indian and Ceylon teas, Central Asia has to be reconquered. For instance, Bokhara, where only green teas are consumed, and which was formerly a central market for Indian-grown green teas, now imports them only to the extent of £25,000 worth a year.

The London Tea Market. Messrs. Gow, Wilson and Stanton's cable of 16th inst. to Colombo, is of a cheering character. "The market generally shows a fractional advance." Ceylon Pekoe Souchong is quoted 6¾*d.* (¼*d.* up) and the average for the week was 8½*d.* (⅜*d.* up) of 15,000 packages offered 14,000 were sold. Of Indian Tea 41,000 packages were sold out of 42,000 offered, the average being 9¼*d.*

No Free Breakfast Table. Reminded lately by certain Trades Councils of a promise he was believed to have made to repeal the duties on tea, coffee, &c., Sir Michael Hicks-beach wrote to Leicester affirming that he had never made any such promise, and that indeed anything he had said on the subject had been in the opposite sense. Nevertheless, the feeling is strong in many quarters that the Free Breakfast Table must come in time.

Extensions. The *I. P. G.* notes that the New Dooars Tea Company is opening out 100 acres of new land this year in order to bring the garden up to 500 acres, the area mentioned in its prospectus. This extension will be planted out with first-class indigenous *jât*, the same as the 400 acres already planted out. Ample nurseries already exist for this purpose, as well as for future filling in of vacancies. A crop of one maund of tea per acre off the 135 acres of 1897 plant is estimated for this season.

Eadella Estates Company, Ceylon.

At a special meeting of the Eadella Estates Company held at Kandy on the 18th instant, it was decided on the recommendation of the directors to accept the offer of Messrs. Lipton, Ltd., for the sale of the Estates of the Company. The price is stated to be £4,900 sterling. The properties which belong to the Eadella Estates Co., Ltd., are :—Eadella 300 acres (153 tea, 25 cacao, 25 Liberian coffee) and Lesmoir 272 acres (90 tea, 10 cacao, 10 Liberian coffee).

Imports of Honey into the U. K.

Apropos of our recent remarks on bee-keeping, we note that it is estimated that every year the United Kingdom has to import 2,250,000 lbs. of honey, of which the declared value is 31,000*l.*, or about 3¼*d.* per lb. Amongst the countries engaged in supplying the markets with this product the principal are the United States, Chili, and Peru, the other contributors including the British West Indies, France, Australasia, Canada, Germany, Italy, and the Spanish West Indies. No statistics of the quantity of honey produced in the United Kingdom are obtainable.

The Udapussellawa P. A., Ceylon.

The annual report of this Association states that the acreage of *Tea* in bearing is 7,985 acres, estimated to yield in 1899 3,169,000 lbs., which is equal to 396 lbs. per acre, against 421 lbs. per acre in 1898. The area in bearing will be considerably increased during the next two or three years. *Coffee* is now almost a thing of the past. The existing patches have been all planted with tea, and when the present crop is picked, which is a good one, most of the bushes will be cut out. *Cardamoms* are being planted at the lower end of the district under grevilleas as a trial.

Salvation in Tea !

The following is a cutting from a recent issue of the *Methodist Recorder* :—"We are anxious to obtain a situation for a man whose case is very peculiar. It may be some time before we secure exactly what we want. Meantime, friends will be helping us to save a soul from death if they will give heed to the following notice. Their letters, we may add, we shall ourselves open :—Please order 1 lb. tea, or more, at 1*s.* 4*d.*, 1*s.* 6*d.*, or 2*s.* per lb., at once. All town orders, payment on delivery.—Owen, Box 246, *Recorder* Office, 161, Fleet-street, London, E.C." "Souls saved by our new 1*s.* 4*d.* Tea" would make a startling headline for a placard !

They don't agree !

We notice, says the *Indian Planters' Gazette*, that our Southern India planting contemporary is taking a sort of ballot as to what should go into its columns, and in what order of precedence. Its readers and supporters will, no doubt, appreciate this delicate compliment to their judgment and taste in being thus taken into the confidence of the Editorial High Priest ; but we doubt whether our brother of Madras will succeed in obtaining anything like a consensus of opinion among its *clientèle*. Planters as a body would seem to have "agreed to disagree" about most things, as witness the columns of all our planting journals. However, we shall look forward with some interest to the result of this *plébiscite*.

Ceylon Tea Estimates.

The Tea Crop Estimate for 1899 —is now put by the Planters' Association at 126½ million lb. ; but of this, only 93 million lb. are counted for the United Kingdom or 3 millions less than was shipped thence in 1898, leaving 33½ millions for the rest of Europe, North America and Colonies ; but of this, 1½ is put down for local consumption, and if Russia takes 10 million lb., Australasia 16 millions and North America 4 millions, there will only be half a million lb. left for all other countries, against about 2¼ million lb. taken last year ! This, of course, will not do, says the *Ceylon Observer ;* but it remains to be seen if Russia increases its orders for Ceylon by some fourfold those given in 1898.—We count the tea entered last year for "China" as really intended for the Pacific coast of America.

Egg Preservation.

General Griffiths, of Rugby, has communicated to *Poultry* his successful experience in preserving a large number of eggs for several months in a solution of silicate of sodium, sold as "Wasserglass" by chemists. He used one part of the silicate to ten parts of water, immersing the eggs in it in glazed earthenware jars : but this year he intends to use only eight parts of silicate. Out of 529 eggs only six were found bad, and they were probably not quite fresh when put into the solution, as they were found floating on the surface. The rest were quite good, and some of them were kept nearly five months. As the silicate does not impart any flavour to eggs, they are much superior to some preserved in lime-water. The silicate of sodium is sold in the crude and refined form. The former was used, and it costs 4½d. to 6d. per pound.

"Unitas Salus Nostra."

The "peroration" of the Annual Report of the Planters' Association of Ceylon touches the right key-note. It is as follows :—"During the year marked activity has prevailed in mutual co-operation and unanimity in supporting the operations of your Association, the beneficial results of which must ere long become apparent. Your Committee conceives, therefore, that in reporting thus at the close of the Association's year, no better conclusion can be placed on record as a reminder than the following words of His Excellency the Governor some time ago :—'It is most essential that the Central Planter's Association should command respect. It is essential to the prosperity of your Industry. It is essential that you should have a strong representative Central body, and this can only be done by individual Planters sacrificing some small degree of independence of action, and delegating it to the Central body authorized to speak in your name.'" A pause here, and then the motto "*Unitas Salus Nostra.*"

A new Source of Manure.

The *I. P. G.* states that in addition to the preparation of isinglass, shagrin and fish oil, the Bengal Fisheries Company contemplates the manufacture of manure from fish offal and refuse. Our contemporary remarks :—"Hereafter, as prejudice against the use of night-soil is overcome in Bengal, as it has been in the vicinity of certain towns in the Punjab, the sewage of Calcutta may be expected to play as important a part in the promotion of agri-horticulture as that of European cities has done for many years past. We undoubtedly have at command the raw material for imparting the primal qualities to the tea plant, as also the virgin colouring matter to our indigo and other dye stuffs, and it would pay, and pay well, any company to fit such for public use. Were the manure that the Fishery Company can place at our disposal priced

low enough for the native raisers of dry crops, the items of such referred to above from Bengal would compete on favourable terms with any now placed on the European markets."

Destruction of Tea by Fire.

A telegram, dated 16th inst., reports that Henty's Warehouse in Melbourne has been destroyed by fire, and that the loss includes something like 500,000 lbs. of Tea. One man's loss is another's gain! A fire of such magnitude ought to do something to steady prices. The *Times of Ceylon* observes, however:—We learn that information has been received in Colombo that the tea destroyed in the fire at Henty's Bonded Warehouse was 3,000 chests or 250,000 lbs. (not half a million pounds as originally wired) of common Indian Souchongs and Pekoe Souchongs, and that, as the Indian tea season has just finished, orders were at once wired to Colombo to supply the deficiency. With the destruction of 210,000 lbs. consumed by fire at Connell's Warehouse in Sydney at Xmas, this will account for 360,000 lbs. of the one and a quarter millions excess of imports of tea into Australia last year, and which have brought about the fall in prices in the colonies. The high prices obtaining in the Colombo market have also led to a falling-off in the shipments of Ceylon teas, and a proportionate demand for cheap Indians and Chinas. The latter have slipped in to the tune of a couple of extra millions, but this is what we must expect when the European demand has forced prices up here while they remain down in other markets.

The Sleep of Plants.

This is so conspicuous a phenomenon that it excited discussion and speculation as early as the time of Pliny, and many explanations were given, which science has since disproved. The drooping of the leaves was attributed by some botanists to an aversion to moisture, a theory which had to be abandoned when such movements were made on cloudy days and dewless nights. The clover tribe, which always close their leaves at night, revel in rain, and nasturtiums will go through a day of tempestuous weather without showing any inclination to change their position. Linnæus was the first to give the subject special study and scientific research. While watching the progress of some plants of lotus, he began that series of observations on which his great work, "Sleep of Plants," is based. He found that nocturnal changes are determined by temperature and the daily alternations of light and darkness. Movement is not actually caused by darkness, but by the difference in the amount of light the plant receives during the night and day. Many plants, notably the nasturtium, unless brilliantly illumined in the day, will not sleep at night. If two plants, says the "*Rural World*," were brought into the centre of a room, one from the open air and the other from a dark corner, the neutral light which would cause the former to droop its leaves would act as a stimulant on the latter.

Tea Statistics for the Ladies.

In an interesting article, with diagrams, in the *Lady's Realm*, Mr. Harold Macfarlane sets forth some details of the tea consumed in the United Kingdom. He tells us that we consume eleven times the quantity that suffices for the average Russian, and four times the allowance of each inhabitant of the United States. Some of his statistics are interesting, observes the *I. P. G.* If the total quantity of tea consumed in Great Britain every twelve months was to be placed on one scale, and the whole British Army (on the peace footing) of 215,060 men was placed on the other, it would not counterbalance the tea chest. No! not even if each man on the average weighed 168 lbs. If five more armies of a similar number of men and weight were also thrown into the scale, they would have no effect on the equilibrium of the tea chest; nor would the beam swing before 65,640 additional men, weighing twelve stone each, joined the six armies already standing more or less at ease on the opposite scale. By that time they would number 1,356,000 men, and the indicator would show that the balance was true. We are further informed that in 1868 of every hundred pounds of tea sold in the United Kingdom, ninety-three pounds came from China, and only seven from India; whereas in 1898 eleven pounds of tea came from China, thirty-five pounds from Ceylon, and fifty-four pounds from India.

The Currency question.

In its annual report, 1898, the Planters' Association of Ceylon remarks:—"This most important and urgent question to all Producers was considered at the last Annual General Meeting of the Association at the instance of the United Planters' Association of Southern India, who by letter represented their views and invited support with a view to united action. The following Resolution was passed thereon, and immediate steps taken thereunder:—"That this Association, recognising the extreme gravity of the existing conditions of Exchange, resolves (1) 'To join the United Planters' Association of Southern India in representing to the authorities how disastrous to the interests of the Producer, European and Native, the artificial high rate of Exchange has been; (2) to impress upon the Ceylon Association in London how essential it is that they should at once take steps to see that the Producers' interests are not thoughtlessly sacrificed in such a vital matter.'" On the 20th April, 1898, the Memorial of the Planters' Association to the Secretary of State for the Colonies was forwarded through His Excellency the Governor. The document represented to Her Majesty's Government how disastrous the artificial high rate of Exchange had proved to the Producers of the staple product of Ceylon (Tea)—European and Native—and urged the necessity for early action in this vital matter. The appointment of Lord George Hamilton's Currency Committee still sitting in London, and the non-inclusion of a Ceylon Representative—though specially pressed for—are still fresh in the memory of members; while what may prove to be the ultimate result of the present deliberations, it is, of course, impossible to foretell, but your Committee recommends continued vigilance, so that no opportunity may be lost in giving prominence to the Producers' view of the situation.

COFFEE SHADE TREE.

Sun-dried Erythrina Lithosperma loppings, &c., contain per ton:—

61·50 lbs. Nitrogen.	14·92 lbs. Lime.
57·38 „ Potash.	13·68 „ Phosphoric Acid.

Seed cured under Messrs. Sutton and Sons' advice.

Orders should be booked early for the 1898-1899 crop of seed from the parent trees of above analysis at Rs 6 per pound containing about 2,000 seeds. *Germination guaranteed.*

Only thornless variety extant, and is not procurable anywhere save from the

MANAGER, ARIENKOW ESTATE,
Shencottah.

GENERAL ARTICLES.

A NEW INDUSTRY: ALOE FIBRE.

At length, a full and fair trial is to be given to the utilisation of aloe fibre in Ceylon, through a machine, the patent for which has been secured in South Africa and India as well as Ceylon. The patentee has granted certain privileges to a local Syndicate who, with some public spirit, have had a machine constructed at the Colombo Works and an adequate trial is to be made shortly at Matakuliya But first a due supply of the leaves of *Fourcroyn giyantea* (formerly known as *Agave fœtida*) must be obtained and Mr. Jenkins, of Cargills, Limited, is advertising for any one who will undertake to cut and supply "leaves of the large green prickly aloe" They ought to be found near to a railway station and for their carriage thence to Colombo, we should expect the Government with the cordial approval of the General Manager to give *free carriage*. This is a very small request to ask for an experiment which is costing money to the promoters, but which may prove of great moment to the Colony. Considering all the expenditure that Mr. Chamberlain has sanctioned in Fibre and other industries in the West Indies, the Ceylon Government may well do all in its power to aid the present local experiment, and perhaps to the length of supplying the leaves required for the first trial from the sides of their railway line. At any rate, free carriage may well be claimed.—To make the initial experiment, about 25 tons of aloe leaves are required, stripped of thorns and put up in bundles. These will probably be delivered in quantities of one or more tons at different railway stations —*Ceylon Observer.*

MALE COFFEE PLANTS.

The *South Sylhet* correspondent of the *I. P. G.* writes as follows:—"I noted Mr. G. R. Oliver's letter on male coffee plants, as also the extract from *Planting Opinion* in recent issues of the *I. P. G.* The subject is, as stated in the article, a most fascinating one, and will well repay study. It is rather extraordinary that any one living during the latter years of the last decade of the nineteenth century should have a lingering doubt of what was well known to the Arabians from time immemorial. The sexual system of Linnæus is founded on the soundest principles, and our own Dr. Roxburgh never found a single plant in India which did not corroborate this fact Space will not allow my going further into the subject now, but I will return to it in a future letter. However, I may say that the coffee plant is not *dioecious*: and the fact of the bush, to which Mr. Oliver alluded, having an abnormal number of peaberries on it, is no sign of it being a male plant If there ever will be such a thing as a male coffee bush,* it will have no seed. The very fact of a bush producing seed and, moreover, that seed germinating, is ample evidence of its not being an absolute male. It would be interesting to know if the seedlings of the coffee bush inherited the peculiarity of the parent plant by also giving peaberries. The cause of peaberry is not definitely known, although reasons have been surmised. A grade of coffee goes under the name of peaberry on the market, and brings a somewhat higher price than the ordinary, but I think that the name is only given to a grade which has a large proportion of peaberry. Perhaps some other of your correspondents can give a full explanation."

* In course of time there very likely will be.

THE CEYLON TEA ESTIMATES FOR 1899.

THE *Times of Ceylon* states that the estimate for the current year promises to be rather higher than the figures published by Messrs. Forbes and Walker, viz., 125,000,000 lbs., which, it hoped, would not be exceeded. It would appear that quite 128,500,000 lbs. are expected. This apparently is the case, although, owing to the bad effect of inflated estimates, planters were asked to be very careful over their returns. Last year, the first estimate was nearly 126,000,000 lbs.; but abnormal weather brought the actual yield to six and a half millions less. With the larger total for 1899, we are especially glad to know that the Planters' Association intend to telegraph to London the limited quantity which will be available for the United Kingdom. This will keep matters adjusted; and will show the packet-dealers that they have not unlimited supplies within their reach. The figures below are not all this year's estimates, as plainly indicated; but they will prove of interest until the final figures are available:—

District.	Cultivated acreage.	Acreage in bearing.	Estimated crop for 1899.	Average lbs. per acre.
Ambegamuwa ...	15,970	14,179	5,795,700	408
Badulla ...	16,737	11,147	4,516,090	405
Balangoda ...	5,181	2,935	1,189,000	405
Dickoya ...	28,459	27,317	12,053,250	440
Dimbula ...	--	43,387	19,854,000	408
Dolosbage and Yakdessa ...	16,665	14,842	5,939,500	400
*Haputale ...	14,355	10,154	4,000,000	394
Kalutara ...	15,410	13,014	6,527,550	501
Kelani Valley ...	32,564	24,817	13,044,000	526
†Kotmale ...		7,643	2,853,000	373
Maskeliya ...	19,095	18,175	7,341,000	403
Maturata ...	6551	5,047	1,832,000	354
Upper Hewahetta.	4,029	3,550	1,572,000	443
Lower Hewahetta.	6,464	5,291	2,030,700	306
Nuwara Eliya ...	6,482	5519	2,637,650	478
Northern Districts.	—	39,520	15,370,000	309
Passara ...	9,920	7,700	3,044,000	400
Pundaluoya ...	4,932	4,356	1,811,000	415
Pussellawa ...	—	22,230	8,990,000	404
Rakwana ...	5,332½	4,440½	1,603,000	361
*Uda Pussellawa.	—	7,374	3,090,000	420
*Udugama ...	1,816	1,456	557,000	382
Nilambe, & Native and Unestimated	—	—	3,000,000	—
			128,649,540	

* Last year's figures repeated. The Haputale return is delayed through unavoidable causes. Some of the estates in Uda Pussellawa refused information, and the Central Planters' Association Committee will have to make the 1899 estimate for them. The Udugama figures have not reached us. Haputale should show an appreciable increase.

† Kotmale was omitted in the detailed returns of the Planters' Association last year; and the figures above are those for 1897.

TEA STATISTICS.

Imports and Deliveries of Tea in London from 1st June, 1898 to 31st January 1899, compared with the previous season and Stocks on 31st January in each year.

IMPORTS.	1899.	1898.
China	25,740,302	29,019,972
Japan	59.215	72,930
Java	2,235,590	2,285,990
Indian	118,399,607	117.028,270
Ceylon	62,958,428	63,058,498
Natal	114,864	26,880
Grand Total ...	209,508,006	211,492,540

DELIVERIES.	1899.	1898.
China	20,021,479	22,297,259
Japan	62,075	50,765
Java	2,229,920	2,443,770
Indian	94,806,565	83,792,120
Ceylon	62,111,584	65,694,044
Natal	113,952	24,192
Grand Total ...	179,345,575	174,302,150

STOCKS, January 31st—	1899.	1898.
China	17.439,407	19.613,229
Japan	95,420	103,740
Java	663,250	594,440
Indian	61,666,830	65,471,362
Ceylon	17.840,138	17,317,634
Natal	33,312	33.936
*Grand Total ...lbs.	97,738,357	103,134.341

*Arrived to January 31, but not yet included in the stock——lb., against 500,000lb. in 1898.

COFFEE MOVEMENT IN AMERICA IN 1898.

The year 1898 is one of exceptional interest so far as coffee is concerned, the record showing that the production of coffee, stimulated by years of high prices, has far outstripped the consumptive requirements of the world, and that such condition is likely to continue for several years. The world's visible supply began to increase in 1896, and from July of that year it rose from 2,588,193 bags to 7,128,800 bags on November 1, 1898. declining since to 6,600,763 bags on January 1, 1899 This large supply is about one-half the world's average production for the last two years, and is a bulwark against any "bull" movement until there is a partial failure in supply.

The following table shows the movement of coffee in the United States and Europe in 1898:

	Bags.
Total stocks, U. S., Europe and Brazil, Jan. 1, '98 ...	3,743,363
Receipts in 1898	14,938,654
Total supply	18,682,017
Less stocks, January 1, 1899	4,649,763
Deliveries in 1898	14,032,254
Deliveries in 1897	13,112,159
Deliveries in 1896	11,628,725
Increase in 1898 over 1897	920,095

The deliveries per month in the two countries were as follows:

	United States. Bags.	Europe. Bags.
January	560,754	621,981
February	452,505	605,323
March	531,284	743,915
April	915,690	782,195
May	530,492	890,995
June	341,163	695,972
July	316,486	505,964
August	370,164	592,888
September	436,890	694,948
October	379,403	670,867
November	422,505	709,425
December	567,827	692,618
Total for year...	5,825,163	8,207,091
Average per month...	485,430	683,926

It will be noted from the above that in the United States the deliveries in April were nearly double the monthly average, and that in March and May they were considerably in excess. This movement was due to the withdrawals from licensed warehouses (counted as deliveries) into private warehouses in anticipation of a tax being levied on the article. There has been a revival of the duty question, and it is significant that during the first month Congress is in session deliveries go above the normal.

In 1897 the deliveries in the United States and Europe were 12·78 per cent. greater than in 1896, and in 1898 were 7 per cent. larger than in 1897. It is evident, after making allowance for withdrawals in anticipation of a duty, that there has been an increase in the coffee consumption of the world as a result of big supply and low prices; and there are no good reasons why an increase of 7 to 8 per cent. should not be recorded from year to year during an era of low cost.

Of the 5,825,163 bags delivered in the United States there were 4,643,672 bags of Brazil and 1,181,491 bags of all other sorts; so that Rio and Santos coffee constituted 79·7 per cent. of the total supply.

The total receipts at Rio and Santos in 1898 were 8,895,000 bags, against 10,039,000 bags in 1897. It is claimed that planters have been holding back coffee, and that the crops of Rio and Santos in 1899-1900 will furnish 10,000,000 bags.

The outlook for Java coffee is more favorable for the next than the present crop, the present estimate for next year being 250,000 piculs Government and 350,000 piculs private coffee.

The extension of the industry in Mexico, Central America, and Venezuela has gone forward and supplies from those countries have been increasing, and are likely to for several years to come.

Altogether, it is certain that the world's supply is largely enough in excess of its requirements to keep prices low; and as they are now on a basis of cost commensurate with the relations of supply to demand, it is reasonably safe to carry heavy stocks.—*American Grocer.*

STRAY NOTES ON MANURES.

LIME AS A FERTILIZER.—Prof. H. J. Wheeler, of the Rhode Island Experiment Station, writes to the *American Agriculturist*:—

If your correspondent's opinion that lime is necessary, is not based upon actual tests of his soil, he would do well to test it. Stir up four or five teaspoonfuls of the soil with enough water to make a thick paste. Allow it to stand fifteen minutes. Then part the soil with a knife blade and insert one end of a strip of distinctly blue litmus paper (to be had at any apothecary store), pressing the soil about the paper. After five minutes remove the paper carefully in order not to tear it and rinse quickly with water. If the blue color has disappeared and a red one taken its place, the need of lime is probable. The fingers should never be touched to the end of the paper to be inserted in the soil, for they alone will redden it intensely. It would also be well to test as follows: Take two glasses, place three teaspoonfuls of soil in each and add water till half full; to one glass add two teaspoonfuls of ammonia water, to be obtained of any druggist, stir both thoroughly and again five minutes later. Allow them to settle and if the one to which ammonia was added gives a black inky looking liquid, and the other settles out nearly clear, further evidence of the need of lime is given. The first test should be relied upon if but one is used, but if the second agrees with the first, the case is so much the more certain. Where ime is lacking, beet leaves often turn red and many of the young plants die; lettuce plants also often do the same. One light, sandy soil from 1000 to 2000 lbs. of air-slaked lime may be applied on the furrows and harrowed in, preferably in the autumn. On heavier soil from one to two tons per acre may be used in this manner. On heavy and moist soils, there is less danger from spring applications than on light ones. If air-slaked lime is not to be had, ordinary builders' lime will answer, only the quantity may be reduced in that case to about two-thirds the amount. Place the lumps in piles of 40 to 50 lbs. each and cover with moist soil. In a few days it will be sufficiently slaked so that it can be spread with a shovel. Harrow or cultivate in the lime at once. If there are any lumps, repeat the harrowing or cultivating after two or three days, when they will have slaked so that the lime can be mixed with the soil. If the land is very dry, sprinkle each pile with about half a pail of water before covering it with soil. Twice as much of wood ashes as of air-slaked lime, will also answer. Potatoes planted on limed land should be treated with corrosive sublimate solution or formalin to prevent "scab." Watermelons should, if possible, be planted on unlimed land, or where the lime has been applied two or three years previously.

TEA, COCOA AND COFFEE IN GERMANY.

Mr. R. M. Eckert has supplied the *Ceylon Observer* with the following translation of an article that appeared in the *Chemnitzer Tageblatt*, of 16th December 1898:—

While in former days the consumption of tea and cocoa in Germany, was limited to a small section of the population, it has with the advance of time, extended to larger circles and to-day its consumption extends over a large area.

Different is the case with coffee, which was long ago a well-known drink in Germany and could therefore not have increased in the same proportion as tea and cocoa. All these three products are imported from foreign countries and the consumption can thus easily be authenticated by a reference to the Customs returns.

As to Tea.—In 1862, 741 tons were imported into Germany, whilst in 1897, 2,552 tons were imported. We have therefore during the last 35 years increased the imports by nearly three-fold. This continuous rise was only interrupted during the years 1879-80, owing to the increase of duty from 40 to 100 marks per 100 kilograms, importers getting in as much stock as possible before the 7th July, 1879, the date when the new Tariff charges came into force, and which naturally resulted in a considerable decrease of the article during the following twelve months. The export of tea from Germany is naturally very small, in comparison with the quantity imported. In 1897 the total being only six tons! The

maximum exported was in 1892 when a total of twelve tons was reached.

COCOA.—This article shows a very much larger increase than in the case of tea. In 1862 only 948 tons (cured and uncured) were imported, while in 1897 the total reached 15,473. An increase of sixteen fold! The export was originally small and during the last few years has ceased altogether, the consumption being entirely local. Cocoa has a special interest for Germans, as of late years it has been largely cultivated in our German-African Colonies, whence the export to the mother-country, has been steadily increased. The imports in 1893 being 26·3 tons as against 78·7 in 1897.

COFFEE.—With reference to the consumption of this product, our Custom House Returns show that the imports of raw and mixed coffee (excepting chicory) were 76,979 tons in 1867, whilst during 1897 the total reached 136,395 tons. Coffee originally was largely consumed, whilst tea and cocoa were almost unknown articles. The former has however steadily increased though not in the proportion to the two latter articles—the figures reading: coffee, under two-folds, tea three-folds, and cocoa 16 fold. The export of raw coffee has considerably decreased in latter years, the maximum reached being 56 tons in 1888, whilst in 1897 only 14 tons were exported. The following table shows the imports of coffee from our African Colonies:

in 1889	51·0	tons	1892	137·2	tons	1895	9·6	tons
1890	165·0	„	1893	8·7	„	1896	46·0	„
1891	183·2	„	1894	7·5	„	1897	47·8	„

In comparison with the import of the above articles, it will be seen, from the figures quoted below, that the consumption shows a steady increase, viz.:

	TEA.	COCOA.	COFFEE, IN KILOGRAMS.
1865	0·02	0·03	1·87 per head.
1876·80	0·03	0·05	2·33 „
1896	0·05	0·23	2·46 „
1897	0 05	0·27	2·53 „

We therefore see, that during the last 36 years the consumption of tea, shows an increase of 2½ fold, that of cocoa nine fold, whilst coffee with its fluctuations now shows an increase of 35 per cent. Considering that tea and coffee are supposed to be beneficial to the health of the populace, if consumd in limited quantities only, as against cocoa with its nutritiveeroperties its increased consumption must be encouraging.—This article, in the future, will be of special interest, as it is largely cultivated in our own Colonies.

PLANT FOOD.

The spread of scientific agriculture in India is not rapid, but among European planters, at least, it is making progress, and the results will demonstrate the advantage of giving close attention to the requirements of plant life. Planters now recognise that plants are in some respects similar to human beings: they have their diseases, their friends and their enemies, their likes and their dislikes, their good fortune and their dark days. It may yet turn out that they also have their concerts and their plays; but with this we need not concern ourselves. An Irish friend certainly remarked recently that a Californian Professor had "drawn a parallel between plants and a circle;" but he was unable to state whether the circle had been first squared. Curious as was his expression, however, his meaning was of great interest He referred to a remark of Professor S. M. Woodbridge, of Los Angeles, that in one particular respect plants and their products were like a circle. The circle is composed of three hundred and sixty degrees; if one degree is missing, there is no circle. Similarly, plants are composed of so many elements. If any one of them is missing, there is no growth. All are absolutely essential. Fortunately, however, their number is not very great. In scientific matters some allowance must always be made for the possibility of new discoveries, but as far as has yet been ascertained, there are only fifteen constituent elements of plant life. Take samples of all things in the heavens, and on the earth, and in the waters under the earth; take them from the Himalayas to the Andes, from Finland to Tasmania, from Labrador to the Sahara, or, to fall back on a more hackneyed phrase, "from Greenland's icy mountains to India's coral strand," and all things that you collect can be resolved into some sixty-five constituent elements. The "permutations and combinations" of these make up the infinite variety of Nature; and, says Professor Woodbridge, of these sixty-five, thirty are rare and seldom play a part in the affairs of men; only thirty-five are common.

Narrowing our quest to organised forms of matter, we may take samples of various kinds, from man to microbe, woman to whiskey, ebony to edelweiss, sweet violet to garlic, sugar to gall, and we shall only find that all the known products of growth could be reduced to constituent elements numbering only fifteen in all. Of these, one—iodine—may be at once set apart from the list of land plants, inasmuch as it is distinctly a product of sea-weed. In this way we arrive at only fourteen constituent elements. Dividing these into classes, we have: (1) The air elements, or those that are derived by the plant solely from the air; they are carbon, hydrogen and oxygen. These are always present and in sufficient quantities to maintain their part of plant life. (2) The soil elements, or those that are derived by the plant from the soil. They are potassium, sodium, calcium, magnesium, manganese, iron, sulphur, phosphorus, chlorine and silicon. (3) A class composed of but one element, *viz.*, nitrogen, which is kept apart because it is derived by the plant from both the air and the soil. A combination of some or all of the fourteen elements classified above makes organic life; and this combination is effected by chemical action. All of the eleven elements that the plant takes up from the soil are essentially plant foods, but there are, as a rule, only three that any soil is likely to become deficient in. These are nitrogen, phosphoric acid and potash. These, therefore, are the three chief elements to enter into commercial fertilisers, which constitute artificial plant foods prepared by man.

Recapitulating the deductions of science as expressed by Professor Woodbridge, we bring down to a very small number the constituent elements of plant-life that demand the special attention of the cultivator. There are but fourteen elements in all that enter into plant growth on land. Only eleven of these are derived from the soil, and of these eleven there are but three that soils are apt to become deficient in. It is to these three, therefore, that cultivators must chiefly devote attention. If they grasp this fact firmly, agriculturists will find the study of artificial fertilisers greatly facilitated, and probably rendered interesting also. They will see the reason why such artificial fertilisers may be needed. If one or other of the three elements specially referred to runs short, the plant will suffer; and if the deficiency continues long enough it will die. The primary object of using fertilisers is to replenish supplies of such elements as are defective. The secondary object is to so guide the growth of the plant that it may yield more leaf, or more fruit, or more wood, according to the particular requirements of the cultivator. The coffee-planter wants an abundance of fruit, combined with excellence of flavour; the tea-planter wants an abundance of leaf, again combined with excellence of flavour. But both must remember that the wood of a plant is essential to its health and even its existence. To force the fruit or the leaf too freely is to kill the plant; hence, the planter's aim must be to get, not an absolute maximum yield of berry or leaf, but such maximum quantity as can be obtained without detriment to the health of the plant. With coffee, for instance, the leaves and wood are of secondary importance, but their needs must be considered. The balance has to be so adjusted that the growth of the plant may be vigorous and healthy, with a bent in a special direction, whether that of production of leaf or production of fruit. To know how to train the plant to give of its best in one particular direction, involves a study of the properties of plant foods, especially of the three elements that have been mentioned as those of the greatest importance. Without dipping deep into science, we may say that Dr. Voorhees has acknowledged the general truth of certain popular beliefs as to the properties of these three essentials. Speaking broadly, phosphoric acid specially influences the production of fruit and seeds, particularly the latter. Potash helps to develop the smaller twigs and branches of a plant, which are essential to the transit of plant food from place to place within the limits of the plant. Nitrogen tends to the development of the branches and foliage of a plant. But though we might venture to refer to these as "general principles" Professor Voorhees is careful to show that no hard and fast line can be drawn to show where the influence of any particular one of the three elements named stops, and that of another begins. The influence of potash, for example, is by no means *confined* to the smaller branches.

A certain "balance of power" is essential, and the art of using artificial fertilisers depends for its success on the discovery of what constitutes this balance in particular cases, and the applica-

tion of manures in such proportions as to bring about the balance that is required. We may add, too, that the cultivator must study the physical construction of the plant not only to discover what food it requires, but to find out how that food can be most efficiently administered, or, as medical men might say, "exhibited." The food must be assimilated. The true "mouth" of the plant must be discovered, so to speak: the peculiarities of its "palate" must be considered as well as those of its "digestion." Food must not be forced down its "throat" in lumps. In short, in principle, though not in detail, the feeding of plants is similar to that of human beings. Certain foods are essential to health and strength, but all plants cannot assimilate them in the same proportions; nor can exactly the same results be expected in all cases from the administration of one particular kind of food. The principles are laid down by the scientist. It is in the application of these that scope is left for the exercise of the practical agriculturist's discretion and judgment.—*Madras Mail.*

CEYLON TEA IN AMERICA AND CANADA.

The following are the latest notes received from Mr. Mackenzie with reference to on the past year's work in America and Canada:—

"In sending you a few notes on the work of the year 1898 in the States and Canada, I must lay myself open to the charge of repetition, as I have little that is new to say.

What is of *general* interest has been published *regularly*, and what is of *particular* interest as bearing on our dealings with firms handling our teas, while well known to the Committee, cannot be published.

A great blow was struck at the Tea Industry in the States by the war tax of 5d. per lb. put on at a time when Coffee was unprecedentedly cheap. Many of our friends were disgusted, and lost heart. Several of those who did not believe a duty would be imposed on Tea, unless Coffee were taxed in proportion, sold forward, and have had themselves to bear the burden of the tax on large quantities of Japan teas. This has caused a very heavy loss, and necessitated a reduction in the Tea Departments of several houses.

Reports from some of our allies describe the industry as "dead," the result of the tax on tea as "disastrous," &c.

What the result of the tax on Tea, coupled with the non-imposition of it on Coffee, has been, the following tables will show readily. I take the figures chiefly from the *American Grocer* newspaper.

For several years the average imports into the States have been about 93,000,000 lbs. In 1898 they fell to 68,000,000.

The average consumption per head has averaged for 15 years about 1·33 lb.; in 1898, ·91—a falling off of nearly one-third.

Note the difference in Coffee:

Year.	Imports	Average price	Per head.
1896	572,000,000	14·6 cts.	8·04 lb.
1897	724,000,000	11	9·95
1898	857,000,000	7·3	11·07

Nothing could be more eloquent as regards the check to the former industry, and the impetus to the latter, than these figures.

Later figures, subject however to correction, show that duty was paid on only 12,000,000 lbs. of tea between 1st June and 30th November, 1898, or that the *clearances*, which formerly averaged 93,000,000 lbs. per annum, say 46,000,000 in 6 months, fell to 12 millions for the half year. It was hardly an exaggeration to characterize the industry as practically killed by the tax, and the low price of Coffee.

Under the circumstances it is surely gratifying to find that our Teas have been taken in increasing quantities. It is too early yet to get totals for the year, and I am not in a position to separate the figures for the States and Canada. But, for the first 9 months of the last three years, the combined figures are given as follows by Messrs. Gow, Wilson & Stanton.

	Indian Teas.	Ceylon Teas.
1896	2,500,000	3,038,000
1897	3,900,000	4,555,000
1898	3,483,000	6,252,000

For the year, I should hope "Ceylons" will exceed 8,000,000 lbs. Of course, all this does not prove that only 12,000,000 lbs. were consumed during the 6 months. Something must be allowed for consumption of stocks on hand.

I have already said that some of our friends were disheartened. A few gave up the business, or at all events for the time ceased to push it vigorously. Others seemed to think this slackness on the part of rivals was their opportunity, and launched out more energetically than before. Recently two or three new strong firms. in a position to handle the article over a large area, have joined hands with us. Trade generally in the States has been better than ever before, wages and the standard of living are high, and we may hope that tea-drinking may again be resumed at least up to the old average of 1⅓ per head.

What we have been doing in 1898 is the same as in 1897. viz.: Press advertising, assisting those who advertise, demonstrate, canvass, issue leaflets, send out samples, &c. We find assisting one or more firms to push vigorously in a large city arouses the emulation of others, and this method has proved our most useful weapon.

At the suggestion of Mr. Lane I got a special grant of £500 for Canada a few months ago. I was able to add £1.000 to it from savings in the United States where, during the hot months, we eased off for a time, and where also some subsidies were reduced owing to the *half-heartedness* caused by the duty. Several strong firms are now carrying out the arrangements made with them for pushing our teas in the Eastern Provinces of Canada and elsewhere.

While last in America I saw more of Canada than ever before, and got newspapers from the extreme East to Vancouver. The word "Ceylon" is in universal evidence; and unless when other black Teas are bought because cheaper, our Teas appear to be displacing all other blacks. Against green teas, statistics show we have made no progress, as the imports of Japan into Canada have been larger in 1898 than in 1897. Yet Tea Dealers everywhere assure me "Ceylons" are now making their way rapidly into Green Tea districts. It may be that the great prosperity Canada has been experiencing has caused a larger total consumption of Tea

The Japan Government is now advertising its Teas in the States and Canada to an extent the Indian and Ceylon Association cannot approach.

Fortunately for us we have many friends who are pushing our Teas into all centres where British people do their shopping; and unfortunately, because of their cheapness, our blacks are displacing China teas in blends where China blacks have hitherto been used.

Against Greens I feel certain we have made no progress in the States, nor can we with black Teas. We cannot change the taste of the people within the time which concerns the present race of planters, nor with the funds at their disposal. Any attempt to do so would be—as business—sheer lunacy. To get the trade we must supply what the people want.

I saw recently a copy of Instructions from an American House to travellers they were sending abroad: "When you meet the buyer for any Department of a Foreign House, *remember you know nothing, he knows everything.* Our aim and duty are to make what he sells, not to press him to sell what we make. We cannot afford to make him an enemy, because our goods have been returned on his hands."

I could give several striking instances of this. Let one suffice. One of our friends got his black Teas into nearly 800 shops in a large city a year ago in quantities from 10 to 20 lbs. in packets. When after a year, the Grocers were asked to pay for the Tea, they returned several thousands of pounds in packets now torn, tattered and dirty. Some had sold three pounds in the year, some five, some even ten. What they sold they paid for. Customers pressed to try the Tea seldom repeated their orders. It was not what they were accustomed to drink. The Tea made thousands of enemies. Yet throughout the year, these Teas were most extensively and expensively advertised, many times a week with the town's leading papers, while leaflets and samples were sent out in tens of thousands.

That Ceylon can make green Teas better than those Japan sends to America has now been proved by several lots from the low country as well as the Hills. It rests with the planters themselves to say whether they care to compete with Japan teas in America. or to shift their efforts to other countries where "Greens" are not already in possession of the field.

In a southern paper, where greens are drunk, I saw the following joke. A little girl asked a grocer for a pound of Tea. Grocer: "Black or Green, Miss?" Customer: "Black, I think. *It is for a funeral.*"

TEA, &c., COMPANIES.

The Talgaswela Tea Co., of Ceylon, Limited.—The eleventh ordinary general meeting of the shareholders of the Company was held at Colombo on the 17th instant, to receive the Report of the Directors and statement of accounts for the year ending 31st December, 1898. Mr. J. G. Russell presided. The Report, which was adopted, stated:—

Approximate acreage tea cultivated, 562 acres; tea not weeded, 10 acres; cocoanuts, 150 acres; cinnamon, 50 acres; forest, chena, &c., 1,267 acres.—Total 2,039 acres. The directors beg to lay before the shareholders their eleventh annual report, with a duly audited statement of the Company's affairs, as on the 31st December, 1898. Mr. A. F. Corrie, the visiting agent, last visited the estate on the 3rd November, and reports that the bushes seem everywhere healthy, but that unsuitable weather had rather stopped flush. The yield for the year was 158,189 lbs tea, against an original estimate of 155,000 lbs. It was all sold locally at an average of 34·71 cents per lb. against an average of 38·05 cents per lb. for the previous year. There are not wanting signs that the depression, which has so long overshadowed Ceylon teas in the home market, is passing away, and we hope the current year will witness a higher range of prices than has obtained in 1898. The expenditure on manure was R2,304·42, and debited to revenue account. After paying for this and writing off the usual depreciation on buildings and machinery, the balance at the credit of profit and loss account is R5,756; out of this the directors recommend a dividend at the rate of 2½ per cent. per annum, which will absorb the sum of R5,000, leaving R756 to be carried to the credit of the profit and loss account in 1899. The estimate for the coming season is 160,000 lbs.

The Ceylon Hills Tea Estates Co., Ltd.—The Third Annual Ordinary General Meeting of the above Company was held at Colombo, on 14th instant, Mr. G. F Trail presided.

The Report stated that the crop secured was 389,649 lbs., against an estimate of 472,000 lbs., there being thus a short fall of 82,351 lbs. The nett average price realised was 33·90 cents against 33·73 cents, per lb. in 1897. Details are as follow:—

	Est. for 1898.	Yield in 1898.	Yield in 1897.	Cost in Colombo. per lb.	Nett price obtained in Colombo.
Hardenhuish	150,000	126.267	162,495	29·32	32·14
Agra Oya	120,000	91,140	106,809	34·49	35·41
Laxapanagalla	130,000	109,750	126,200	35·01	32·37
Rowley	44,000	40,451	39,285	34·93	37·92
Bought Leaf	28,000	21,829	26,951		

During the whole of 1898 the Factories never knew a really busy week. Had the yield in 1898 been as large as it was in 1897, the result of the year's working would have been much more satisfactory than is the case, and the most reasonable expectations could not have been pitched lower than this. Mr. Traill fully confirms Mr. R. A. Galton's report that the estates are in excellent agricultural condition, and the factories in first-rate order. In consequence of the poor result of the year's working, the Directors and the Agents and Secretaries have written back their fees. In spite of this, it will be seen that, after writing off R3,700 for depreciation, R2,086·86 on account of coast advances (outstanding on Rowley estate and it is feared irrecoverable), and after providing for interest on debentures and all other liabilities of the Company to the 31st December, 1898, there is a loss on the year's working of R9,962·99, although the working account shews a profit of R9.318·52. The Directors regret that owing to want of funds they have been unable to make any payments on account of debenture interest since 30th September, 1897. The following is a definition of the Company's property as on 31st December last:—Hardenhuish: Tea in full bearing 360, tea in partial bearing 19, forest 200, chena and grass 61. Total 640. Agra Oya: Tea in full bearing 321, tea in partial bearing 62, chena and grass 65. Total 448. Laxapanagalla: Tea in full bearing 346, tea in partial bearing 47, chena and grass 127. Total 520. Rowley: Tea in full bearing 171, chena and grass 474. Total 645. The estimate for this year is 468,500lbs. Tea against an expenditure of R143,444·00, and it will be noted with satisfaction that the yield for January has been larger than it was in the corresponding month of last year by nearly 10,000 lbs.

The British Indian Tea Company, Limited.—The half-yearly report just issued by the above Company shows that the actual outturn was 106,295lb. short of the original estimate of 848,000lb. and 69,635lb. less than the crop of the previous year. The report says: "After the very unfavourable weather of 1897 it was not unreasonable to expect that there would not be a repetition of it in the following year; but, unfortunately, an equally bad season for the growth and manufacture of the tea, both as regards quantity and quality, was actually experienced at most gardens, and this Company's estates were no exception to the rule in this respect. Of the total crop made 548,301lb. have been sold to date at an average of 6·67d. per lb. gross, against 7·42d. for the same quantity disposed of in 1897. In addition to the disadvantageous weather above mentioned, the rate of the exchange ruled 1½d. per rupee higher, and ocean freight rates were about 75 per cent. more than those paid in the previous season. These facts will more than account for a loss, which the Directors regret to say is now certain to be shown on the working of the past season. Since the opening of the tea market this year it is gratifying to note a very distinct improvement in prices, and if this is maintained to the end of the sales of the crop, it will reduce the amount of the expected deficit. Mr. Odling having intimated to his colleagues on the board that he intended visiting Cachar this month, the Directors, feeling it would be for the advantage of the Company that he should go to and report upon its properties there, arranged amongst themselves that he should do so without any expense to the shareholders; it will be satisfactory to have his latest views with regard to these gardens. The total Indian tea crop for season 1898 was originally estimated at 158,681,312lb, but is now reduced to 154,000,000lb, being six millions above that of 1897; the consumption during the past six months has shown an increase of over eight millions as compared with that of the same period in the previous year."

Claremont Estate Company, Limited.—The Fourth Ordinary General Meeting of the shareholders of the Claremont Estate Company, Ltd., was held at Colombo, on 18th instant. Mr. R. Huyshe Eliot presided; the report states:—

ACREAGE.	
Tea in bearing	200 acres.
Tea planted, 1895	46 ,,
Forest, Ravines, &c.	90 ,,
Total ..	336 ,,

The yield for the year was 80,022lbs. against an estimate of 80,000lbs., or just over 400lbs. per acre, costing in Colombo 23·38 cents per lb., after deducting R1,500 on capital account. The tea was all sold locally, realising 33·10 cents per lb. nett. The estimate for 1899 is 85,000 lbs.

Maha Uva Estate Company, Ld.—The Sixth Ordinary General Meeting of the Maha Uva Estate Company, Ltd., was held at Colombo, on 18th instant. Mr. G. H. Alston presided. The report stated:—

ACREAGE.	
Tea in full bearing	499 acres.
Tea in partial bearing	100 ,,
Tea not in bearing	25 ,,
Cardamoms	85 ,,
Grass	15 ,,
Total cultivated ...	724 ,,
Jungle and Waste land, &c.	234 ,,
Total of Estates ...	958 ,,

The crop secured amounted to 198,383lbs. tea as against 179,263lbs. in 1897, being 32,000lbs. below the estimate for the year; this deficiency is accounted for by the short rainfall during the first eight months of the year. The nett average price realized was 42 cents per lb. as compared with 43 cents in 1897. Of the cardamom crop 3,751 lbs. were sold for R6,435·53, or about R1·71 per lb., leaving about 460lbs. yet to be realized, which has been estimated at R1·50 per lb. There was also a small quantity of coffee, 285 bushels, which fetched R1,545·20, but very little more of this product may be expected. After making the usual ample provision for depreciation of Buildings and Machinery the amount at credit of Profit and Loss account for the year's working is R15,806·19, equal to 6·27 per cent. on the capital of the Company; this with the balance of R5,789·20 brought forward from the previous year makes a total balance at the credit of Profit and Loss account of R24,595·39. The Directors recommend the payment of a dividend of 6 per cent. for the year, and that the balance of R6,595·39 be carried forward to the current year's account.

The estimates for this year are 230,000 lb. tea, 100 bushels of

cherry coffee and 6,000 lb. cardamoms, on an expenditure on the estate of R65,838·89.

Kirklees Estate Company, Limited.—The Fourth Ordinary Annual General Meeting of the Kirklees Estate Company, Ltd, was held at Colombo, on 18th instant, Mr. G. H. Alston, (Chairman). The report stated:—

ACREAGE 31ST DECEMBER, 1898.

Tea in full bearing	327 acres.
Tea in partial bearing	50 ,,
Tea not in bearing	23 ,,
New Clearings	45 ,,
Timber and Cardamoms, about	105 ,,
Uncultivated Land	167 ,,
Total..	717 acres.

The crops secured during the year were 106,852 lbs. tea and about 1,108 lbs. cardamoms, and in addition 4,564 lbs. tea were manufactured from bought leaf. The average net prices realized were 39·33 cents per lb. for the tea and R1·62 for the cardamoms. In addition to this 44⅜ bushels cherry coffee were harvested, which sold for R213 and R1,680·60 was received for the manufacture of outside leaf. After making ample provision for depreciation of Buildings and Machinery and setting aside a sum of R500 to cover possible loss of coast advances for which the Directors consider it advisable to make provision, the profits for the past year amount to R1,867·37, to which has to be added R3,617·37, the balance brought forward from 1897, making a total of R5,484·84 available for dividend. The directors now recommend the payment of a dividend of 4 per cent. for the year, leaving a balance of R1,484·84 to be carried forward to the current season's account. The crop secured fell very short of the estimate of 130,000 lbs. This shortfall was caused by the abnormal dryness of the season, and may also be attributable partly to its having been considered advisable during the year to prune nearly the whole of the older tea. The crop for the current year is estimated at 125,000 lbs. tea and 2,500 lbs. cardamoms, on an expenditure on the estate of R38,911·73. During 1898 a net sum of R6,899·53 was expended on capital account in opening up 45 acres tea and planting fuel trees, the up-keep of the acreage not yet in bearing and the erection of a cardamom house for preparing the increasing crops of this product. During 1899 the capital expenditure is estimated to amount to only R2,860.

Yataderia Tea Company of Ceylon, Ltd.—The Annual General Meeting was held, at Colombo, on 18th instant. Mr. H. V. Masefield in the chair. The report stated:—

After providing R3,277·73 for depreciation of Buildings and Machinery, the profit for the year is R49,294·77 to which must be added R6,187·07 balance from 1897. An interim dividend of 10 per cent absorbing R19,000 was paid last August, and the Directors propose that a further dividend at the rate of 15 per cent. absorbing R28,500 be declared and made payable on 20th instant, that R2,500 be transferred to the reserve fund to bring this fund up to R47,500, equal to 25 per cent. of the share capital, leaving a remainder of R5,481·84 to be carried forward. It will be seen that the property representing capital stands in the balance sheet at approximately R200 per acre cultivated, as compared with about R204 in the previous year's accounts, and that the profit is R61 per acre in bearing, and 25·94 per cent. on the capital. The total tea crop was 548,306 lbs. or 12,306 lbs. more than estimated in the last report (though 46,344 lbs. less than was estimated when the half-yearly meeting was held—the latter part of the year having been unfavourable). The plucking area was 805 acres. The total quantity of tea for disposal was 551,829 lbs including 3,523 lbs., made from purchased leaf, of which 68,493 lbs. were sold locally, averaging 26·78 cents per lbs., and 483,336 lb. were shipped to London, of which 88,153 lbs. had still to be accounted for; but the average obtained for the 463,676 lbs. as yet accounted for is 29·32 cents per lb. The cost of the tea delivered to buyers or put on boardship, including all charges and depreciation of Buildings and Machinery, was 20·20 cents per lb. (being 1·80 cents less than in 1897.) The net value realised from sales (a portion being estimated,) was 29·81 cents per lb (being ·13 of a cent less than for the previous crop.) The sum written off for depreciation represents ·59 of a cent per lb. of the cost. During the year 13,000 more pará rubber trees and 3,860 more cocoanut trees have been planted at an expenditure of R1,326 borne upon the year's revenue account. The directors propose an extension of 10 acres tea in 1899. The estimated crop for 1899 is 555,000 lbs. tea.

On the motion of Mr. A. Orchard, seconded by Mr. J. A. Martin, a dividend of 15 per cent. for the half-year, making 25 per cent. for 1898. was declared.

Castlereagh Tea Company of Ceylon.—The Annual General Meeting of shareholders in this Company was held at Colombo, on 18th instant, Mr. J. H. Starey, Managing Director in the Chair. The report of the Directors stated that the balance of profit (including R1,745·43 brought forward, and after writing off for Depreciation of Buildings and Machinery as shown in the accounts) is R20,541·27. Of this sum R7.200 has been absorbed in paying an interim dividend, at the rate of 3 per cent. The Directors propose, after placing R469·89 to Reserve Fund, being 2½ per cent. on the Profits, as resolved on in General Meeting, to declare a further dividend at the rate of 4 per cent. payable on the 20th February, absorbing R9,600, and after paying a bonus of 5 per cent. on the profits divided, including Reserve Fund, for the year to the Superintendent, in terms of a promise made to him, absorbing R863·49, to carry forward to 1899 accounts R2,407·89. The total Tea crop was 174,185 lbs. against the estimate of 205,000 lbs. the season having been unfavourable, particularly in the later months. The cost of the tea delivered to buyers was 26·70 cents. per lb. or 24·68 cents. exclusive of charges for Depreciation of Buildings and Machinery. The tea was all sold locally, realizing 39 cents. per lb. leaving balance of gain 12·30 cents. Cost in 1897 was 31·48 cents. and value 38·16 cents. per lb.

The Company's Property consists of:—

476 acres	Tea under leaf.	Yield in 1898 = 366 lb. tea per acre.
4 ,,	planted in 1897.	
4 ,,	,, 1898.	
42 ,,	Forest.	
Total...	526 acres.	

About 4 acres were brought into cultivation during the year, cost of this and of up-keep of the 4 acres of 1897 being charged against revenue. The estimated crop for 1899 is 195,000 lb. tea, or 409 lb. per acre.

SILVER-PRICES IN INDIA.

CAPTAIN E. F. MARRIOTT, *Indian Staff Corps; late Assistant-Secretary to the Military Department of the Supreme Government has written as follows to the* FINANCIAL NEWS:

In the *Times* of August 17, 1897, an article was published on the closing of the Indian mints. The arguments used were based on a pamphlet by Mr. Atkinson: "Silver-Prices in India." Mr. Atkinson has republished these figures in The FINANCIAL NEWS of December 13 last. and has reiterated the fallacy that these figures are indexes of the value of the rupee for the years with which they deal.

Let me preface my criticism by saying that the pamphlet from which Mr. Atkinson's figures are taken has been evidently compiled with great care and pains; that the figures are, no doubt, trustworthy, and give an accurate picture of the variation of prices in India. The diagram based on these figures, to which Mr. Atkinson refers, shows clearly years of plenty and years of dearth, the spread of railway communication, and the local changes which increased facilities of communication bring. But the figures in this pamphlet are absolutely worthless in giving any useful answer as to the changing values of the rupee. and the author is completely wrong in the conclusions he draws on this point.

In attempting to gauge the value of a commodity by which the comparative values of all other commodities are measured we should, it is plain, eliminate as far as possible all variation of prices which local causes may induce. We should, therefore, if we are to obtain a trustworthy measure, base our calculations on the prices of *only such commodities as have been subjected to the higgling of the markets of the world.* All economists hitherto have recognised this; Sauerbeck, Soetbeer, Palgrave, &c., have been careful to include only the prices of the great staple products of the world in their measures of the value of gold; but Mr. Atkinson has so entirely misunderstood the nature of the problem he is dealing with that he has, as far as possible, excluded from his tables all such articles. "A few" (prices) "only," writes Mr. Atkinson in his pamphlet, "when figures were not elsewhere obtainable, have been taken from the export accounts." Now, the mistake which Mr. Atkinson makes

in his choice of measures for the value of the rupee lies not only in the commodities themselves, but in the places whence the prices are obtained. It is plainly no help to a correct answer as to the value of the rupee to select "ragi" from some market where the price ranges from 57 to 58 seers to the rupee: nor does it help us to a right estimate to include the price of "jawar" at Salem, which ranges from 45 to 48 seers at that place; nor does the price of "bajri" at the same market help us. Yet these are fair examples of the commodities and places whence the author draws his conclusions.

It is curious that the author himself gives on pages 13 and 14 of his pamphlet full reasons for rejecting his prices as an index of the value of the rupee, and with extraordinary completeness demolishes the grounds of his own argument. I say without fear of contradiction that Mr. Atkinson's method of arriving at the value of the rupee includes so many elements of error as to lead to a wholly worthless result; I need, in fact, but set down some of these results to ensure every one of my readers agreeing with me. Here are a few of the numbers which, according to Mr. Atkinson, go to form indexes of the value of the rupee in certain years.

1871	100	1882	105
1878	148	1892	141
1895	128		

These figures, no doubt, indicate the famine prices of 1878 and the prosperity of 1882; but they are plainly no index to the value of the rupee; if they were, we should have to accept the fact that the rupee was of lower value in 1878 than at any time before or since for the last fifty years, and that in 1895 the rupee was of considerably higher value than in 1892.

Now let us compare these figures with some real index numbers published by Mr. Atkinson himself in India in the *Pioneer*, and taken exclusively from the prices of exports—the prices, that is, of commodities subject to the higgling of the markets of the world. Mr. Atkinson then wrote. "The index numbers of 90 per cent. of Indian exports taken from their declared values, and treating 1871 as 100, were:—

1881-82 ..... 98·9	1882-83 ..... 92·7," &c., &c.

(See below.) These are real index numbers; for they are drawn from the prices of commodities which the whole world has entered the market to buy, and the answers they give as to the changing values of the rupee must be, if the figures are accurate, approximately correct. That they are approximately correct we can have no doubt at all, after comparing these answers with those given by similar measures of silver compiled from the prices of certain staple commodities at Chinese ports. I published in the *Pioneer*, in reply to Mr. Atkinson, comparative table of his Indian and my Chinese index numbers, and I showed that the average level of silver for the eleven years 1882–92 was, according to Mr. Atkinson's Indian tables, 96·8, according to the China tables 96·5; the year 1871 was the Indian standard of comparison, the years 1870–74 the Chinese standard, and in each case was represented by 100.

I give here, side by side, these two interesting and mutually corroborative tables:—

Mr. Atkinson's Indian prices.	My Chinese prices.	Mr. Atkinson's Indian prices.	My Chinese prices.
1871 ...100	1870–74...100·00	1887 ... 92·7	... 95·5
1881-82 ... 98·9	... 96·1	1888 ... 95·9	... 97·2
1883 ... 92·7	... 99·4	1899 ... 99·6	... 96·8
1884 ... 94·5	... 92·4	1890 ...103·9	...100·4
1885 ... 94·6	... 92·0	1891 ... 98·2	... 94·5
1886 ... 92·9	...100·1	1892 ....100·4	... 96·9

The average level of the eleven years is, as I have said, according to the Indian tables 96·8, according to the China tables 96·5. The average rise of silver in value is thus 3·2 per cent. above the Indian level of 1871 and 3·5 per cent. above the China level of 1870-74. We may therefore safely conclude that each of these tables practically tells the exact facts as to the average value of silver during those years; but Mr. Atkinson, in his eagerness to disprove the theory of silver stability which he had himself helped all unconsciously to establish, has now drawn his conclusions from a mass of facts which could give no correct answer to the questions he put to them. Mr. Atkinson has evidently given much time and pains to his pamphlet, which is, no doubt, a very useful record of local and temporary changes of price, and he cannot be blamed for a certain blindness as to the true conditions of the special problem under consideration; anyone may become confused on these matters; but it is curious that, once having perceived that a true index number for the value of silver and the rupee can only be obtained from the great stable commodities of the world, Mr. Atkinson should have gone back from this sound position, and should have sought to prove, from local prices and from the prices of commodities used here and there by comparatively few, that the rupee had varied greatly in value, and had fallen considerably between 1881 and 1890 solely owing "to the great expansion of the currency."

Lest by any chance the point of my argument be misunderstood, let me repeat that, as far as the figures I am attacking are used as indicators of temporary and local changes of price, so far they may be of practical use; but they are wholly worthless as measures of the value of the rupee. Had the author understood the problem, he would have known that three, or even two, stable commodities, unconnected in conditions of production, supply, and demand, and subject to the higgling of the markets of the world, would have given a far truer answer to his question than the hundred commodities he chose; and I would point out, and emphasise the fact, that Mr. Atkinson had, long before the publication of this pamphlet, set forth more useful index numbers of the value of the rupee, exactly corroborating, as I have above shown, the deductions I had drawn from prices in China. And where, I ask, could anyone obtain more perfect proofs of the general stability of silver, and its non-depreciation up to 1892, than in the table I have published above? For the result arrived at from the China prices is corroborated by tables of Indian export prices, drawn up by one who has ever denounced the stability of silver (up to the date of closing the mints) as a ridiculously absurd theory.

And, lastly, assuming that this stability of silver before the mints were closed is an established fact, I would ask whether stability is not the one pre-eminent virtue in a standard of value, and whether, therefore, it could be wise to dethrone this so virtuous a metal and set up gold to reign in its stead.

DISTRICT ASSOCIATIONS.

WYNAAD.

Proceedings of a Committee Meeting of the Wynaad Planters' Association held at Meppadi, on 8th February 1899.—PRESENT: Mr. H. B. Winterbotham, (*in the Chair,*) G. W. Hockin, D. Mackenzie, G. R. Malcolm, S. Robinson, R. K. Walker and E. de Fonblanque, (*Honorary Secretary*).

Coffee Robbery.—*Read* letter from Capt. Carslake on the subject.

Resolved.—That a subscription list be circulated at the next General Meeting.

Read letter from Mr. H. Atzenwiler.

Read letter from the District Magistrate, Manantoddy, asking for Coffee Robbery returns to 31st December 1898.

Resolved, that the Magistrate be informed of two cases of theft on Callamulla Estate, and that Mr. Atzenwiler's letter be quoted.

Roads.—*Read* letter from the President, District Board, Malabar.

Recorded with thanks.

Read copy of Government Order, of 13th December 1898, on the subject of Government Grant to the Calicut-Choladi and Chundale-Sultan's Battery Roads

Resolved.—That the Secretary be requested to write to the Executive Engineer, P. W. D., asking him to take prompt measures to take over charge of the Sultan's Battery Road, as the late contractor has relinquished it; also asking him to expend the special allotment given by Government for this purpose as soon as possible.

Pudu Padi Post Office.—*Read* letter from Postmaster General.

Recorded.

U. P. A. S. I. Financial year.—It was decided to bring this matter before the next General Meeting.

Treasury Drafts.—*Read* letter from Mr. H. Waddington.

Resolved that the Secretary thank Mr. Waddington for his letter, and point out that in the case of Coorg surplus funds only are sent from Mangalore: and that with regard to this district the same circumstances do not occur.

Plague.—*Read* letter from the Collector of Malabar.

Resolved that the Association is prepared to meet the Collector's views on the subject of segregation huts on each estate.

Mr. D. Mackenzie was asked to write to the Secretary, giving details of the case of his Maistry being detained by plague authorities on the frontier on his way into Mysore: to be forwarded to the Collector.

Tea and Coffee Samples.—*Read* letter from Captain Carslake.

Resolved that Capt. Carslake be asked to personally bring the matter before the next general meeting.

Labour Ordinance.—The Secretary was requested to inform the Secretary, U. P. A. S. I., that the subject of his letter will receive the serious attention of the Association.

General Meeting.—It was decided to hold the next general meeting on the 1st March.

A vote of thanks to the Chair closed the Proceedings.

E. DE FONBLANQUE,
Honorary Secretary, W. P. A.

SHEVAROY.

Proceedings of a Special General Meeting of the Shevaroy Planters' Association to consider the correspondence forwarded by Government with regard to the proposed New Ghaut Road, held in the Victoria rooms, at Yercaud, at 1 P.M., on Monday the 13th February 1899.—PRESENT: Messrs. Rahm, S. M. Hight, C. D. Ricketts, E. Dickins, C. K. Short, W. J. Lechler, Revs. J. M. Kempf, M. Andersen, Messrs. Thurston Short, C. Rahm, C. A. G. Turner, J. C. Large.

PROXY.

Mr. W. Hight, by Mr. S. M. Hight.
Mr. H. R. Newport, as a *Visitor*.
Mr. C. G. Lechler, *Chairman*; Mr. R. Gompertz, *Hon. Secy.*

1. Notice calling the meeting was taken as read.

2 Mr. Hight and others objected that sufficient notice of the meeting had not been given and thought that it should be postponed. The Honorary Secretary explained that he considered the matter urgent and had sent a notice to every member at present on the Hills and that there were several precedents of the usual notice having been dispensed with, on the plea of urgency. No formal motion was proposed, but on the Chairman's calling for a show of hands, it was found that the majority were in favor of the business being proceeded with.

3. The Honorary Secretary then read out the correspondence referred to, *viz.*, G. O. No. 210 W. of 23rd January 1899.

4. After a lengthy discussion, the following motion was proposed by Mr. W. J. Lechler, seconded by Mr. J. C. Large.

Salem is the capital of the District, and a cart road is wanted from Yercaud to *Salem* - not merely to the plains. A very much larger number of Planters are in favor of Bailey's, than of any other road. The Chief Engineer states in his note of 3rd December last (para. 3, page 5 of the G. O.) that the distance from Yercaud to Mullapooram is 25 miles, whilst that by Bailey's Ghaut to Salem station is about 19. Salem is a town of some 80,000 inhabitants, from which all supplies from the Hills are drawn. Mullapooram is a small village. All—or almost all—the manure imported, and the coffee exported, comes from, and goes to, the Western, not the Eastern coast. The Rail distance to the West coast is 27 miles longer from Mullapooram than from Salem. Moreover it is believed that the Madras Railway Authorities contemplate the construction of a light railway from Salem Railway station (Suramangalam) to the foot of the Salem Ghaut where Bailey's trace begins, which would bring Yercaud within 13 miles of the Railway.

In view of these facts, I propose that Government be respectfully urged to sanction the construction of Bailey's road; and be informed (with reference to para. 13 of the note of the Chief Engineer, of 3rd December 1898) that the construction of a cart road to Mullapooram, or to any other place than Salem, could not be "accepted as a final solution of the question, and a fulfilment of the promise of Government."

AMENDMENT.

Proposed by Mr. T. Short.
Seconded by Mr. S. M. Hight.

That this meeting be adjourned till Monday the 20th instant at 1 p.m. *Carried.*

The meeting was accordingly adjourned till the 20th instant, when the above motion will be put.

(Signed) C. G. LECHLER,
Chairman.

(„) R. GOMPERTZ,
Honorary Secretary.

Proceedings of an adjourned Special Meeting of the Shevaroy Planters' Association held in the Victoria Rooms, on Monday the 20th February 1899, at 1 P.M., to consider the question of the proposed Carriage Road up the Ghaut.—PRESENT: Messrs. King-Harman, S. M. Pritchard, Thurston Short, Fred. Short, C. K. Short, Bruce Short, C. D. Ryle, R. A. Gilby, Rev. J. M Kempf, Messrs. S. M. Hight, W. Hight, J. C. Large, C. Rahm, C. Dickins, E. Dickins, C. A. G. Turner, C. D. Ricketts, Rev. M. Andersen, Mr. C. G. Lechler, *Chairman*; Mr. Gompertz, *Honorary Secretary.*

PROXIES.

Mr. L. E. Kirwin	...	By	...Mr. King-Harman.
„ C. Rahm, Senior „ W. Rahm „ D. S. Robinson		By	Mr. C. Rahm.
Mrs. Dickins	...	...	...Mr. E. Dickins.
„ L. Ricketts	...	...	...Mr. C. D. Ricketts.
Mr. W. J. Lechler Mrs. Gaitskell Mr. A. G. Nicholson „ E. G. Windle „ H. B. Evans			...Mr. C. G. Lechler

1. The Chairman read out G. O. No. 210 W., dated 23rd January 1899.

2. Also the Proceedings of a Meeting of eleven Planters (of whom five do not belong to the Association), held at Nagalore on the 17th instant.

3. After much discussion,

The Chairman read out the motion proposed by Mr. W. J Lechler and seconded by Mr. J. C. Large, on the 13th instant.

AMENDMENT.

Proposed by Mr. Thurston Short.
Seconded by Mr. S. Hight.

That the Mullapooram Ghaut be accepted as a solution of the question, and a fulfilment of the promise of Government to meet the requirements of the Planters, for the following reasons :—

(*a*) *Cost* 1½ lakhs against 4 lakhs, Bailey's trace.
(*b*) *Distance*—about the same, 19⅓ against 20 miles.
(*c*) *Cost of upkeep—nil* in comparison with Bailey's trace.
(*d*) *Water*—natural supply against expensive storage.
(*e*) Ready for traffic in one year against three years or more.
(*f*) Taps a larger planting interest.
(*g*) Taps a larger number of villages en route.
(*h*) Of the 19⅓ miles Mullapooram Ghaut Road, 5 miles have been kept up by the District Board Fund; thus there is an annual saving in upkeep of five miles.

Mr. Gompertz spoke against the amendment, pointing out (*a*) that it had never been asserted that Bailey's Ghaut would cost more than three lakhs, whilst contractors were willing to construct it on the original estimate of a little over two lakhs; (*b*) that the Chief Engineer, in the G O under discussion, called the distance in one place 25 miles, and in another 22, but never 19½ or 20; (*c*) that it was absurd to say that the upkeep would be *nil*, in comparison with Bailey's road. Once made the upkeep of the Ghaut, mile for mile, must be nearly the same; (*d*) that he personally knew of a stream that ran about half-way down the Ghaut (and had no doubt it found its way to the bottom) in close proximity to Bailey's trace; (*e*) that absolutely no grounds had been given for the unlikely assertion that Mullapooram Road would be ready for traffic in one year, whereas Bailey's trace would take three; (*f* & *g*) that these were merely assertions, which if true, were capable of easy proof, in the absence of which he must flatly deny them; (*h*) and that the amount spent on the upkeep of the Nagalore Road by the District Board would be totally inadequate to keep it in repair under the increased traffic which must result if it became part of the Ghaut Road.

The amendment was then put to the meeting and lost by 20 votes to 10; Mr. Gilby not voting.

The original motion (Mr. Lechler's, in favor of Bailey's trace) was then put and carried by 22 to 9.

4. Proposed by Mr. Bruce Short.
Seconded by Mr. S. M. Hight.

That as many Planters are not members of the S. P. Association its decision would not be that of the Planters of Shevaroy Hills that, therefore, statistics of coffee and native grain cultivation served by each Ghaut (the Mullapooram and Bailey's) be sent in for the information of Government.

1ST AMENDMENT.

Proposed by Mr. Gompertz.
Seconded by Mr. King-Harman.

That the acreage under coffee of all the Planters who vote for Bailey's Ghaut and for the Mullapooram Ghaut be sent in to Government.

2ND AMENDMENT.

Proposed by Mr. Kempf.
Seconded by Mr. C. Dickins.

That statistics be obtained shewing the amount of supplies of all kinds coming up and going down the Nagalore side and also on the Salem side for the information of Government.

The second amendment having been put to the meeting and carried, neither the 1st amendment nor the original motion were put to the meeting.

5. The Honorary Secretary stated that he was uable to furnish these statistics himself, but said he would endeavour to obtain them from the Tahsildar.

6. The meeting terminated with a vote of thanks to the Chairman.

(Signed) C. G. LECHLER,
Chairman.
(„) R. GOMPERTZ,
Honorary Secretary.

MARKET REPORT.

[*Per Mail advices of 3rd February* 1899.]

COFFEE.

There has been considerable irregularity in the market during the week, says the *London Commercial Record*. Ceylon of poor quality realised very full values, whilst for the fine lots extreme rates were obtained. Further parcels of new crop East India, including Coorg of much better quality than other descriptions previously offered, have been brought forward, and these sold with good competition at very full to higher prices; Neilgherry and Wynaad were for the most part of poor quality and only partly disposed of. Transactions in Costa Rica have chiefly consisted of old import "without reserve," which sold at easier rates. There was a better demand for Guatemala at improved prices. There has been fluctuations in "futures," and, although the best prices are not maintained, closing quotations shew a slight advance for the week, viz :—

London	Santos	March delivery	31s 6d.
New York	No. 7 Rio	„ „	5·65 cents.
Hamburg	Santos	„ „	32¼ pf.
Havre	Santos	„ „	38¼ francs.
Holland	Good ordinary Java		31 cents.

At the Dutch Trading Company's public sale held in Amsterdam on Tuesday, 24,458 bags 36 cases were offered and sold at an irregular decline, chiefly below valuations, good ordinary Java realising 31 cents, against 32½ cents in November last. The following are some of the particulars:—

Lying in Amsterdam.

No.	Bags.	Valued at. Cents	Result. Cents.
1	495	33	31 @ 31¾
2	2,878	31	29 „ 29¾
3	1,276	31½	30
5	597	42	40½
6	1,464	42½	39¾ @ 40½
7	1,787	43	40 „ 40¼
8	908	42	39¼ „ 40
9	957	48	47¼ „ 48
10	1,812	50	49 „ 51

Receipts in Rio and Santos.

Since July 1	1898-9.	1897-8.	1896-7.	1895-6.
Rio	2,121,000	3,014,000	2,478,000	1,806,000
Santos	4,224,000	4,850,000	3,940,000	2,584,000
Total	6,345,000	7,864,000	6,418,000	4,390,000
Crop	10,461,000	8,680,000	5,489,000	

Auctions to-day comprised :—424 bags East India, 20 casks 5 tierces 4 barrels Ceylon, 45 bags Nyassaland, 191 barrels 418 bags Jamaica, 82 half-bales Mocha, 379 bags Guatemala, 132 bags Salvador, 375 bags Columbian, 40 bags Mexican, 17 bags Costa Rica, 196 bags Venezuelan, and 43 bags Peruvian. The sales went off quietly, at full rates for good qualities, but inferior kinds were neglected and lower.

Messrs. Wm. Jas. & Hy. Thompson's Report of the Colonial Market for the week ending February 1st, 1899, *states* :—

This market is firmer for all kinds, and the demand at auctions has been good for all Coffees of recent import. East India, of which the supply has been more important, has gone off irregularly, extreme prices being paid for good colory Coorg and Mysore, whilst medium and ordinary are slow at very moderate prices. The better kinds of Colombian show an advance of 1s to 2s. per cwt., in some cases even more. Brazil markets continue steady but quiet.

The Dutch Sale held yesterday in Amsterdam, when 24,458 bags and 36 cases were offered, went off irregularly at about 1½ cents below last sale. good ordinary Java selling at 31 cents against 32½ cents at the last sale.

Futures have been firmer, and although prices have fluctuated, the close shows an advance of about 6d. per cwt., *viz.*:—Good average Santos in Havre, March delivery, fcs. 38·25, in Hamburg pf. 31¾, and No. 7 low ordinary Rio in New York $5·65.

Daily receipts averaged 9,500 bags in Rio, and 12,300 bags in Santos.

To-day's London official quotations are :—

	Feb.	Mar. '99.	May.	July.	Sept.	Dec.
SANTOS	31/6	31/9	32/3	32/9	33/3	33/9

We quote :—

Ceylon, mid. to good mid.	102/ @ 107/	*Costa Rica*, mid. to fine	67/ @ 104/
Do. small to low mid.	79 „ 99/	*Do.* ord. to low mid.	37/ „ 64/
East India, mid. to good mid.	72/ „ 95/	*Jamaica*, good to fine ord.	34/ „ 45/
Do. small to low mid.	57 „ 79/	*Do.* greenish to fine colory	60/ „ 120/
Guatemala, mid. to fine.	63/ „ 100/	*African*	26/ „ 28/
Do good ord. to low mid.	36/ „ 52/	*Columbian*, ordinary	34/ „ 39/
Salvador, good ord. foxy greenish	37/ „ 40/	*Do.* good ord. to low mid.	40/ „ 61/
		Do. mid to fine	63/ „ 100/

Receipts in Brazil to 1st February, 1899, compare as follows with previous years :—

	1898-99. Bags.	1897-8. Bags.	1896-7. Bags.
Rio	2,111,000	3,014,000	2,467,000
Santos	4,217,000	4,850,000	3,922,000
	6,328,000	7,864,000	6,389,000

Auctions—

34 casks and tierces 12 barrels 6 bags	Plantation Ceylon	66	@ 115
2,144 bags East India	383 bags Mysore, chiefly sold	46/	„ 100/
	1,066 bags Coorg „	46/	„ 103/6
	217 bags Wynaad	47/	„ 66/6
	92 bags Nelliampathy	67/	„ 93/6
	188 bags Neilgherry, partly sold	46/	„ 79/6
	198 bags „ 1897 import, small part sold	48/	„ —
1,328 bags	Costa Rica, part new crop, part London cleaned, chiefly sold	35 6	„ 103/
1,642 bags	Gautemala „ „ „	32/	„ 96 6
1,689 bags	Columbian, part London cleaned, chiefly sold	41/	„ 91/
762 bags	Ecuador, chiefly sold	33/	„ 35 6
469 bags	Guayaquil	33/	„ 36/
34 bags	Porto Rico bought in.		
246 bags	Vera Paz and Coban, small part sold	64/6	„ 69/
369 bags	Mexican, partly sold	37/	„ 48
8 bags	South Sea Islands	28 6	„ 35
110 bags	Venezuelan bought in.		
244 bags	Nyassaland, London cleaned, chiefly sold	56	„ 73
182 packages	Jamaica, small part sold	27 6	„ 47 6
253 packages	Mocha bought in.		

On quay terms : 20 bags Santos bought in.

Prices realized at auctions for the principal Marks of East India

MYSORE.

	1	2	3	PB	T
Murkull U Mysore	86 6	65 6	53 6	8[illegible] -	41/-
Do.	100/-	75/6	62/-	109 6	53/-
Do.		78/-			

	A	B	C	PB	T
Hulsoor, Mysore	78 6	56 6	48 6	87/-	57 6
HGB Mysore	79/6	57/	—	84/	44 6

	A	B	C	PB	T
Clifford's Mysore Balehonnur ...	82/- bid	65/-	—	90/-	46/-
Do. Kerkie Coondah ...	83/-	51/6 bid	—	97/-	38/-
Murgaddi Mysore	73/6 bid	no bid	46/-	85/-	40/-

COORG.

	A	B	C	PB	T
Craig's Eliza Coorg	100/-	76/-	51/-	110/-	44/6
Do. do.	102/6	77/-	51/-	110/-	44/6
Binny's Coorg Bunjagherry ...	85/-	64/-	48/6	85/-	39/-
Do. Cannon Kadu ..	89/6	64/-	48/6	98/6	43/6
Do. Purchie Kadu...	75/-	57/-	—	84/-	42/-
Craig's Tilly Coorg	97/6	77/6	54/6	117/-	48/6
Chisholm's Coorg Corringabetta ...	101/6	75/-	51/-	111/-	57/6
Do. do. ...	97/6	70/-	54/-	117/-	58/-
Do. do.	98/6				
Coorg Cota Kadoo	96/6	69/6	51/-	106/6	46/-
IM Netley	102/-	79/-	—	104/-	50/-
Do. Santi Coopa	103/6	79/6	51/-	111/6	55/6
Do. Bala Kadoo	102/6	79/6	—	111/6	54/6
Grant and Abb's Cowerie Betta ...	99/-	73/6	50/6	113/6	54/6

	1	2	3	PB	T
Hanchi Betta Coorg	100/-	73/6	—	112/-	55/-
Kowrie Cadoo Coorg	98/6	73/6	—	111/6	53/6
Arbuthnot's Yemmagoondi ...	89/-	66/- 65/6	—	105/-	46/-
Do. do.	94/-	70/6	—	104/6	45/-
Matheson's Coorg Ghatted Hulla ...	96/6	72/-	53/6	107/-	51/6
Do. Balnacolie ...	90/-	59/- bid	46/-	104/-	46/-

NEILGHERRY.

	A	B	C	PB	T
Madanaad Nilgiris	no bid	51/6 bid	47/-	no bid	38/6
Leighwood	79/6	58/6	49/6	90/-	40/-

WYNAAD.

	A	B	C	PB	T
Walker's Estates Touramulla ...	66/-	52/-	47/-	88/-	42/6
Do. do. ...	66/6	54/-	49/-	88/-	42/6

NELLIAMPATHY.

	1	2	3	PB	T
OCC Alexandra...	93/-	67/-	—	101/-	45/-
Do. Victoria	93/6	67/6	—	102/6	43/6

Landed last week... 363 *tons.* ... *Deliveries* 691 *tons.* ... *Stock* 13,110 *tons.*
Do. last year ... 709 „ ... „ 610 „ ... „ 10,203 „

TEA.

INDIAN.—Sales were slightly heavier, totalling 49,300 packages, compared with 47,300 packages in the preceding week and 35,500 packages for this period of the year before.

Competition was again good for the best liquoring parcels and for these quotations were fully maintained, except in the case of Broken Pekoes, which were less in demand and occasionally did not sell at previous rates Leafy descriptions were in most favour, and on the whole passed steadily. Common Pekoe Souchongs and Broken Teas did not seem to be in quite so much request, and were here and there a little easier.

From South India there was an increased quantity offered, comprising 1,800 packages, chiefly from Travancore, which were on the whole of a useful character.

For 38,500 packages on Estate Account 9½d per lb. was obtained, contrasted with 8¼d per lb. for 29,400 packages in the former season.

Totals printed in January were :—

1899.	1898.	1897.
221,100 pkgs.	230,600 pkgs.	199,300 pkgs.

The figures just issued by the Tea Brokers' Association indicate that deliveries have of late been going on satisfactorily, being from the 1st to the 31st ult., 12,916,000 lbs. versus 11,593,000 lbs in the same time of 1898, while the stock is nearly 4 million lbs. below.

CEYLON.—Supplies were rather larger, aggregating 26,500 packages, whereas on the 24th ult. 20.900 packages were brought forward, and 32,500 packages a year ago.

A firm tone prevailed for common to fair Pekoe Souchongs and Pekoes, which in a few instances were slightly dearer. Fine Pekoes and Orange Pekoes were also more wanted for the Continent, and improved rates were often paid to secure them. Medium Broken Pekoes marked considerable irregularity, and for the least desirable lower prices had sometimes to be accepted. Parcels with fine quality, however, held their own, the few choicest bringing full figures.

The average is 8½d per lb. On the 26th ult. it was 8¼d per lb. and 7¾d per lb. in 1898.

JAVA.—Nearly 2,000 packages were submitted to the trade and went off with fair spirit, there being no material change to record.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon and Java Tea Report, dated January 27th, 1899, says :—

QUANTITY BROUGHT TO AUCTION IN LONDON,
FROM 1ST JUNE TO DATE.

	Indian.	Ceylon.	Java.
1898-1899.	1,111,808 pkgs.	745,875 pkgs.	29,183 pkgs.
1897-1898.	1,125,799 „	775,580 „	27,701 „

47,969 pkgs. Indian
21,466 „ Ceylon
1,357 „ Java
} Total 72,297 packages were offered in public auction this week.

Figures for the first seven months of the season as shown in the official returns are given below.

Indian. Supplies were readily taken by the trade at prices fully up to last week's rates, the tendency being rather in favour of sellers. Many of the offerings are showing slightly improved quality The first closing invoice from Darjeeling is catalogued for next week. The following averages are worthy of note:—"Okayti T Co.," 1/11½; "Brit. Darj. Co. Thurbo," 1/7¼; "Upper Ass. Co. Nudwa," 1/5¼; "Ass. Fron. T Co Hapjan," 1/4¾; "Budla Beta" and "Doom Dooma Co. Samdang," 1/4½.

Ceylon. The market was strong for all grades and there is now very little whole leaf Tea to be had under 5¾d while anything with really good quality continues to command rather improved prices. The following averages may be mentioned:—"Hornsey," 1/0¾; "Henfold," 1/0¼; "Campion," 1/-; "S. T & L. Co. Brookside," 1/-; "Wanaraja," 11¾d.

Average for week 8·17d., against 8·16d. for same period 1898.

Ceylon Tea sold on Garden Account, 1st Jan. to date 1899, 80,429 pkgs., av., 8·08d. 1898, 83,688 pkgs., av., 8·26d.

		1899.	1898.	1897.	1896.
PEKOE SOUG.	(Ordinary leaf; fair liquor)	6½d.	6½d.	6d.	6½d.
PEKOE	(Ordinary leaf, little twist; fair liquor)	7¾d.	7½d.	7½d.	7¾d.
PEKOE SOUG.	(Rather bold leaf; indifferent liquor)	5½d.	4¾d.	5d.	5½d.
PEKOE	(Somewhat bold leaf; indifferent liquor)	5¾d.	5¾d.	5¾d.	5¾d.

Java, sold very steadily in sympathy with other grades, the tendency being towards dearer prices. 1,973 packages are catalogued for next week.

NOTE :—In last week's issue we gave the Ceylon weekly average for 1897 instead of that for 1898, viz.—8·28d.

COCOA.

At public sale on the 31st ult., 4,335 bags were brought forward, and about 3,200 bags found buyers at very firm prices to 1s to 2s. per cwt. advance. 645 bags Trinidad nearly all sold at 72s to 75s. for good middling to fine red, being fully valuations. 580 bags Grenada realised 70s to 72s for fine red, 68s to 69s for good, and 66s to 67s for common, showing an advance of 6d to 1s rise on the fine grades. 65 bags Dominica sold at 1s rise—67s for fair, and 64s 6d to 66s for common to middling. 39 bags St. Lucia brought 69s to 70s, and 3 bags St. Vincent 64s 6d. 397 bags Jamaica sold at 1s over last auctions' rates, *viz.*, 66s to 69s 6d for fair to good fermented. Of 282 bags Samana, 80 bags brought 65s 6s to 66s. Of 1,377 bags Guayaquil. 280 bags sold at 68s to 70s for gray to fair Caraquez, and 67s to 67s 6s for Tumaco. 8 bags Columbian sold at 70s 154 bags Bahia were placed at 70s for good red. 785 bags Ceylon sold at 70s to 75s for good bold and medium red, 64s 6d to 69s for medium and small, 60s for pieces, exhibiting a rise of 1s to 3s on the finer grades. Private business includes 200 bags fair to good Bahia at 68s to 70s, 100 bags African at 70s, and 600 bags Guayaquil—good red Caraquez 72s, summer Arriba at 80s, and winter ditto at 71s per cwt.

PEPPER.

BLACK —The market has been very firm this week on the return of small shipments and a speculative demand. The tone yesterday was, however, quieter. Sales of Singapore have been made on the spot at 5 3/16d to 5¼d for fair, at 5 7/16d to 5½d January-March (s.), and at 5 9/16d to 5⅝d February-April and March-May. The sales probably reach 450 to 500 tons. On the spot sales of Tellicherry have been made at 5⅛d to 5 3/16d, and Alleppy at 5 1/16d. For arrival Tellicherry has been done at 48s 3d per cwt. c.i.f. London and 49s c.i.f. New York; also some business at 5⅜d per lb. landed terms London.

Wednesday's auctions offered only 57 bags Singapore, which found a buyer at 5¼d per lb.

The shipments of Black Pepper for the month of January compare as follows:—

	1st half.		2nd half.	
	1899.	1898.	1899.	1898.
U.K.—Sing ...	*nil*	120	50	240
„ Penang ...	70	10	*nil*	*nil*
Continent ...	50	200	40	370
United States ...	100	60	*nil*	200
Total tons ...	220	390	90	810

White has been in active demand, and is dearer—fair to good fair Singapore on the spot sold at 8¾d to 8⅞d; February-April shipment at 8 13/16d to 8 15/16d, March-May at 8 11/16d to 9d, fair Penang on the spot at 7¾d up to 7 15/16d; December-February shipment at 8d, January-March at 8d to 8 1/16d, February-April at 8 3/16d, and March-May at 8 3/16d to 8¼d; Siam on the spot at 8¾d. About 300 tons sold.

At public sale on the 1st inst. of 34 cases 243 bags Singapore brought forward, 40 bags sold at 8¾d for dull brownish, 58 bags fair Penang realised 7⅞d. 7 bags Ceylon withdrawn.

The shipments of White Pepper for the month of January compare as follows:—

	1st half.		2nd half.	
	1899.	1898.	1899.	1898.
U.K.—Sing. ...	60	*nil*	140	50
„ Peng. ...	140	20	80	*nil*
Continent ...	*nil*	60	*nil*	40
Total tons ...	200	80	220	90

GINGER.

Cochin.—Last week's activity has somewhat abated, but still a good trade has passed privately since our last. Medium and small washed rough has changed hands at 26s to 28s 6d and brown rough sorts at 26s to 28s. At auction 44 cases 914 bags were offered, of which 28 cases 200 bags sold—medium cut (B) rather dullish 63s, small and medium roughly cut 36s 6d, good medium and small washed rough new crop (quality preferable to last week's consignment) 29s 6d, limed rough 25s "subject," fair cuttings 20s, and dull dusty ditto 15s per cwt.

Japan.—140 bags offered but only 19 bags sea damaged sold at 19s per cwt.

Jamaica.—169 barrels, &c., all passed the hammer unsold.

INDIA RUBBER.

Further very large sales have been made at improved prices, including the following:—Fine Bolivian and old Madeira up to 4s 4½, hard fine spot and forward at 4s 3d, soft fine at 4s 2½d, scrappy negrohead at 3s 8¼d, Island ditto 2s 11½d; but the last two days there has been pressure to sell and fine is offering, spot and forward at 4s 2d, with little enquiry

In auction to-day a slow demand; the particulars are as under:—

Para and Peruvian.—80 packages retired.

Mattogrosso.—Virgin held too high. 818 packages offered and 140 packages ordinary to good negroheads sold at 3s 2d to 3s 3½d.

Columbian sells at high prices. 76 bags offered and 36 sold. fair scrap and sheet at 3s 7d to 3s 7¼d, middling at 3s 4d to 3s 5½d.

Central American, Carthagena, &c., held too high. 240 packages offered and 40 sold, virgin scrap 3s 3¼d, slab, &c., 2s 8d to 2s 10d, Mexican tarry slab 2s 3½d.

Madagascar.—16 packages sold at fairly firm rates, fair pinky at 3s 1d, inferior ditto 2s 9d, fair East Coast niggers 2s 6¼d, common ditto 1s 3d, black coated fair slightly mixed 2s 2d per lb.

Mozambique.—291 bags offered and 41 sold at full prices, middling to fair ball mixed at 3s 4d to 3s 5¼d, ordinary to good niggers and marbles at 2s 9¾, Lamu ball dirty at 3s per lb.

African (at Liverpool).—A strong demand practically cleared our market at the end of last week of all offering at current rates, and an advance since paid varying from ½d to 1½d per lb., closing firm with little offering at the higher range of prices. We estimate that fully 500 tons have changed hands during the week, including Liverpool pressed Rubber and forward deliveries.

Movements of Tea in United Kingdom from 1st June to 31st Dec., as shown by Custom House Returns.

	Imports.			Home Consumption.			Exports.		
	1898.	1897.	1896.	1898.	1897.	1896.	1898.	1897.	1896.
Indian ...	108,402,134	104,986,284	102,869,115	76,939,537	71,084,904	70,285,869	4,976,374	3,077,954	2,826,904
Ceylon ...	56,920,855	54,764,702	55,537,683	48,049,225	52,451,789	50,496,685	6,918,682	6,149,981	5,076,456
China ...	22,391,126	26,010,126	29,408,400	8,442,773	9,454,356	11,727,915	8,942,451	11,727,041	12,080,709
Other Countries ...	3,867,721	3,765,968	3,362,994	2,875,978	2,769,846	3,063,798	653,618	611,326	572,299
Total lbs. ...	191,581,836	189,527,080	191,178,192	136,307,513	135,760,895	135,568,267	21,491,125	21,566,302	20,556,368

Analysis of above exports of Tea from U. K. during the last two years (not including transhipments.)

	Indian.		Ceylon.		China.		Other Countries.	
	1898.	1897.	1898.	1897.	1898.	1897.	1898.	1897.
Countries in Europe ...	2,958,917	1,717,824	4,196,363	3,887,012	5,122,423	8,021,730	418,745	444,062
United States ...	349,320	326,183	559,403	768,256	304,830	745,630	48,477	27,366
British North America ...	905,645	399,285	1,231,290	674,972	711,274	560,574	38,697	6,875
Other Countries ...	762,492	634,662	931,626	819,741	2,903,924	2,399,107	147,699	133,023
Total lbs. ...	4,976,374	3,077,954	6,918,682	6,149,981	9,042,451	11,727,041	653,618	611,326

(Average for all India 9·04d.) *January 27th.*

Garden.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust, and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price.
Neilgherry ...	**140**	**6·79**												
Dunsandle ...	50½c	6¾	25½c	6½	...	..	25½c	6¾	...	...	...	.	...	...
Glenmorgan ...	24	6¼	6	7¾	11	6¼	..	..	5	5½	...	...	2	4¼
Pykara Falls ...	66	7	...	...	26	6½	20	8¾	20	5¾	...	...	...	...
Travancore ...	**150**	**6·85**												
Invercauld ...	61	6¼	...	...	30	6	22	7†	7	5½	...	...	2	4
STTCo Venture ...	89	7¼	...	...	42	7	27	8½	20	6	...	...	...	.
Wynaad ...														
Chulika ...	93 p	8¾	36½c	11½	28½c	8¾	...	...	25	6¾	...	...	4½c	9

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

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DOMESTIC OCCURRENCE.—The fee for inserting a domestic occurrence will be *One Rupee* for each insertion, payable in advance.

N. B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 10th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Please note the change of address.

Coorg.

Polli Betta, 28*th Feb. Weather.*—Cloudy during the last few days. Heavy mists from midnight till morning early part of week. *Crop.*—Stripping and gleaning continuously of the old crop. Blossom opened and set under a clear sky. Pruning is making good progress. *Interesting item.* First Camp of Instruction to be held in S. Coorg from 27th March to 1st April. Inspection of Volunteers on last date.

Lower Pulneys.

Dindigul, 2*nd March*— *Weather.*—Had a very good N. E. monsoon, but no rain since 1st January. *Crops.*—Picking still going on, on most estates. Out-turn fair, and coffee promises well for next season. Weeding, and other works well in hand. *Labour.*—Has been sufficient for all requirements during 1898 and there is a large surplus always available to meet any extra work that may be taken in hand. You are wrong Mr. Editor in stating (in P. O., 25th February "The Tamil Labourer") that there is a scarcity of labour on the Pulneys. We can afford to see the Straits and Ceylon planters tap the Madura District, and still feel that there would be ample coolies left to meet our wants. *Health.*—A little fever—but on the whole good.

THE CRUSADE AGAINST ADULTERATION.

There is much that is of interest in the many reports that reach us concerning the crusade against Adulteration in Great Britain, and one lesson that impresses itself upon us is that coffee-planters in India cannot hope to succeed in their efforts to stop adulteration of coffee if they continue to conduct a little campaign of their own. The experience of grocers in Great Britain is instructive. Each important town or district has its Grocers' Association; these again form a Federation of Grocers' Associations. This Federated Association has a Parliamentary Committee and is in every respect conducted according to a well planned system. It is an organized head-quarters staff of an organized army; and it has long fought a good fight against adulteration. Yet it has to fight still. True, it has won some victories. It seeks to eradicate many malpractices; it has partly removed some, and it still wages war against others. True, also, coffee-planters have been called upon to fight only against the adulteration of coffee. They have the advantage of concentration of purpose and of forces upon one point. But what is this compared with the advantage of systematic organization, of influence extending to every corner of the country, and reaching upwards to the highest ranks, downwards to almost the lowest classes. permeating the powerful middle-class, and gaining strength yearly with the extension of education? If grocers in England fail, planters in India will assurdly not succeed; but the question suggests itself, are not the aims of planters and grocers alike in so far as coffee is concerned? We take it that both aim, if not at absolute purity, at least at having every packet offered to the public so marked as to show exactly what is being put before them.

The Federated Association issued in January last a manifesto to all the affiliated Associations urging them to bring the matter of forthcoming legislation regarding adulteration before the whole of their members and members of the trade outside their Associations, with a view to prompt action being taken. This manifesto is interesting even from the point of view of the coffee-planter, though it embraces a great number of products and covers much ground that need not be travelled over here. The gist of the whole manifesto is as follows: For seven years the Federation has persistently urged upon the Government of the day the necessity for a speedy amendment of the Sale of Food and Drugs Act (1878 and 1879). The lines upon which the Federation has recommended that such amendments should proceed have been in the direction of—to quote the words of the Select Committee's report of 1896—"avoiding the appearance of harassing traders by what may be regarded as attempts to manufacture cases of violation of the law." The appointment of various Select Committees is referred to, and attention called to the various abortive attempts that have been made to carry out legislative measures on the lines suggested by these Committees, especially that of 1896. It was lately announced that a Bill on Agriculture will be introduced into Parliament during the present session by the President of the Board of Agriculture. The Federation deduces from this that it is intended to legislate on wrong lines, by providing that the adulteration of agricultural and horticutural products shall be dealt with by one Government department and the adulteration of other foods by another Government department. The special amendments of the Sale of Food and Drugs Acts that are now urged are as follows: (1) To provide that an invoice be a sufficient warranty. (2) To provide that where the sale of an adulterated article has been made by the fault or error of an assistant, there shall be power to bring him before the Court as the actual offender, the employer in such cases to be exempt on proof that the sale was made without his knowledge or connivance. (3) To make it compulsory on the Justices of the Court, at the request of either party, to refer articles for analysis to the Somerset House authorities, which course is at present discretionary. (4) To provide a proper limit as to the time when summonses shall be issued for all articles, besides merely perishable goods as now provided, and to extend the time to fourteen days instead of seven, as at present). (5) To provide that the use of the word "margarine" be a sufficient protection against conviction for the sale of butter mixtures, or to provide that all prosecutions for the sale of such mixtures be taken under the Margarine Act, and not under the Sale of Food and Drugs Acts. (6) To provide that a copy of the analyst's certificate shall accompany the summons. (7) To provide for proceedings being taken against a person or firm giving a warranty where any such warranty is pleaded in defence to proceedings. (8 To provide such an improved system of inspection as will cause the law to be more efficiently aud systematically administered in all districts. (9) That in connection with the sale of mixed articles the vendor should supply the purchaser with a label setting forth that the article is mixed. (10) To enlarge the powers of Somerset House so as to constitute that institution a Scientific Court of Appeal, rather than set up an entirely new authority. (11) To make compulsory a division of the sample (taken for analysis or as a basis for a prosecution) after purchase and delivery of a portion to the vendor. (12) That retailers should be empowered to refuse to sell a manufactured article otherwise than in the original unopened labelled tin or packet. (13) That the certificate of any public analyst put forward by a defendant should be *primâ facie* evidence without the appearance of the said public analyst, just as the certificate of the public analyst put in by the prosecution is accepted by the Court under Section 21 of the 1875 Sale of Food and Drugs Act. (14) That provision should be made for the examination of candidates for the post of public analyst, in order that only thoroughly competent persons should fill such important appointments.

Section 9 of the above meets the wishes of coffee-planters, we think. The remaining sections prove that the Federation has only spoken after very mature deliberation, and has obtained a mastery of the subject under notice. The general deduction we draw from the manifesto, is that any prudent and reasonable plan for the suppression of adulteration of food stuffs will have the hearty support of grocers, as a body. Might it not be wise, therefore, for coffee-planters to try to co-operate with grocers, through the medium of the Federation referred to? There are grocers and grocers, of course; some have little influence, some a great deal. That the Federation has very great influence indeed may, we believe, be taken for granted; and working with it would probably be very advantageous to coffee-planters in India. Few of them are likely to urge that coffee should be sold *pure*, and in no other way;

for there is a strong party that believes that an admixture of chicory helps to sell coffee. All that really should be insisted upon is that the vendor should declare, by means of announcement on the label, or in some other equally effective manner, exactly what it is that he offers for sale. If a provision to this effect is agreed to by Government, it will not have reference to coffee alone. Hence the probability that co-operation with the grocers in England who are fighting for a similar cause would be a distinct advantage to the coffee interest in this country.

QUININE.

The Boom in quinine has naturally attracted a good deal of notice. By the 3rd ultimo prices had risen 15 per cent. and as much as 150,000 oz. was estimated to have changed holders in second-hand dealing in one day. After languishing at 10½*d.* sulphate became brisk at 1*s.* and very shortly sellers refused that rate, and 1/0½*d.* was paid for German, May delivery. The declarations for the Java sales of 16th ultimo had helped this movement, as it was announced that only 755 packages of *Druggist* bark and 3,734 bales of *Manufacturers'* bark, or a total of 4,489 packages, would be brought forward. The stock in first hands on January 24th consisted of 2,670 packages of Government cultured bark and 5,204 packages of private cultured bark, making a total of 7,874 packages, including what will be put up at the above-mentioned auction. The Java shipments of bark for January were very low being only 550,000 Amsterdam pounds, against 956,000 pounds for the same month of last year, and 390,000 pounds for the corresponding month in 1897. Prices kept firm during the next week and reached 1/1 for May delivery" The turnout for the week ending 9th ultimo was estimated at 250,000 oz. and salts other than sulphates showed a similar rise in price to that established in sulphate. The *Chemist and Druggist* observed on 9th ultimo:—"Apart from the manufacturers' movements the situation is unchanged, and the speculative transactions, allowing for the re-selling which has been going on, do not much exceed a fortnight's supply of quinine for the whole world, showing how well the manufacturers control their outlet by their policy of supplying consumers only. It is a remarkable fact that the present movement has had scarcely any influence upon the consumptive demand; there has been no rush by pharmacists for the article. The future largely depends upon the reports from Java, and if the small January shipments are repeated several times we are likely to see the German sulphate 1*s.* 3*d.* per oz. Consumption of quinine has been keeping pace with the output of bark, and the stocks of both articles are comparatively small."

THE CONSUMPTION OF COFFEE

There is "food for thought" for Indian coffee planters in remarks made by Mr. R. E. Johnston in a letter to the London *Grocer*. Mr Johnston, after noting that the Board of Trade Returns show that the amount of coffee taken for consumption in the United Kingdom during the last three years has been as follows, *viz.*:—In 1898, 12,540 tons; 1897, 12,424 tons; 1896, 12,400 tons, remarks:—"About forty years ago the figures were:—In 1861, 15,792 tons; 1860, 15,926 tons; 1859, 15,398 tons. The population of the United Kingdom has increased from 29,070,000 in 1861 to 39,824,000 in 1897 (according to the Registrar-General's estimates) Thus, in 1861 the consumption of coffee in the United Kingdom was equal to $1\frac{21}{100}$ths of a pound per head, whilst by 1897 it had fallen to $\frac{79}{100}$ths of a pound per head." He then proceeds:—"It is not unnatural that those who are interested in the coffee trade should try to find out the cause of such a remarkable decrease. We know that the production of coffee has increased very much, and I am informed that, in consequence of the low range of prices, which this increase has led to, pure roasted coffee is now being retailed in Germany (where the duty is rather higher than it is in the United Kingdom) at the equivalent of 9*d.* a pound. Perhaps some of your readers may be able to tell us the lowest price per lb. at which pure roasted coffee can be bought by the consumer in this country. I see that the deliveries of Brazil coffee (the cheapest coffee produced) for home consumption from the Port of London were—in 1898, 1,062 tons; 1897, 1,500 tons; 1896, 1,350 tons. It would be interesting to know at how many grocers' shops a buyer could get a pound of Brazil coffee if he were to ask for it. No doubt the low price of tea has affected the demand for coffee, but I cannot help thinking also that the home trade in coffee is being throttled by high retail prices and by the sale of mixtures instead of pure coffee."

No mention is made of the competition of cocoa, and here, we think, Mr. Johnston overlooks a very important point. What we specially wish to note, however, is the remarks about the retail prices of coffee. We have given one or two *American* quotations of late, which show that coffee is retailed in the States at much lower prices than in England. At the same time, we cannot shut our eyes to the probability that if lowness of price be resorted to as a means of stimulating the consumption of coffee, India will gain very little—if, indeed, she does not lose—and Brazil and other producers of 'cheap' coffee will score all the tricks.

THE USE OF FERTILIZERS.

So much has been written from time to time concerning natural and artificial fertilizers that further remarks must necessitate iteration, and some readers may be apt to turn away saying, "Oh, we have read all that before!" Nevertheless, iteration and reiteration are not faults when they relate to matters of this kind. We place a few nails, and drive them well home by steady hammering. Then they become really useful. For instance, the objects of using fertilizers have to be borne in mind. In fertilizing fruit trees the chief aim, after the tree is well developed, is to fertilize so as to produce the greatest amount of fruit, the leaves and wood then being of secondary consideration. The kinds of elements to be supplied to the soil are those which each particular soil does not supply in itself. The three most important elements are nitrogen, phosphoric acid and potash. Of these, phosphoric acid and potash, being mineral elements, are the most valuable in fruit growing. They have a more direct effect upon the fruit. Nitrogen must be used as well, but caution must be exercised in applying it, as it tends to the development of the branches and foliage. It is a popular opinion

that in applying nitrogen the foliage and stems are affected almost entirely. Phosphoric acid has to do with the production of fruit and more particularly seeds. Potash is especially useful in the development of the small twigs and the transfer of the plant food from one part of the plant to the other. This popular opinion is partly true and partly false. The whole question is simply to get the proper proportion of fertilizers. Premature ripening may not be due to an over-abundance of one constituent, but rather the absence of others. A splendid fruit or seed cannot be obtained by simply applying phosphoric acid alone, nitrogen and potash must also be used in proper proportions ; hence, the whole problem of judicious fertilizing comes back to the matter of the proper mixing of these three essential elements.

The above remarks are based on statements made by Prof. Voorhees, one of the greatest authorities on the subject ; and the following formulæ, though specially intended for use in the cultivation of peaches, may offer a useful practical basis of experiment for some of our readers. No. 1.—On lands that are infertile the following basic formula may be used. One part ground bone, one part muriate of potash, one part acid phosphate. One thousand pounds per acre is the proper amount to use in a peach orchard. No. 2.—A formula which may be used in applying fertilizers to moderately rich lands is the following : One and one-half parts ground bone, 1½ parts muriate potash. Nitrogen in some quick-acting form can then be applied as needed. For an ordinary orchard, 150 to 250 lbs. of sodium nitrate per acre is sufficient. The larger amount is ordinarily better than the smaller, but it must be used with judgment. Small fruits require larger amounts of fertilizer than tree fruits, in that from a small bush the weight of fruit obtained from year to year is much greater in proportion than that secured from large trees. The main point is to get the manure well mixed with the soil. Prof. Voorhees prefers ploughing it under to a depth of four or five inches to harrowing it in. Of course, however, the judgment of the grower must be chiefly relied upon in fertilizing. It is for him to find out just what the tree needs, and to apply it in quantities that seem to give the best results.

RUBBER.

The following information, from Trinidad, should be of interest and, allowing for climatic and other differences, may serve a useful purpose as a guide for planters who wish to experiment with rubber cultivation in these parts. Rubber-producing plants have been in cultivation in Trinidad for many years, so what is stated may be regarded as the fruit of considerable experience. The report before us says :—

Ficus elastica, or East Indian rubber, grows freely, and soon extends over a large area of ground, especially if helped by protecting its aerial roots, enabling them to reach the ground. One method of protection is to procure large bamboo stems, and after driving a hole through the joints with an iron rod, to place them beneath where the aerial roots have made their appearance, planting them firmly in the ground. After having inserted the root, the top part is loosely closed with a little moss or fibre. Treated in this way, roots reach the ground in the space of a few months, and grow so rapidly that the protective bamboo is burst away, and the root remains large enough and strong enough to afford support to the branch from which it sprung. This practice has been found very useful where support is desired for overhanging branches, in several other species of *Ficus*, notably *Ficus Benjaminia*, which is now showing as quite a "Banyan" by these means. I may mention, however, that the word "Banyan" is usually allotted to trees of *Ficus Indica*. *Ficus elastica* is a good rubber-producer, although it does not yield well until of large size. Several other kinds of rubber are grown, the following being a list of the species cultivated :—

1. India Rubber.—Ficus elastica.
2. Para or Brazilian Rubber.—Hevea brasiliensis.
3. Ceará or Brazilian Rubber.—Manihot Glaziovii.
4. Demerara Rubber.—Hevea Spruceii and H pauciflora.
5. African Rubber.—Kicksia africana.
6. „ „ . Tabornamontana crassa.
7. West African Rubber.—Landolphia species.
8. Central American Rubber.—Castilloa elastica.

Of these, according to our experience, the most suitable for growth in Trinidad is *Castilloa Elastica*. Trees in the Gardens are over 60 feet in height, and from these we have now annual supplies of well ripened seed.

Castilloa is a tree that—in Trinidad—grows quickly, and, if in good land, may be expected to be large enough for bleeding in seven or eight years. The grower, however, must take great care in early bleeding not to exhaust his trees. At the Royal Botanic Gardens trees eight years of age yield a large quantity of *latex* or milk, and experiments are now being carried on to enable us to say with accuracy what trees of a given age should produce. It has recently been ascertained that the Rubber of *Castilloa* can be readily separated from the *latex* by a mechanical process, very cheaply, and producing rubber of the best quality. By this process the rubber is separated from the water, albumenoids proteids, etc. very quickly, and never becomes foul as is the case with rubbers produced by coagulation, and therefore, may always be expected to make the best price in the market. An expert who has visited the Ceará rubber district of Brazil, states that *Hevea* and *Ceara latex* will not yield up its rubber by the mechanical process mentioned. This is a fact worthy of note in favour of planting *Castilloa*, especially as the difference of price between the best qualities of Pará and Central American rubber is merely nominal. Some of the advantages of planting *Castilloa* may be here enumerated :—

1. It takes but few years before obtaining returns.
2. It is easily tapped, and the *latex* is given in good quantity.
3. The rubber can be obtained by mechanical means.
4. The rubber is of the finest quality.

It is further estimated that trees will yield, according to size and age, from two to six or eight pounds of rubber per annum, and when this is valued, as it now is, at rates over three shillings per pound, it is not hard to see that a paying industry will result.

Of *Kicksia africana* it is as yet too soon to speak definitely, as we have only seedlings a little more than a year old. These, however, give promise of a rapid growth, more rapid indeed than that of any other rubber-producing trees.

Ceará rubber, the produce of *Manihot Glaziovii*, does not do well in Trinidad so far as has been seen, and previous experience of it in Jamaica strengthens our belief that it is not be compared to *Castilloa* for cultivation in our climate.

Tabornamontana Crassa grows freely, and keeps in excellent health, and we are shortly to try what class of rubber it will yield as grown here.

Landolphia Species is growing in the Garden, but it takes many years to attain a size to be worth while tapping.

for rubber. One vine of it is to be seen climbing a tree in the grounds to the height of some thirty feet, and yet the thickness of the stem is only more than an inch in diameter. Rubber of excellent quality can however be made direct from the stems without any further preparation than rolling the first portion of the quickly coagulating juice in the wound from which it is taken, thus forming it quickly into balls of rubber. This rubber has been reported on as a fine quality.

The *Heveas*, or Brazilian and Demerara rubbers, are trees of large size, and do not bleed so freely as *Castilloa*, neither do they grow so quickly, but they have the advantage of being able to grow in places where *Castilloa* could not thrive. Trees of large size are present in the Garden, and annually give seed in limited quantities.

The list of rubbers would not be complete if we did not mention the indigenous *Mimusops Globosa*, the "Balata;" from which the very hard rubber of balata gum is extracted. These trees are quite common in our forest lands, and from these and from private lands, a large quantity is annually exported. Large quantities of Balata also pass Trinidad in transit from mainland to ports. The tree itself is a very valuable hard wood, and is invaluable for railway sleepers, and also for any position where a moisture-resisting wood is required. Latest advices from Europe show that there is a prospect of being able to obtain annual crops of *Castilloa*. It has been found from experiment that small stems of one year's growth contain as much as seven or eight per cent. of their dry rate of good rubber; that amount having been extracted from material grown in Trinidad. If this experiment can be worked out on a large scale, it is not hard to imagine a field of *Castilloa* reaped annually, and large factories for manufacture of the crop. The *latex* of our rubber trees (*Castilloa*) has been proved by careful experiment to give twenty-five per cent. of its weight, in pure and clear rubber.

TELEGRAPHIC QUOTATIONS.

LONDON—	Feb. 24	25	27	28	Mar. 1
Bar Silver	27⅜	27⅜	27⅜	27 7/16	27½
Bank Rate	3%	3%	3%	3%	3%
Coffee	[dull]	...	...	...	...
Mysore ave. (B) size.	71	...	71	71	71
Ceylon, M. P. ...	105	...	105	...	105
Stock, tons	...	....	...	13,242	...
Fortnight's landings...	...	...	...	1,300	...
„ del. ...	...	...	..	1,400	..
Cinchona, per unit ...	1 % (firm)	...	1*d*	1⅜ (firm)	...
Monthly sales, pkgs. ...	...	...	...	1,900	...
Cardamoms, good to fine.	3/11 to 4/4	...	3/11 6 4/4		...
NEW YORK.—					
Coffee—Fair Rio ...	6⅜	6⅜	6⅜	6⅜	6¼
„ Futures, May ...	6·19	6·25	6·28	6·26	6 27
Silver—Comml. Bars ...	59½	59½	59½	59½	59¾

NOTES.

Duties and Taxes on China Tea. The Canton duties and taxes on tea are said to amount to as much as 35 per cent. of the cost price.

Coffee in Panama. The crop of 1897 exceeded that of 1896 by 38 per cent. 814,504 bags coffee, 127,676 bags Coca and 1,623 bales Coca were transported over the Panama Railroad during the year.

Calcutta Tea Sales. The average price realised at the last "Calcutta Tea Sales" was 5 as. 4 pies. Only one more sale will be held before the close of the season. The date of this has not yet been fixed.

Coffee in New Caledonia. Production appears to be on the increase and great care is now being taken in curing. New Caledonia coffee is said to bear a good reputation in France, where it is classed by experts as approaching the Mocha berry in size and aroma.

Eucalyptus Globulus. Attention has lately been called to a fine specimen of the *Eucalyptus Globulus* growing at Torquay. It is 20 years old and 50 feet high; the spreading circumference of the trunk at the base is 3½ feet.

Cinnamon Sales in London. The first quarterly auctions of the spice in Mincing Lane took place on 27th ultimo when 1,700 bales were sold. A dull tone prevailed at the sale and prices fell a half-penny to 1*d*. per lb., as compared with the November auctions.

A new Tea-drying Machine. A new tea-drying machine, invented by Mr. Bett, is to be tried shortly at his estate at Strathlay, Ceylon. The object of the machine is said to be more particularly to improve the quality of tea and save fuel.

Blotting pads. We have to acknowledge receipt from Messrs. Martin and Co., Calcutta, Agents for Mr. Arthur Koppel, of two blotting pads, with celluloid covers, and of a catalogue of Mr. Koppel's portable and permanent railway materials.

The "Agricultural Ledger." The latest numbers published treat of "The Breeds of Cattle in the Central Provinces" and "Indigofera Sp." (Wild Indigo)—"Wild Indigo Seed as a Famine Food in Bombay and Berar."

Agriculture in France. In 1895 there were 1,615,061 hives of bees in France, producing 17,629,636 lbs. of honey of an average value of 6*d*. per lb., and 4,869,301 lbs. of wax of an average value of 9½*d*. per lb. £440,000 for honey and £1,800,000 for wax is enough to show that there is "something in" Agriculture.

Caste Prejudice. The *I. P. G.* has been informed by a very intelligent native that so long as caste prevails in India, tea manufactured by Europeans will never become a popular beverage with the great mass of the people. Orthodox Hindus, he asserts, will not use tea, because it has been contaminated by the touch of *Mlechas*.

"Salvation in Tea." With reference to the note we lately published under this heading, it is but fair to state that the Editor of the *Methodist Recorder* had explained that the case was an isolated one of pure philanthropy, and that the object of what was done was to attract attention to an unfortunate man in search of a situation. which he has now obtained.

Electric Tea Drying. Messrs. Finlay, Muir and Co. have tried the experiment on one of their

tea gardens, Rungamutti, in the Dooars, of having a large electric plant fitted up for electric tea-drying. It is purely an experimental departure, and the result of the trial of this new method will be looked for with great interest by all concerned in this industry.

Coca in Bolivia. The finest coca leaves to be obtained in South America come from "the garden of Bolivia," the Yangas district The Bolivian Indian is a great consumer of this produce, which is to him a necessary of life. The annual production is said to amount in value to about 3,000,000 dollars, and the export trade is increasing.

Mr. H. O. Newport in Queensland. The *Cairns Argus* of 27th January 1899 observes :—Mr. A. J. Draper has been notified by wire that Mr. Newport, the instructor in coffee culture, left Brisbane by the S.S. "Wodonga" yesterday for Cooktown. He will call at Cairns and give advice to anyone requiring it. It is possible that he may arrive at Cairns by the boat following the "Wodonga."

Java Quinine. Referring to a recent statement that most of the London deliveries of Java quinine have been re-shipped to the United States, Messrs. Brookes and Green, the brokers through whose hands it all passes, state that the report is quite groundless, and that, as a matter of fact, not five per cent. of the parcels landed in London have been re-shipped. It is taken by English buyers for English consumption.

Attar of Roses. Dietze proposed the following standards of purity for oil of roses : (1) Specific gravity at 15° should not exceed ·870. (2) Solidification point should be from 15°-20°. (3) The rotatory power should not exceed 1° 30′. The saponification number should not exceed 10, and the ratio of acid and ester number should not exceed seven. Raikow now states that these tests do not guard against adulteration with oil of geranium.

The London Tea Market. Cabling to Colombo on 23rd ultimo, Messrs. Gow, Wilson and Stanton reported a steady market, Pekoes for price dearer. Pekoe Souchong 7½*d*. (½*d*. up) and the average for the week on garden account 8¾*d*. (¼*d*. up). Reuter reported that common sorts of Ceylon were in particular request and that 14,000 packages were sold out of 15,000 offered. Of Indian teas 40,000 packages were sold out 42,000 offered ; average 9½*d*. (¼*d*. up).

Good for Ceylon Tea. The recent fire at Melbourne appears to have had a very stimulating influence on the Ceylon Tea market. At any rate, large purchases have been made there of late, though opinions differ as to what share Australia has taken in the buying. There has certainly been a brisk inquiry for Russia, and since the last auctions brokers have been offering sellers an advance of 3 to 5 cents per pound on the prices then realised. Pekoe and Pekoe Souchong were in chief request.

Ceara Rubber in India. With reference to our recent comment on Mr. David Hooper's report on this subject, the *Times of Ceylon* observes :—"We think, with *Planting Opinion*, that this is a sweeping statement to make from a very limited experiment. There may be localities in India where rubber trees with the necessary properties could be grown as easily as in Ceylon, and, in fact, we know that Assam already exports rubber the quotations for which appear in London circulars."

Coffee-disease in Mexico. In many localities in Mexico coffee-trees are attacked by an insect of the genus *dactylopius*, known in some parts as the 'mealy-bug.' In some places, diseased trees are simply cut down and replaced by others, whilst some planters use a petroleum and soap insecticide. The disease is worse in wet seasons, spreads from tree to tree, and threatens, if neglected, to become a serious matter. At present it does not seem to have raised much alarm among planters.

Old Tea in Ceylon. Mr. C. Spearman Armstrong, one of the pioneers of Tea in Ceylon, informs the *Ceylon Observer* that his 23-year old tea fields in Maturatta have continued, without manure, to give as good crops now as fifteen years ago, namely, an average of 600 to 700 lb. per acre. Mr. Armstrong has seen nothing of blights in his own high district, though he has heard a good deal of them elsewhere. He agrees, however, that probably Ceylon is approaching its maximum crop of tea,—that future crops may run between 120 and 130 million lb. averaging about 125 millions.

Science in Farming. In the 1899 edition of "Vinton's Agricultural Almanac," Professor Wrightson observes that the farmer's duty is not the discovery or elucidation of the secrets of science, but the application of such forms of it as may be adaptable to the management of and the feeding of stock. Infinitely more important and useful to the farmer is a thorough understanding of the practical rules and conditions which govern the productive capabilities of the soil than a hard grounding in chemistry or botany. The latter he may succeed without, as many noted agriculturists have done before him, but the former is indispensable, and will remain so.

Cross-breeding. A Conference on Hybridisation is to be held next July under the auspices of the Royal Horticultural Society. *Apropos* of this, the *Gardener's Chronicle* remarks :—"Varieties and species and genera only differ in degree one from another, and the limitation of the groups in question is very much a subject of personal judgment. Hence the terms 'cross-breeding' and 'hybridisation' are often used indiscriminately, though, as a rule, the first term applies to the intercrossing of varieties, the second to that of species. When the cross is effected between species belonging to what are considered two genera, the result is a bigener or bigeneric hybrid." Some hybrids are natural, others artificial."

Plants of Commerce Classified. It is an interesting thing to know, says *Science News*, that 4,200 species of plants are gathered and used for commercial purposes in Europe. Of these 420 have a perfume that is pleasing, and enter largely into the manufacture of scents, soaps and sachets. There are more species of white flowers gathered than of any other colour—1,124. Of these 187 have an agreeable scent, an extraordinarily large propor-

tion. Next in order come yellow blossoms, with 951, 71 of them being perfumed. Red flowers number 823, of which 84 are scented. The blue flowers are of 594 varieties, 34 of which are perfumed, and the violet blossoms number 308, 13 of which are pleasantly odoriferous.

Congo State Coffee. The shipment of coffee of poor quality despatched to Antwerp from the Congo Free State last January has now been followed by a further shipment, which experts declare to be a considerable improvement over the previous samples tested at the beginning of the year. The Congo coffee, whilst resembling the Ambriz product cultivated in the Portuguese colonies in Africa, is said to be far superior to it. It has a pleasant although somewhat unusual taste, and by admixture will facilitate the burning process of other and better qualities of berry where the flavour is not affected The tests made show generally that considerable progress has been made in the method of cultivation and treatment of the coffee raised near Stanley Falls.

The London Tea Auctions. The Indian Tea Association lately suggested the substitution of eighths in place of farthings in bidding for teas under 6½ per lb. and the innovation that the selling broker's bid should rank first and before all others. The Ceylon Tea and Produce Committee has rejected the proposal, though the first part of it was unquestionably wise. It *must* check competition when a man is compelled to raise his limit not less than 4 per cent at a time! In times of very brisk demand men may boldly "take the leap," but under normal conditions, and during depression for one that will do so there will be ten that hold back. "Competition made easy" should be the watchword of those that wish to improve the London Public Sales.

London Advices. It will be seen from our Market Report this week that up to the 10th ultimo Plantation Ceylon, and all fine qualities of coffee, continued to realise very fair prices, while medium and low descriptions were difficult to sell. Cocoa at the auctions sold occasionally rather dearer. Indian Tea met with considerable competition at the auctions, the demand being particularly active for common to medium whole-leaf kinds, which, up to 7½*d.* per lb., frequently shewed a further fractional advance; medium Broken Pekoes ruled rather irregularly and generally offered good value to the buyer. Travancore commanded a strong market. Ceylon Tea also went well, except Broken Orange Pekoes, which were somewhat neglected and rather easier. The Spice market was generally steady. Black Pepper was firm on the spot, but easier for arrival.

Heat and Sex in Plants. It is not generally known that heat exercises an influence in determining the sex of plants, but one scientist says it does. In the "Comptes Rendus of the Academy of Science" for 31st October, M. Marin Molliard contributes a paper on the "influence of temperature in the determination of sex," detailing experiments conducted principally with Mercurialis annua, cultivated under varying conditions. Briefly, his conclusions are that, in Mercurialis, heat (as in the vegetable marrow) favours the production of female plants. The action of the heat exerts an influence upon the seeds in which it is to be supposed that the sex is definitely formed, and subsequently favours the germination of female seeds; or it even may act further in determining the sex when the seed is formed. The author adopts the second theory, which alone explains the modifications of sex previously detailed in the case of hemp. As he does not appear to say anything about animals, human or otherwise, we must assume that he considers that Nature has entirely distinct sexual laws for animals and plants. There are great possibilities in the suggestion.

Spencer & Co.'s Cigars. Messrs. Spencer and Co., Limited, have favored us with sample boxes of some of the cigars they exhibited at the Agri-Horticultural Show held here last Saturday. Their stall is a feature of this annual exhibition, the "flor de Spencer," and "flor de Sumatra" coming in not inappropriately at a flower-show. No prizes were offered for tobacco or cigars this year, otherwise the above firm might have added to its collection of medals, which already includes 4 gold and 7 silver testimonials to the excellence of their cigars. The Madras flower-show would be incomplete now-a-days without Spencer's cheroot stall, which is usually the great centre of attraction; and indeed, the Company has made itself and its oilmanstore's and its wines and its cheroots—not to speak of its palatial business premises—a veritable part of Madras. Light one of Spencer's cheroots—the smoke ascends and spreads. Glance at the records of their business—the figures rise higher and higher, and the goods spread farther and farther throughout the Presidency and beyond.

Natal Tea. A correspondent of the *Chemist and Druggist* writes that it is about fifteen years since tea-planting was started in Natal, Mr. W. R. Hindson, of the Clifton Tea Estate, being one of the pioneers. The twenty-five acres he commenced with have grown to over 600 acres. Hindoos and their families are the workers employed. The picking season commences generally early in September, and goes on till about the end of the following May. The months of June, July and August are taken up with digging and manuring the land and pruning the plants. The tea is picked by the coolies, mule-carts in different gangs collecting the leaf. Last year's output of tea from the estates was estimated at from 300,000 to 400,000 pounds, for which there is a ready market; and as there are other estates which bring up the total under tea-culture to between 2,500 to 3,000 acres, the year's output of tea may be put down at 1,000,000 lb. at least The industry is a growing one. Our contemporary reports that the samples of Natal Tea submitted with the above letter are of good flavour, "but the teas give a poor liquor with London water, and would only be good here for blending purposes." The leaf is of about an average size.

Bounteous Queen Tea. A home correspondent writes:—"I noticed in Aberdare the other day that a certain tea company were adopting a very attractive and up-to-date way of advertising the grocers who had taken their agency for tea, with real Indians in their native costumes, which were very effective, and caused great attraction in the neighbourhood. I think the system they have of giving purchasers a cheque with a quarter of a pound of tea and upwards, which they can save for expensive and useful articles, is quite a boon to the working-classes, and tends to keep the grocer's trade together, as one customer tells her neighbour what wonderful presents she gets from her grocer.

which is the best advertisement any grocer can possibly get." This view is shared by a grocer, who states that being confronted with a present-giving shop, he soon found out he had got to follow suit or lose a certain portion of his tea custom, viz., the Saturday night working man's wife. He chose the former, and decided to give presents, adopting a fancy name for the tea, made a good display, advertised it with handbills every Saturday morning, and is pleased to say it has caught on ; it shows a good profit, and is a constant attraction to his window, whilst his provision window cannot be passed unnoticed by the public.

Sylhet Coffee. The *Planter* publishes a contributed paper on this subject. The writer assumes that the question of suitability of soil and climate has been demonstrated in South Sylhet, and the survival of bushes in the second growth, on the tilas near Silcoorie in Cachar, long after the demise of Mr. DeFouche, evidences that the land in the middle of the Barak Valley is equally fitted for raising the bean, while in Lower Assam the rainfall and other conditions indicate that coffee would thrive in four districts of Goalpara, Kamrup, Darrang, and Naugong, though the terais of those parts might prove too wet. He seems to think that coffee would "pay" if it realised only 70*s.* per cwt. in London, and after going into figures very sketchily, remarks :—"Sufficient has been written to show that under present circumstances coffee offers more inducement than tea ; for although for prudence sake we have taken ruling prices for comparison, fine plucking, depletion of stocks, increased consumption, etc., may bring about a rise in the markets for tea, the figures we have given of the value of the two indicate that the gap is a wide one which could only be closed by the latter attaining the auction realisations of five and twenty years ago, which, of course, is outside the pale of probabilities."

The Perfume Industry in Southern France. In a late number of the *Revue de Statisques* there is an interesting collection of facts concerning the perfume industry in the department of the Maritime Alps in Southern France. The quantity of blossoms required annually for the manufacture of perfumes, oil, &c., is : Of roses, 2,000,000 kilograms (4,409,200 pounds) ; of orange blossoms, 2,500,000 kilograms (5,511,500 pounds) ; of jessamine, 200,000 kilograms (440,920 pounds) ; of cassia blossoms, 150,000 kilograms (330,690 pounds) ; and the same weight of tuberose ; and 200,000 kilograms (440,920 pounds) of violets. The average prices paid for a kilogram (22,046 pounds) of blossoms are 4 francs (77·2 cents) for violet and cassia, 5 francs (96·5 cents) for tuberoses, 2½ francs (48·2 cents) for jessamine, 65 centimes (12 5 cents) for roses, and 70 centimes (13·5 cents) for orange blossoms. One violet plant will give a weight of 20 grams, or one twenty-fifth of a pound, of blossoms, and an orange tree 10 kilograms (22·046 pounds). A flower-picker could gather in four hours 20 kilograms (44·092 pounds) of roses, or 3 kilograms (6·66 pounds) of jessamine, or 6 kilograms (13·2 pounds) of tuberoses, and in a whole day 10 kilograms (22·046 pounds) of violets or orange blossoms. In order to prepare 1 kilogram (2·2046 pounds) of essence, 1,000 kilograms (2,204·6 pounds) of orange blossoms, which means approximately 1,200,000 separate flowers, are required ; and for a kilogram of attar of roses, about 16,000 kilograms (35,273·6 pounds), or 5,000,000 roses. In a single year there are produced in that district alone 500,000 kilograms (1,102,300 pounds) of pomade or oils, of which the value exceeds 15,000,000 francs ($2,895,000).

LETTERS TO THE EDITOR.

NEW PRODUCTS.

Sir,—Seeing the price of coffee below Rs.1,000 a ton, I do not think it would be out of place to go fully into the methods of planting a more profitable product than coffee is at the present price.

People have at different times experimented in a small way with different products, and although we hear plenty about the start and prospects of the 'new boom' we seldom hear how the experiment has ended.

Can any of your readers give any details about Attar of Roses ? I have taken great interest in the letters that appeared on the 4th and 11th instant, and should like to know, where one could get some reliable information as to the cost of planting a small patch of, say 1 acre, where to get the cuttings from, how long would the roses take to bear a paying crop, etc. etc.

R. E.

PRICES OF NILGIRI COFFEE.

Sir,—I have been much struck by the fall in prices of Nilgiri Coffee, and the great rise of Ceylon Coffee, and I am much puzzled to account for it. I find that in 1885 Ceylon bold to fine bold was 82*s.* to 103*s.* and East Indian 80*s.* to 100*s.* Now Ceylon is still 103*s.* and East Indian has apparently fallen to something like 70*s.* and Nilgiri to 60*s.*

One Planter thinks it is due to the new mode of classing coffee by its liquor, another advises more scientific curing, surely coffee has always been cured in the same way for the last forty years, as to judging by the liquor, this seems a new idea but does not account for the great fall in price of Nilgiri Coffee. I see the Adderley Estate in the Coonoor Ghat still brings prices equal to Ceylon. Can it be that it was highly manured with bone dust many years ago ? I believe many Nilgiri Estates are deficient in lime and potash—perhaps some of your readers can throw some light on the subject—one thing has struck me, that tea worth 6*d.* a pound is sent home in lead, but Coffee A. B. size worth 10*d.* a pound is sent home in bags ! !

Observer.

QUOTATIONS.

Dear Sir,—One or two things have struck me on reading your paper from time to time :

Planting Opinion, February 18, 1899.

We mostly reckon our coffee by the ton or cwt. and either say we got £70 or 70s or Rs.1,050 it being understood we mean ton or cwt. as the case may be. In your issue of the 18th instant, in the article "North Borneo as a rival," I notice the statement, that the prices are "$19 to $20 per picul of fair clean Liberian coffee." Now it strikes me, that most of your readers being Indian Planters they might like to see how much a ton this would be in pounds or rupees. I for one do not know how much the "$" mentioned is, or how much a

"picul" is. Would you mind, if you can, letting us know what the measures and monies you use now and again, mean?

Again in the Market Report of the same date, I take the prices to be per cwt., am I right? If so, the statement "New York—No. 7 Rio.....5·65 cents. what does it mean? $1·13 per ton!"

23rd February 1899. QUERY.

N.B. – The *picul* in Borneo is equivalent to 135·64 lbs. and the dollar, which fluctuates considerably in value, may, for purposes of calculation, be taken at 2*s.* 2*d.* Thus $19 to $20 per picul would represent something like 34*s.* to 35/8*d.* per cwt.

The American quotation referred to is per lb. and represents about 26*s.* per cwt., taking the dollar at 4/2*d.* Our correspondent may perhaps find it interesting to compare monthly prices c.i.f London and c.i.f. New York. The following table shows the rates at which Coffee was thus laid down in 1896:—

	c.i.f. London per cwt.	c.i.f. New York per lb.	per cwt.
January ...	61/9 ...	$12\frac{13}{16}$ ...	59·9½
February ...	62 3 ...	$12\frac{7}{8}$ ...	60·1
March ...	66 9 ...	$13\frac{13}{16}$ ...	64·5½
April ...	67 3 ...	$13\frac{15}{16}$ ...	650·½
May ...	61 0 ...	$12\frac{5}{8}$ ...	58·11
June ...	59 3 ...	$12\frac{3}{16}$ ...	56·10½
July ...	52/0 ...	$10\frac{11}{16}$ ...	49·16½
August ...	50/6 ...	$10\frac{1}{8}$ ...	47/3
September ...	47/6 ...	$9\frac{5}{8}$ ...	43/9
October ...	53 3 ...	11 ...	51/4
November ...	46/0 ...	$9\frac{3}{8}$ ...	43/9
December ...	56/3 ...	$10\frac{5}{16}$ ...	48/1½

GENERAL ARTICLES.

BRAZILIAN RUBBER.

In the course of a report on the industries of Para and district, the British Consul there deals with the rubber supply. He says:—

The northern tributaries of the Amazons do not produce much rubber. Of these, the river Negro produces the most. The quality, however, is soft. The river Branco yields very little rubber, and the upper part runs through posture lands and high ground, which is not suitable for good rubber. Some of the other northern tributaries have not been explored, and may yet reveal large stores of rubber. The "hevea" is known to exist on the banks of the Japura, but that district has not yet been opened up.

The following articles are used in the India rubber industry:—

A clay funnel, which in shape is very much like an ordinary toilet water jug without a bottom or handle. It is made of the clay that exists in most parts of the Amazons. The fuel used in the funnel consists generally of the nuts of palms.

It was at one time imagined that the excellence of Pará rubber was greatly due to this kind of fuel used in curing it. The palms that furnish this fuel were accordingly transplanted to Africa with a view to making Pará rubber there. The experiment, however, has not succeeded.

The reason why these nuts are selected in Brazil is because they emit a continuous dense smoke, and are more portable than other fuel obtainable. However, when none of the palms named are present, then bark and twigs are used as fuel.

Every man engaged in the forest carries a wood-knife. One of its uses is to cut down fuel for the preparation of rubber. The blade is about 26 in. in length and about 2 in. broad. All the knives are imported from the United States and Germany. These countries vie with one another in selling a serviceable article as attractive and cheap as possible. Owing to the damp climate the blades are electro-plated; this prevents them from getting rusty before they are sold. The handles are made of wood and are carved or inlaid with brass.

VANILLA IN THE SEYCHELLES.

Mr. Harold Baty writes to the *Ceylon Observer*:—At present things are fairly bright with us here. Our last Vanilla crop was a good one and prices at Mincing Lane still keep at a very satisfactory level. I fear, however, the crop of 1899 will not be nearly so good. The owners of low-lying estates complain that the dry weather was too prolonged. In the hills, on the other hand, we had a splendid show of buttons, and just as flowers were appearing, down came the rain steadily for two or three weeks In the islands, reports are more satisfactory. From my own island—Felicite—I hear that there is an excellent show of unusually long pods. . . . . I hear that several of your Ceylon planters think of trying their luck in Seychelles. I certainly advise caution. They should remember that the area of these islands is small, and that owing to our recent prosperity the present holders of land are not at all disposed to part with their properties except at high rates. Ten years ago any hard-working young fellow possessed of £ 1,000 could have started here with very fair chances of success; but now I could not advise any one with less than £,3000 to come here.

The administrator of the Seychelles writes to the *Journal of the Imperial Institute*:—A vanilla plantation should not be started in the Seychelles with a capital under £1,000, seeing that it takes three years to produce a crop. Suitable land cannot be secured under Rs.200 an acre, and even at this price it is not easily obtainable. Under the old system (planting on bars, wires, etc.) from 1,200 to 1,300 vines were planted per acre. The vines are now planted on live trees, and the number planted depends on the number of trees existing on the land to be put under cultivation. The vines cost about Rs. 4 per 100. and a man can plant 350 cuttings of vines per day, and can keep in good order, throughout the year, 2,500 plants. A man's wages are Rs.12, and a woman's Rs.6 to Rs 8, without rations. The women are employed for "marrying" the flowers, *i. e.*, removing the pollen from the anther of the flower and applying it to the stigma. A woman can "marry" from 600 to 800 flowers per day. Each vine can produce from 25 to 30 pods. 130 of which average 1 pound of prepared vanilla. The flowering season is from August to December, the pods are gathered about nine months after, and it takes three or four months to "cure" the pods.

GINGER.

The second attempt at raising the value of Ginger, although this time slightly supported by an improved spot demand, has not proved altogether successful, yet it has not been without some usefulness, for it has clearly demonstrated the strong undercurrent of bullish feeling existing in our market. All the old operators, and a good number of fresh outside speculators, seem ready and anxious to support any upward movement, be it artificial or otherwise. All they are waiting for is a strong hand to set the ball a-rolling, and to direct its future course. Such a hand we know exists, but, unfortunately, its actions have, so far, been seriously hampered by the firm and uncompromising attitude of the Indian markets, which, quite regardless of the European stocks of Ginger, have only an eye for the extremely favourable statistical position—from a bull's point of view—of the article in India. Last season, owing to the prevalence of the Plague in Bombay, Europe, particularly London, was the only outlet for their Ginger, and every ounce of stuff grown found its way to our ports, with the result that India became absolutely bare of stocks. Now, India and adjoining countries are the principal consumers of Ginger, and when, this season, the hope of a good crop became doubtful, and when, later on, it became evident that all over India an unsatisfactory yield would be gathered, Native dealers and speculators rushed into the Bazaars to secure as large a portion of the small crops as possible. A wild speculative movement, particularly in rough descriptions, these being the most congenial to Indian taste, immediately resulted and has been maintained up to the present day. Prices rose quickly to a level much above London parity, and Europe had practically to sit still and look on. At the time of writing Cochin washed fetches readily parity of 29s c. i. f. London in India, whereas 26s. c. i. f. is paid for Calicut rough unassorted, and 28s. 9d. c. i. f. for usual cut assortment. These are prices above the equivalent of the London landed parity. It is foolish to think that purchases at these figures are being made by Native dealers with the sole object of shipping them to London on consignment later on. Natives know the values ruling in London, and the chances of a boom here as well as we do ourselves, and although they are often reckless in their ventures, they are cute enough to calculate a margin between purchase price and London

values before buying for consignments to our port. It is our opinion, therefore, that the bulk of the rough Ginger is destined for home consumption and for export to Arabia, Persia, etc., and that very little will find its way to London. This makes the position of Ginger all the stronger and renders the possibility of a rise here shortly all the greater, but, as we have said in a recent issue of ours, spot will have to move in order to put a bull movement on a sound footing. We may add that recent reports from India confirm the early estimates of short crops, especially in the Cochin district. —*London Commercial Record.*

MEXICAN COFFEE PRODUCTION.

Among those plants having the highest commercial value which flourish on the slopes that extend from the summit of the high plateau of Mexico down to the sea coast are cinchona and coffee The former has had some attention, but has not been cultivated in anything like the same methodical manner as coffee. The coffee tree is a plant of mild climates. It prospers in localities where the temperature is not commonly inferior to 60 or 64 deg Fahr., not frequently reaching 86, and generally keeping about 60 or 75 deg. The plant requires also a good amount of moisture in the atmosphere; this seems to constitute its life, and irrigation is therefore unnecessary. The altitudes answering to such temperatures in Mexico are those between 800 and 1,400 mètres above the lowest level.

Coffee seems to have been introduced into Mexico in the early years of the present century, and there is some reason to believe that cultivation first began in Cordoba. At any rate, it is on record that in the year 1817 the cultivation had developed in this neighbourhood to an extent which was not paralleled by the progress attained in any other quarter. This position of pre-eminence Cordoba has not been suffered to maintain; but even to-day the production ranks second only to that of Soconusco, which has the largest output of any coffee district in Mexico. This output has been achieved in face of the general belief that Soconusco is not an ideally suitable place for the cultivation of the berry. Its altitude is from 850 mètres to 900 mètres, and we believe that it is an undeniable fact that the bearing per tree is larger in the cantons of the same State, Huatusco and Coatepec, lying respectively at 1,300 mètres and 1,200 mètres altitude. The bulk of each tree is larger in these last cantons, and they are obliged to plant them at a wider distance from each other. Orizaba, at 14 miles from Cordoba and 1,200 mètres altitude, enjoys the very climate fit for coffee, and would be more advantageous than its neighbour district if the strong southern winds which blow at the very time of the blooming of the tree, carrying away the flower, had not up to now constituted a very serious check to the development of the industry. The harm, perhaps, might be averted by the planting of trees of thick foliage in a convenient position.

The figures for the output of the fiscal year 1897-98 show a substantial advance on those of 1896-97. The exports were 288,593 cwt. as against 251,826 cwt. Among the States the largest producer was Vera Cruz, with 106,484 cwt., and among the districts, Cordoba with 40,944 cwt. The figures given above are official; but in view of the extensive smuggling which goes on from Soconusco into Guatemala, they cannot be held to be quite accurate. The high price which coffee commands at intervals has, of course, not been without its effect upon the value of coffee lands in Mexico. At Cordoba they are often worth $48 an acre. Very similar prices rule in Coatepec and little inferior in Huatusco. In Oaxaca, in the good districts, the price is about $24 an acre. It is not improbable, however, that in view of the low price for the berry which now rules we shall shortly witness a considerable diminution in the number of Mexican plantations and a corresponding fall in the value of land. The present price offers no margin to planters worth talking about. It is plain, therefore, that plantations will be abandoned and the crop reduced until prices rise again. It will be remembered that fifteen years ago, under very similar circumstances, an extensive area went out of cultivation. Although Brazil practically rules the market, it is, we believe, a fact that Mexican coffee is much more appreciated than Brazilian. A Mexican authority is responsible for the statement that the lowest class of the Mexican article commands $2·50 per cwt. more than the lowest class of Brazilian.

TEA, &c., COMPANIES.

Kanapediwattie Tea Company.—The ordinary general meeting of this Company was held at Colombo on 21st ultimo to receive the Report of the Directors and the accounts to 31st December, 1898, to declare a final dividend, to elect a Director, to appoint an Auditor, and to transact any other business that may be brought before the meeting. Mr. T. N. Christie, presided. The report stated that the amount of Tea secured on Estate account was 142,267 pounds, an increase over theprevious year of 20,172 pounds, but 2,733 pounds short of the Estimate, which, considering how unfavourable the weather was, may be considered highly satisfactory. The cost laid down in Colombo was cents 20·52 as against cents 23·08 for the previous year. A further quantity of 30,330 lbs. tea was made from bought leaf, being 7,623 lbs. more than was secured the previous season. The total crop of 172.597 lbs. cost in Colombo cents 23·11 per lb. and realised a nett average price of cents 32·71, as against cents 34·38 in 1897. The nett profits for the year amount to R40,667 99, to which must be added R1,163·25 brought forward from last season. Of this sum R13,360·00 was absorbed by the payment of an interim dividend of 4 per cent. for the 6 months ended 30th June last, and the Directors now recommend that a final dividend of 5 per cent. be paid, making 9 per cent. for the year, that R11,000·00, be placed to the Reserve Fund, thus bringing it up to R15,000 00, and that the balance of R771·24 be carried forward to the next account. The nett earnings for the year are equal to over 12 per cent. on the paid-up Capital of the Company as against nearly 11 per cent. in 1897.

The Clyde Tea Estates Company, Limited.—TheAnnual Ordinary General Meeting of Shareholders of the Clyde Tea Estates Company, Ltd., was held at Colombo on the 25th ultimo Mr. F. M. Laurie in the chair. The report states.

		Acreage.	
Tea in full bearing	...	434	acres.
Young Tea ...	...	112	,,
Jungle, &c. ...	...	169	,,
	Total...	715	acres

The weather during a considerable portion of the year was unfavourable to heavy flushes. The quantity of tea made was: from Estate leaf 188,669 lbs. and from bought leaf 6,406 lbs. against estimates of 230,000 lbs. and 10,000 lbs. respectively. The yield for the year equals 434 lbs. of made tea per acre in bearing. The cost of Estate tea, including transport but exclusive of manuring, was R42,116·23, or say 22·32 cents per lb The net amount realized for the total crop (195.075 lbs.) was R65,336 69, an average of 33·50 cents per lb The expenditure on Manuring during the year (R6,079·20) has been charged against revenue, and the following additional sums have been written off:—R1.367·03 on account of preliminary Expenses. R2,870·43 for depreciation in value of buildings and Machinery at 2½ per cent and 10 per cent. respectively. The available balance is R10,982·46, from which the Directors recommend payment of a dividend of 4 per cent. absorbing R10,809·00, and leaving R182·46 to be carried forward to next account.

Tea Corporation of Ceylon.—The following is the report of the Committee of Investigation appointed at the general meeting of the Tea Corporation, Limited (of Ceylon), held on the seventh day of December, 1898 To the Shareholders.—Your Committee have most thoroughly investigated the accounts and the affairs of the Company from the date of its incorporation, and they are of opinion that since the Company have had control of the Estates, they have been most satisfactorily and economically worked, and they consider that with careful management and every economy in the working expenses, the Company will be brought round to a satisfactory paying basis

Your Committee are glad to report that Messrs. Anthony Gibbs and Sons, the Company's Agents in London, are being approached with a view to reduce their Commission under their contract until such time as the Company is able to pay a Dividend on its Ordinary Shares.

Your Committee are of opinion that the Directors should certainly have exercised more caution in taking over the Estates, and undoubtedly a great deal of time was lost before the Company actually acquired possession, and that a loss was sustained by the Company in the first six months' working in consequence thereof. This arose from the fact that the owners of some of the Estates,

during the interval that elapsed before the Company took possession, did not use the proper supervision they ought to have done in the working of their Estates, knowing, no doubt, that the Company had purchased the same.

Your Committee, however, find that the delay mainly arose by reason of the legal difficulties which took place, and for which the Directors could not be held responsible.

Your Committee are finally of opinion that the estates are now, judging from the Manager's reports, thoroughly sound, and that, provided the management is carried out, as above stated, in a careful, economical manner, and with no further rise in exchange or depreciation in the Tea Market, the Company's prospects for the future must be considered satisfactory and encouraging.

Mr. George Vanderspar, one of the Committee of Investigation who is proceeding to Ceylon has been requested, and has consented, to visit the Company's Estates and make a report to the Board, and will also see the Managing Director and the Company's Agents in Ceylon with a view of seeing if they will not consent to reduce their charges until the Company is on a more paying basis.

Your Committee have received every possible information they required, both from the Directors and the Secretary, and they have rendered them every assistance in their labours.

REG. R G. NORMAN,
Chairman of the Investigation Committee.

The Board has suggested, in order that larger shareholders should be more fully represented, and as it does not in any way increase the Directors' fees, that two of the members of your Committee of Investigation be added to the Board, and they have elected Mr. Alfred Bull and Reginald Norman (two members of your Committee, who are now thoroughly cognizant with the affairs of the Company) to serve on the Board, subject, however, to the shareholders' approval.

LIME AS A MANURE.

The following "Special" Article appears in the *I. P. G.* The properties of lime as a manure in its quick and carbonate forms are being discussed in a contemporary. Lime as a manure crops up for discussion periodically; and, as a Coorg correspondent remarks, the effects of its application to the soil in its different conditions is not generally understood by those using it. I once heard an old experienced planter seriously proposing to give his sandy *teelahs* a good dressing of quicklime, because he had known a friend who had applied a dressing with good results to a stiff clayey flat which had always been unproductive. The stiff clayey flat was most likely to require lime in a caustic state, but the very fact of his *teelahs* being poor and light was the very reason why, if they wanted lime at all, it should be added in its carbonate state. If marls could be got they would prove the most valuable form in which to apply lime to the majority of our tea soils. Light sandy soils are greatly improved by an application of marl. The soil has greater power given it for holding manure and for keeping a proper amount of moisture. The custom of using marls is one of very great antiquity; it was stamped with success many centuries before the causes were known which led to that success. According to one of our highest agricultural authorities it is very probable that we may again find it wise to return to their more extensive use. It is asserted that the quality of our produce has been injured by the increasing fashion to insist upon a supply of fertilizers which will act with great rapidity and just in proportion to a high-pressure system of production may be adopted, so does it become the more important to take care that we do not overlook any of the essentials of success. I would prefer a good marl for the purpose of adding lime to the great majority of our tea soils before I would lime in any other form. There is no certainty as to the composition of marls, because they are so very variable in their ingredients. It would, however, be a serious mistake to imagine that for this reason they are not valuable as a manure

When the marl beds were submitted to chemical analyses by Professor Way, it was seen why the marls had gained a greater or lesser reputation. The presence of phosphoric acid and potash in the green marl was much larger in proportion to that found in the grey and chalk marls. The action of these marls when applied to land differs according to the useful character of the substances they contain. The use of marl is often adopted in England for other reasons than the simple addition of fertilizing matter, for in many cases marls are exceedingly useful in altering the unchemical conditions of a soil. It is a lasting manure and gives its properties out slowly as the plants require them, therefore the absence of forcing would have a tendency to allow time for leaf elaboration, which is said to be conducive to the better quality of our manufactured tea. The series of natural manures in which lime forms the prominent constituent are certainly of the greatest importance. In many instances they are powerful agents, which, when they are imprudently used, are capable of doing much injury to the soil. They are valuable promoters of fertility when prudently employed, but it must never be lost sight of that just in proportion as we use lime upon ordinary soils under conditions which make it more than usually stimulating, so it is likely to become very exhausting to the land unless we secure a good supply of "bulk" manures to balance the demand made upon the soil. Chalk is capable of doing much of the work which is accomplished by burned lime, but it acts much more gradually It slowly assists in decomposing organic matter in the soil, and does so in such a gentle manner, that it can he used with perfect safety on such soils to which the addition of burned lime would be most objectionable. It is useful as a plant food on all soils, and its action upon the physical condition of heavy clay soils, although very different to that of burned lime, is equally serviceable as a general rule.

PLANTER AND COOLY.

The following extracts from a judgment of the Chief Justice of Colombo in respect to the conviction and sentence of three coolies should be of interest in India, for the principles on which the law proceeds in this country are the same as in Ceylon:—

"This is an appeal from the decision of the Police Magistrate of Hatton, who convicted the first accused, Muniandi, of voluntarily causing hurt with his hands to V Marsden, and sentenced him to receive 15 cuts with a cane and to undergo two months' rigorous imprisonment. The second accused, Marimuttu, was convicted of a like offence on the said V. Marsden, and sentenced to three months' rigorous imprisonment. The third accused, Anthony, was convicted of voluntarily causing hurt with a stick to the said V. Marsden, and sentenced to 15 cuts with a cane and six weeks' rigorous imprisonment. . . . . .

[The Magistrate's judgment is as follows:—

Here Mr. Freeman's judgment is quoted in full. It concludes with the following sentence:—

When a servant wantonly assaults a master, who has not been unjust towards him, and when the master comes into court with clean hands. it has always been my practice in the planting districts, to award exemplary punishment. There are others to be considered besides the actual actors. At the same time I venture to think the delegation of punitive powers to youthful pupils on estates impolitic.]

There is hardly a single statement in that judgment except that contained in the last sentence with which I can agree. It is deplorable that the Police Magistrate should have delivered himself of such a judgment. No doubt on many estates this patriarchal system prevails. The superintendent punishes the coolies himself for any disobedience or fault, and so long as the superintendent does not abuse his position, and the coolies acquiesce, that system is probably much preferable to one in which the interference of the Police Court is being constantly invoked by superintendents, and this Court would certainly not be anxious to interfere. But it must be distinctly understood that such a system has no support from the law, and only rests on the acquiescence of the coolies. The doctrine of a Superintendent's punitive powers which he can delegate to whom he pleases has no existence, except in the imagination of the Police Magistrate. The divine right of kings to misgovern has long been exploded, and it is too late in the day to set up the divine right of superintendents to beat their coolies.

Mr. Carmichael swore at the trial as follows:—"He (T. E. Marsden) was not authorised to chastise coolies. I do not approve of his chastising coolies." But later on he was somehow induced to contradict his previous statement, and to say "complainant is in the position of an assistant superintendent of the estate. His powers are to see that the coolies do their work properly, and, if

not, to punish them . . . He is authorised to chastise coolies reasonably . . . . . Complainant can exercise his own discretion as to the matter of chastising coolies . . . . . I consider the punishment of Viran was reasonable." This is pure nonsense, and Mr Carmichael must have known it to be so. . . . . I convict the first accused of using criminal force under section 342. He was certainly not justified in striking the complainant; but having regard to his youth and the circumstances, I deal with him under the First Offenders' Ordinance, and order him to give security in two sureties of R50 to be of good behaviour for two months. I convict the second accused of the like offence, but, having regard to the circumstance, I am of opinion that a fine of R5 will meet the justice of the case; and I convict the third accused of voluntarily causing hurt with a stick, and in his case, having regard to his youth and the circumstances, I deal with him under the First Offenders' Ordinance, and order him to find securities in the same amount and for the same period as the first accused. I cannot part with this case without expressing regret that it should ever have come into Court. Mr. Carmichael was very ill advised in allowing it, for when Courts of Justice are appealed to, they must administer the Law regardless of consequences. The Penal Code applies to Superintendents and their youthful pupils as well as to coolies, and it might have been very unpleasant for the complainant in this case had Viran complained to the Court of the "reasonable and just punishment ! !" which was inflicted on him.

(Signed) J. W. Bonser, C. J.

STRAY NOTES ON MANURES.

Mr. R. R Harding, Curator, Botanic Garden, Toowoomba, writes in the *Queensland Agricultural Journal*:—

Liquid Manure.—The earth in its uncultivated state is sufficient for vegetation, yet when by cultivation the land is as it were forced to produce a greater increase for the use of man, we cannot raise those rich and numerous crops, so necessary to the existence of the population of a civilised country, without affording the vegetable creation an artificial supply of nourishment. It is no less true in the vegetable than in the animal kingdom, that food must be proportioned to the population in order to maintain it. The mode which art has devised to increase the quantity of food for plants is to manure the soil, in some form or other, so that the primitive elements can enter into the vegetable kingdom. Dung or solid manures in many cases can only be supplied to the soil before the crop is planted or sown, as it could not afterwards be dug in without disturbing the roots.

The Chinese, who are remarkably skilful in the management of manures are particularly careful not to waste the smallest portions. Especially do they apply night soil in a liquid state to all kinds of plants. This manure, with sorts of waste foliage, is put into a tank which is sunk in the ground, and here, in addition to the materials mentioned, they mix as much animal water (urine) as can be collected, or common water, to dilute the whole; and when it is in a state of putrefaction, they apply it to the soil, steeping all their seeds, and dipping the roots of all young plants before planting into this liquid manure. Loathsome as this may appear, yet when we consider it as the means which Nature employs to renovate existence, and continue the circle of creation, we must think of it with admiration rather than disgust. The operations of Nature are always admirable; these elementary substances, which in their simple state would be disagreeable to us, by passing into the vegetable system, are converted into the most palatable and nutritious. It is a common thing in England for gardeners to arrange with dairymen for a constant supply of animal water from their cowsheds. This is used for all kinds of plants at the rate of one pint mixed with two gallons of clean water and they consider this is one of the most effective of liquid manures.

It is incalculable how many valuable materials are wasted in this colony, which would have given vigour to vegetation. This animal water forms an exceedingly powerful manure, containing various principals which, during putrefaction, yield large quantities of ammonia, which likewise contains many valuable ingredients of the food of plants. The composition of this water varies in different kinds of animals and in individuals of the same species, and a good plan, where this water is lying near the sheds, is to dump some sawdust or charcoal into it, which absorbs it, and is easily removed. The green slime of ponds and all stagnant waters make very rich manure; they are considered storehouses of materials ready to return into vegetable kingdom. (A. David.)

That water charged with manural elements has a powerful influence upon vegetable life, is so well known to those who cultivate plants of almost every description as to require no affirmation, yet there is often a wide difference of opinion amongst those who are so engaged as to the value of the different liquid fertilisers or stimulants generally used, some maintaining that it is better to apply manure in a solid state, and that the majority of liquid so used are often stimulative in their influences producing little, if any, permanent good. I will recollect the time when the estimate of manure water even amongst us gardeners was much more prevalent than it now is. The many various solid manures now in use are simply so much food, varying in their influences upon the plant to which they are applied according to the different elements of which they, the manures, are composed, almost as much as do the various articles of diet consumed and assimilated by animals. A given kind of manure may be the best possible for some particular species of plant, affording all the elements requisite to build up and sustain it, and still be of little value to another plant that requires something essentially different for its support. Through the joint result of chemical researches and advanced knowledge in cultivation this is now better understood than it used to be, but the fact is not always realised that the effect of manure in a liquid state must necessarily be in accord with that of the solid matter which is used to make it.

For instance, soot is one of the most exciting stimulants known, quickly becoming exhausted, after which, unless something else is at hand to sustain the exuberant growth thus excited, the plant languishes to a greater extent than it would have done if the extra growth made through the effects of the soot had been non-existent. Soot is generally applied as a top dressing; but it is best to apply it as a liquid manure. I take all that can be obtained, and simply enclose half-a-bushel in a bag and sink it to the bottom of one of the tanks which is sunk in the ground; this holds about 6,000 gallons of water, and all plants are watered, large and small, with this. Visitors often remark how healthy and uəəɹƃ the plants look. The various animal excremental manures are possessed of fertilising as well as of lasting properties in a great measure proportionate to the description of food on which the animals have beenfed. For example, the manure from cattle fed on hay and corn is much richer than if their food consisted of grass. Purely animal manures vary considerably in strength, and their enduring properties in a great measure, are ruled by their rate of decomposition

At the time a plant is put out in the open ground, or placed in a pot or other confined space, solid manure in quantity limited by its nature and strength, as also by the ability of the plant to absorb and assimilate food, more or less freely, can be given; but beyond this we cannot go, as, if too much manure is present in the soil, its effects are identical with those which result from an animal taking food stronger than the digestive organs are able of digesting and assimilating. It then follows that after a time the manure first present within the reach of the roots get exhausted; it then becomes a question of providing more in either a solid or liquid state—the former usually in the shape of a top dressing, the latter by soaking the soil to which the roots are restricted. The use of solid manure, except in a highly concentrated state, is generally convenient for such plants as most frequently need assistance; that is when they have their roots confined to pots, with no access to food beyond the limited space in which they thus exist. It is then that manure water becomes the most convenient, and often the most beneficial in its effects, for in this way food is brought immediately within the reach of the whole member of hungry mouths (the feeding fibres) quicker than by the use of solid matter laid on the surface, which takes time to get washed down in the ordinary process of watering.

There can be no question that the time of active growth in both roots and branches is the proper time for using the manure water, and when plants exist that want assistance in this way, especially such as are naturally of a hardwooded enduring character, I should advise that in all cases some be given as soon as growth commences in either the roots or the shoots; otherwise the first effort of the shoots will be weak, and no subsequent application of manure during the ensuing summer will in that case strengthen them so as to make the collective growth equal to what it would have been

if the food they required had been within the reach at the time they began to grow A matter which it is important to keep in view is, that at the time any plant is just in the height of its growth, it will then bear manure water being given more freely than either at the beginning or later in the season. Another thing of quite as much importance, and which those who are first commencing to grow any plants will find it to their advantage to note, is that plants have not the power to reject the food that is brought in contact with their roots in the way that manure waters; is whether the water they thus imbibe is sufficiently or over-charged with food, they must take it If it is too strong, the effects are seen sooner or later, but often when much mischief is done. It is always well to keep on the safe side; frequent applications are very much preferable to stronger doses, even if they are slightly too strong. As a rule, the slower growth a plant makes, the less able is it to bear manure water in a strong state. This fact, not having been fully seen and acted upon, results in many plants that are generally supposed to be unable to bear manure water at all, such as the slow growing hardwood conservatory plants; yet it is in the case of these subjects, more even than the strong-rooted things, which can bear partial shaking out and renewal of soil, that assistance by the use of liquid manure is often most required. It is scarcely necessary to mention that whenever manure water is used, even to the most vigorous growing plant, which, consequent upon its strength, is able to bear that which be death to others weaker, the liquid should always be clear and transparent, otherwise the sediment it contains is certain to clog up the soil, and make it too impervious to water afterwards. All who have given the least attention to such matters here stated are fully cognisant of the fact that liquid manure, prepared in the usual way by the admixture of water with some solid manurial matter to which it owes its fertility. the potency of the liquid being proportionate to the volubility of the solid matter of course, governed by the extent of dilution.

LIME, NITRATE OF SODA, AND SULPHATE OF AMMONIA, &C. Briefly, lime is most beneficial on land containing much vegetable matter—such, for instance, as peat, and, with the sulphate of iron nearly always present in such soils, decomposes them, and combining with the liberated sulphuric acid evolved, forms sulphate of lime—a valuable fertiliser. Clay soil is rendered more friable, and not so liable to be baked in the summer. Lime consolidates sandy soils, causing a greater retention of moisture. The quantity of quicklime per acre may range from 100 bushels to 400 bushels, depending on the depth it is ploughed in—the more the deeper. As a rule, for surface-dressings to be carried to the roots by rain, it is better to afford mild dressings at intervals of a few months, but not during hot weather. Lime used with nitrates would be a wasteful practice. Common salt is better, in the proportion of two of lime to one of salt, and applied at the rate of 40 bushels per acre. Sulphate of ammonia should be applied to orchards in just sufficient quantity to produce healthy and vigorous growth without causing over luxuriance. Potash (nitrate of) is a good manure for almost all kinds of fruits, but it should not be used in greater quantity than 1½ cwt. per acre; but carbonate and muriate of potash may be afforded in the way of wood-ashes, especially those of green wood, applied at the rate of 40 bushels per acre.

SUCCESSFUL GREEN MANURING. Mr. F. S. White writes in the *American Agriculturist*: Stable or barnyard manure is the best of fertilizers, but we cannot get enough of it and so we must look out for something else. The next best thing for western farmers to look to is green manure. Clover is perhaps the best and cheapest plant for this purpose, and the Mammoth clover the best of the clovers. But how to use clover without being out of the use of the land part of the time is the question. To attempt to get a crop of clover by sowing in oats has proven a failure. This is not a country for fall wheat and spring wheat at best is a poor crop I know of no better way than to sow rye in the corn fields in September or October, and sow clover on the rye in the spring. By this process we can get a crop of rye, have some clover pasture, and a crop of clover to turn under in August or September. But the rye must not be sown too thick, and can be pastured lightly in the fall. By this rotation we could only have the use of the land half the time for corn, potatoes or other cultivated crops. But if we get enough out of the rye and clover to pay taxes and expenses of seed, my opinion is that the three crops of corn grown under such rotation will be worth more than the six crops of corn grown on same land without rest. This six years of rotation will also leave the land, if properly managed, in a high state of cultivation.

DISTRICT ASSOCIATIONS.

NELLIAMPATHY.

Proceedings of a Meeting held at Cottengadi Bungalow, February 17, 1899. PRESENT: Messrs. Burnett, Denny, Griffin, H. Hall, Jones, W. R. Mackenzie, Murray, Welchman and J. C. Abbot, *Honorary Secretary*. Mr. A. C. Griffin, *in the Chair*.

New Members.—Messrs W. R. Mackenzie and W. Hendry were elected members of the Association.

Labour.—Mr. Welchman proposed "That all maistries bringing in 25 coolies or more should get 5 as. a day pay as well as their commission."

After some discussion this proposition was withdrawn. Mr. H M. Hall proposed "That three months' notice should be given to the Association of any proposed alteration in existing rates of pay and commission. before bringing it before a meeting." Seconded by Mr. Burnett and *carried*.

Bazaar —Read correspondence with Dewan and Chief Engineer. The Honorary Secretary stated that Rs.200 had been placed at his disposal by the Cochin Government to improve the sanitary condition of the Bazaar. Also, that a temporary dispensary had been erected.

Roads.—Read correspondence with Chief Engineer.

Labour Act.—Read correspondence. The Honorary Secretary was requested to write to the Secretary U. P. A. S. I. and express the views of the Association on the proposed Amended Act.

A vote of thanks to the Chair terminated the proceedings.

(Signed) A. C. GRIFFIN,
Chairman.

(Signed) J. C. ABBOTT,
Honorary Secretary.

THEN IT WENT ON ALL RIGHT.

The writer of the letter which I am going to copy for you in a moment has a complaint to make. Rather, perhaps, a complaint to place on record, as the reason for it is passed away for the present and she hopes—and we hope with her—that it may not return. The complaint does not refer to any relative, friend, or foe, but to her own heart. It did not work well. It was weak, and for a long time she was unable to find means to make it do better. which was a serious matter, inasmuch as the vigor of the circulation of the blood always depends upon the force wherewith the heart drives it.

Still, it seems to me we ought to be a bit indulgent towards the heart in view of the labour it has to perform. Remember that it never takes a full minute's rest at one time, night or day, from the instant it begins at your birth until, like a muffled drum, it stops for good and all—life's funeral march to the grave being over. During all this while, ten years or a hundred, the heart has got to keep on pumping blood through your body at the rate of from 130 strokes a minute in childhood to 50 or 60 in old age. If you happen to have a mechanical turn of mind it may interest you to figure out how much this stands for in units of horse-power for a given case and time. If not, you can take my word for it that, merely as a machine, the heart deserves your respect. So long as it goes ahead steadily, up hill and down dale, hammering away softly but strongly, you haven't a word to say for or against it; but when it begins to get weak, may be skipping a stitch now and then, you call in the doctor, who puts the tip of his finger just below the base of your left thumb, looks wise and solemn (as befits the occasion), and says, "Ah, yes, yes: I see, I see" But *what* does he see? He doesn't tell you *that;* he leaves medicine, and mentions when he will look in again.

But as to the letter I spoke of. "For many years," the lady says, "I suffered from indigestion and weak heart. Very little exertion made me feel weary and tired. Cold, clammy sweats broke over me. I had a poor appetite, and after meals an aching pain at the chest and a miserable sinking feeling at the stomach. I had also much pain at the left side, and my heart would flutter so as to frighten me. At length I became so weak, I was barely able to get about, being no longer able to do my housework

"Owing to the trouble at my heart I obtained no proper rest at night, and often walked about my bedroom at night. Many times these attacks were so bad *I thought I was dying.* During the day a sense of suffocation sometimes came upon me and I was obliged to go to the door for fresh air.

"Year after year I suffered like this; now a little better, now as bad as I could be. In November, 1887, while on a visit to Croydon, my son-in-law persuaded me to try Mother Seigel's Syrup. He got me a bottle, and after taking it I experienced great relief. The pain at my heart was easier, and I felt better as a whole. I could eat well and the food agreed with me.

"I now felt encouraged to continue using this remedy. Soon I was in better health than for years, the heart trouble having disappeared altogether. Since that time when I feel anything ailing me a few doses of Mother Seigel's Syrup never fail to give the desired relief. I have told many persons of the benefit I have derived from it, and hereby consent to your publishing this statement should you wish to do so."—(Signed) (Mrs.) William Harrington, near Wickford Hill, Clare, Suffolk, November 12th, 1897.

Now what ailed Mrs. Harrington's heart? Why, precisely the same things that ailed her lungs, her nerves and her muscles—*weakness*. Therein she is right. It *was* a weak heart but not a *diseased* heart. The heart is a muscle, and (seeing the prodigious lot of work it has to do) necessarily a strong, active muscle. But it will not work without pay any more than you or I will. With all the rest of the body it has got to be sustained and strengthened by food. Here we have the point, then. The lady was afflicted with chronic indigestion. For this reason her whole body grew weak—the heart, of course, with other parts of the engine. Hence all the symptoms she names. Her immense all-round weakness and puller-down is that same old dyspepsia. When Mother Seigel's Syrup made the digestion of plenty of food possible, the heart went on all right, like a newly-wound clock.

MARKET REPORT.

Advices per Mail of 10th February 1899.

COFFEE.

The *London Commercial Record* says:—Assortment offered at auction during the week was much more extensive and varied than has been seen for some period. There was a good demand for all fine qualities, but the lower grades are still difficult to move. Plantation Ceylon has been in request and sold at very full prices. The recent arrivals of new crop East India sold with great irregularity; colory Mysore and Coorg met with good competition and full prices were paid, but the low middling and less desirable sorts are very slow of sale at easier prices, in fact more on a par with the cheaper kinds of Central American. Jamaica sold with comparative ease at valuations. Fine Costa Rica and Colombian brought very full rates, but parcels imperfectly picked, even when of good color, were cheaper, as were faded and old crop. There has been a declining tendency in "futures" owing to heavy receipts at the Brazils, and closing prices are easier.

Imports Deliveries and Stock of Coffee in London exhibit.—

In the Imports a decrease this year of	1847	tons
Home Consumption an increase of	97	,,
Export an increase of	380	,,
Stock an increase of ...	2403	,,

Auctions this week passed off as follows:—

Ceylon.—26 barrels and bags sold—smalls 47s to 59s, low middling 100s to 100s 6d, middling to good middling 101s 6d to 106s, bold nipped to good colory extra bold 110s to 119s, peaberry 82s to 122s.

East India.—927 bags sold: *Mysore*, smalls 51s 6d to 67s, low middling 60s, middling 71s to 75s, bold good greenish colory 95 to 100s, peaberry 86 to 112s; *Coorg*, smalls 46s to 49s middling to good middling 67s to 75s 6d, bold good bright grey to brownish colory 93s 6d, to 9-s, pea-berry 105s 6d to 112s 6d; *Wynaad*, smalls 42s, low middling to middling 5-s to 60s, bold brownish 79s to 84s 6d, pea-berry 7-s to 102s; *Neilgherry*, old crop, low middling 54s.

Nyssaland.—245 bags sold—smalls 48s 6d to 54s 6d, low middling to good middling blue 59s to 66s, pea-berry 64s to 75s.

Jamaica.—326 barrels and bags rather more than half sold, viz., smalls 31s to 35s, good to fine ordinary greenish 35s to 40s, fine ord. brownish to gray 43s 6d to 46s 6d, low middling grayish and greenish 48s to 54s, good middling colory 77s pea-berry 50s to 75s. 6d.

Trinidad—5 bags sold, good ordinary greenish 35s.

Costa Rica.—1,486 bags sold, smalls 26s 6d to 61s 6d, low middling 52s 6d to 53s 6d, middling colory 60s to 69s, good to fine middling 69s 6d to 88s, good to fine bold blue 89s to 97s, very fine blue 100s to 106s, pea berry 62s 6d to 100s 6d.

Guatemala.—Of 181 bags offered 60 bags sold, pickings 26s 6d, triage 70s 6d, small greenish colory 33s 6d, pea-berry 70s.

Colombian.—Of 1,364 bags offered about 850 bags sold, smalls 30s to 47s 6d, fine smalls up to 60s, fine ordinary greenish 45s 6d, low middling to middling colory 52s 6d to 64s, good to fine middling 65s to 88s 6d, good bold dull green to good blue 75s 6d to 80s, fine to extra fine hard blue 87s to 102s 6d, pea-berry 55s 6d to 96s.

Venezuelan.—Of 211 bags offered 27 bags sold, good ordinary 34s.

Salvador.—Of 177 bags offered 36 bags sold, blacks 26s.

Receipts in Rio and Santos since July 1.

	1898-9.	1897-8.	1896-7.	1895-6.
Rio ...	2,175,000	3,117,000	2,527,000	1,823,000
Santos ...	4,323,000	4,951,000	4,004,000	2,607,000
Total ...	6,498,000	8,068,000	6,531,000	4,430,000
Crop		10,461,000	8,680,000	5,489,000

Rio Exchange 7 13/32d, previous day 7 7/16 d.

Havre, Feb. 9.—Market steady. Santos good average March opened at 37¼f and closed at 37½f, May opened at 37¾f and closed at 38f.

Hamburg, Feb. 9.—Good average Santos March opened at 31⅜m and closed quiet at 31¼m, May opened at 31⅜m and closed at 31⅜m.

New York, Feb 8.—Closing prices of No. 7 Rio were as follow:—

	Feb.	Mar.	April	May	June
Feb. 8 ...	5.45	5.55	5.65	5.70	5.75
Jan. 31 ...	5 50	5.55	5.65	5.70	5.80

Supplies at auction to-day were as follows:—1- bags Ceylon, 20 half-bales Abyssinian, 2,935 bags East India, 82 packages Jamaica, 108 bags Nyassaland, 447 bags Colombian, 72 bags Peruvian, 27 bags Coban, 6 bags Surinam, 466 bags Costa Rica, 183 bags Venezuelan, 60 bags Guatemala, 44 bags Mexican, 54 bags New Granada, and 125 bags Santos. The sales went off with good demand at extreme prices for fine qualities, but common grades of East India were dull of sale at 6d to 1s lower.

According to Messrs. G. Duuring & Zoon, the stocks at the European ports on the 1st. inst. shewed an increase of 1,900 tons, and the visible supply an increase of 1,410 tons, being estimated respectively at 226,400 tons and 388,270 tons, against 224,500 tons and 386,860 tons on the 1st January.

Pricesrealized at auctions for the principal marks of East India:—

NEILGHERRY.

	A	B	C	PB	T
Tuttapollium W ◇ Adderley	94 - 59 6	48/-	75 - 41/-		
	105 6	70/-	54 - 99 - bid		43 6
Kotergherry G. A.	88 6	58/6 bid	...	90 - bid	40/6
Palmer	68/-	54/-	47/-	69/- bid	37/-

WYNAAD.

	A	B	C	PB
Wynaad Plantation Coffee Nellimunda	77/-	60/-	47 6	83 - 41 6
Vangacotta	82 -	63 -	47/-	75 - 41/-
Kotiada	82/6	58 6	46 -	80 - 41 6
Cottanaad	53 -	50/-	42 -	79 6 37/- bid
Mootil Peak	79/-	60 -	...	88 6 42/6
Moopenad Peak	80/-	59/-	...	78/- 42,6

TEA.

Indian.—Public auctions have been on a reduced scale, comprising 41,100 packages, against 49,300 packages last week and 34,800 packages at this time a year ago.

There was a strong demand, particularly for leafy kinds under 8d per lb., which were on the whole dearer, Teas for price shewing a little recovery on former rates. For medium and fine grades, when quality was maintained, not much change in quotations occurred, but the less desirable parcels did not always meet with so much attention. The following are among the best results:—Assam: Khobong Estate, AFT. Co., 176 packages, 1s 7¾d; Pabbojan: o., 75 packages, 1s 5d; Hapjan Estate, AFT. Co., 104 packages, 1s 4¼d; Hilika Estate, AFT. Co., 238 packages, 1s 2¼d; Talup Estate, AFT. Co., 150 packages, 1s 2d; Hansura Estate, DDT. Co., 256 packages, and Nudwa Estate, DAT. Co., 122 packages, 1s 1½ per lb. Darjeeling: Seeyok Estate, 96 packages, 1s 8d; Poobong

Estate, 70 packages, 1s 6¾d; Darjeeling Tea and Cinchona Association, 138 packages, and Dooteriah Estate, ATE. Co., 102 packages 1s 2½d; Risheehot Estate, 91 packages, and Tukvar Estate, TT. Co., 118 packages, 1s 1½d per lb Some final invoices of the 1898 crop have been disposed of, and more are catalogued for next week, so that a gradual decrease in the sales may be expected.

For 32,300 packages on garden account 9¼d per lb was obtained, *versus* 8¾d per lb, for 27.800 packages, and 9¾d per lb, for 28,400 packages in the two preceding seasons.

It is gratifying to notice that, in conjunction with increasing home consumption, a further expansion is taking place in exports from this country to the Continent, &c.

Ceylon.—The quantity put forward was rather smaller, viz.; 24,200 packages, contrasted with 26,500 packages on the 31st, and 28,000 packages at the corresponding period of 1898.

In sympathy with other growths more enquiry existed, partly due no doubt to the favourable satistical position of all tea the total London bonded stock on 31st ult. being nearly 5½ million lbs. below what it was at the end January in the foregoing year. Common to fair Pekoe Souchongs and Pekoes were freely taken at occasionally better prices, both by Home and Foreign buyers. Medium sorts were hardly in such request Broken Pekoes especially being here and their easier. For fine and finest descriptions no material alteration in values has to be reported, the most attractive lines being well competed for, a few high figures being recorded, notably Henfold Estate BOP 1s 6d, Lippakelle Estate BOP 1s 4¾d, Campion Estate BOP 1s 3¾d, Concordia Estate BOP 1s 3½d, Waleigh Estate BOP is 3¼d, and Wanarajah Estate BOP 1s 3d per lb.

The average is the same as on the 3rd inst., viz., 8⅛d per lb. opposed to 7½d per lb. in 1898.

Advices by mail report that the weather in parts of the island has been unfvourable, and this would cause a further curtailment of shipments.

Java.—Nearly 1.500 packages of direct import were brought to the hammer, nearly all the lots going off with spirit and fetching fully up to valuations. Only 800 packages are declared for next week.

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official return were:—

From 1st to 7th Feb.,	1899	4,498,507 lbs
,, ,,	1898	4,177.198 ,,

During the week the following have been printed for sale by public auction:—

	Sold.	Withdrawn.	Total offered.
	Pkgs	Pkgs.	Pkgs.
India	36,979	4,130	41,109
Ceylon	22.276	1,897	24,173
Java	1,412	68	1,480
Total...	60,667	6,095	66,762

Also 540 packages from second hands.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon and Java Tea Report, dated February 10th, 1899, says:—

QUANTITY BROUGHT TO AUCTION IN LONDON,
From 1st June to Date.

	Indian	Ceylon.	Java.
1898-1899.	1,203,578 pkgs.	797,364 pkgs.	32,630 packages.
1897-1898	1,196,348 ,,	836,857 ,,	30,489 ,,

42.190 pkgs. Indian
24,309 ,, Ceylon
1,480 ,, Java
} Total 67,979 packages were offered in public auction this week.

A remarkable increase has taken place in the quantity of Tea exported direct from Ceylon to other countries; figures for some years past being given in the undermentioned table.

1898.	1897.	1896.	1895.
lbs. 23,365,238	17,124,508	14,205,051	12,186,532
1894.	1893.	1892.	
lbs. 9,243,070	8,905,987	6,338.582	

Australia continues to take larger quantities, but the most remarkable progress during 1898 was in Russia and North America, the Tea shipped to China probably also going to the latter market.

Indian.—With animated bidding throughout the sales the market has remained very firm, low priced grades being if anything slightly dearer than last week. while all descriptions with really good liquor continue to sell at very firm rates. The following averages are worthy of note:—"Seeyok," 18/¼; "Ass, Fron. Co. Khobong," 1/7¾; "Poobong," 1/6½; "Pabbojan T Co." 1/4¾.

Ceylon.—The strongest bidding was for Teas under 7d., prices for which were distinctly firmer. For medium Broken descriptions the demand was hardly sustained, irregularity being noticeable, with easier quotations. The following averages may be mentioned:—"Newera Eliya Co. Concordia," 1/0½; "Wanarajah Co. Wana," 1/-; "Holmwood." 11¾d; "Dimbula Valley Co. Lippakelle," 11½d.; "Haputale Co. Kellie" and "ST Co. St, Leonards," 11¼d.

THE CHEAPEST HOUSE
FOR GENTS' DRESS.
ENGLISH TAILORING HOUSE,
MOUNT ROAD.

The Summer Shirts	**per dozen**	....	**Rs. 15-0-0**
Office Longcloth Shirts	,,	.... ,,	**17-0-0**
,, **with Collars**	,,	.... ,,	**18-8-0**
Dress Shirts, Best	,,	.... ,,	**0-30-0**
Assam Silk Suits	,,	.... ,,	**24-0-0**

A Trial is solicited.

[w. 27-5-99.]

PLANTING BOOKS.

Map of Ceylon Tea Estates, Rs.9; colored Rs.10; Mounted in case, Rs.14. Map of Ceylon Plantations, Plain, Rs.8. Inga Va, Rs. 2-8. Areca Palm, As 12. Cocoanut Planter's Manual, Rs.4-10 Ceylon Manual of Chemical Analyses, Rs.3-10. Tobacco cultivation, Rs.3-10. India Rubber (now in the Press). Coffee Planter's Manual (now in the Press). All about Spices, Rs.3-10. Coffee Tree and its Enemies, Rs.1-8. All about Grub, Rs.1-5. Brazil as a Coffee Country, Rs.1-8. Cardamoms, Re.1. Ceylon Coffee Soils and Manures, Rs.1-9. All about Aloe and Ramie Fibre, Re.1. Estate Buildings, Rs 4-4. Coffee and Chicory, Rs.1-13. Coffee Cultivation in Ceylon, As.5. Tea Cultivation and Manufacture, As.5. Tea Cultivation in Ceylon, As.6. Tea at high elevations in Ceylon, As.3. Manuring of Tea Estates, As.8. To Economise Labour Supply, As.12 Planting, Pruning and Preparation of Tea, As.12. Salt for Agriculture, As.8. Cocoa, Cocaine and its Salt, Rs.2. On the Importance of Lining, As.4.

Apply "Observer Office,"
Colombo.

COFFEE SHADE TREE.

Sun-dried Erythrina Lithosperma loppings, &c., contain per ton:—

61·50 lbs. Nitrogen.	14·92 lbs. Lime.
57·38 ,, Potash.	13·68 ,, Phosphoric Acid.

Seed cured under Messrs. Sutton and Sons' advice.

Orders should be booked early for the 1898-1899 crop of seed from the parent trees of above analysis at Rs 6 per pound containing about 2,000 seeds. *Germination guaranteed.*

Only thornless variety extant, and is not procurable anywhere save from the

MANAGER, ARIENKOW ESTATE,
Shencottah.

Average for week 8·09d., against 7·40d. for same period 1898.

Java.—Last week's rates were fully maintained for all descriptions, competition being general, while Teas for price were, if anything, dearer. 108 pkgs. "Perbawattee" avg 9½d. per lb. and 108 pkgs. "Goalpara" 9d. per lb.

Bank Rate 3 per cent Exchange on London three months sight:—Calcutta, 1/4 7/32. Colombo, 1/4 7/32.

COCOA.

Auctions on Tuesday offered 3,847 bags, demand for which was very good, fully 2,300 bags selling at an occasional 1s. to 2s per cwt. advance. 360 bags Trinidad all sold—good to fine red 75s. to 76s., gray to ordinary red 73s. 6d. to 74s. being 1s. beyond valuations. 36 bags Grenada changed hands at 66s. for common up to 72s. for fine red, no alteration in value being apparent 114 bags Jamaica realised 64s to 66s. 6d. for fair to good, which prices registered no change from the last auctions. 48 bags Surinam sold without charge at 69s. to 70s. Of 937 bags Guayaquil 320 bags sold—ordinary grayish red Arriba 74s., ditto Caraquez 7 s. to 71s., Tumaco 67s. 6d., which figures were about on a par with those realised last week under the hammer. Ceylon growth produced some sensation, the fine grades being eagerly competed for at a jump upwards of 3s. per cwt., whilst other qualities showed no appreciable alteration; 2,045 bags were catalogued, more than half of which sold at 78s to 81s. for fine and superior red, 67s. 6d. to 73s. 6d. for grey to good bold red, 58s. to 66s. for pickings, and 40s. 6d. up to 63s. per cwt. for blacks.

PEPPER.

Black.—The market for parcels on the spot and forward delivery is firm, with sales of of 2 0 tons Singapore—at 5 3/16d. to 5¼d. for fair quality on the spot, at 5 1/32d. March delivery, at 5 3/32d. April, at 5½d May, and same price June; but for arrival the market is quiet and value lower, with sales of 100 tons, at 5 7/16d. near at hand and at 5 9/16d. to 5 11/32d. March-May shipments

At public sale on the 8th inst. 497 bags Singapore and 1.062 bags Penang all passed the hammer unsold, with the exception of a few lots of damages

White.—The market maintains a steady appearance, with sales of about 100 tons, including fair Singapore on the spot at 8¾d., and February-April and March-May shipment at 9d., fair Penang on the spot at 7¾d. to 7⅞d., January-March shipment at 8d. and March-May at 8 3/16d.

At auction on Wednesday of 493 bags Singapore brought forward 120 bags sold (mostly prior to auction) at 8¾d. to 7⅞d. for fair. Of 173 bags Penang 20 bags fair realized 7¾d. to 8⅞d. per lb.

Closing Report.—Market firm. Black Singapore February-April 5 7/16d buyers and March-May 5½d. buyers. Of White, 10 tons Singapore March-May shipment sold at 9d.

25 tons Tellicherry sold to arrive per February-April at 48s. 6d per cwt. c.i.f. delivered weigth New York.

GINGER

Cochin.—The spurt in demand has quite died away, and the whole of the offerings, comprising 126 cases, 806 bags, passed the hammer unsold in the absence of bids near the mark. Subsequently 25 bags of good medium and small washed rough were placed at 28s. per cwt.

African.—97 bags fair sold at 19s. 6d. per cwt

INDIA RUBBER

Though the receipts at Para continue very large—2,100 tons to yesterday—prices are fairly firm. A small sale of fine forward was made at 4s. 1d per lb. but about 50 tons have been sold at 4s. 1½d., March to May delivery. Scrappy is still offering and neglected also Island negroheads at 2s. 11d.; soft fine is scare, and sales at 4s. ¾d. to 4s. 2d.

No auctions to day. Medium Rubber is firm and scarce, and good parcels will meet a ready sale.

Prices Current.—Per lb.	Present Prices.	1898.
Para—fine	4 1 @ 4 2	3 11 @ 0 0
„ negrohead ...	2 11 „ 0 0	2 11½ „ 3 0
W. I.. sheet ...	2 10 „ 3 4	0 0 „ 0 0
„ scrap	2 9 „ 3 0	0 0 „ 0 0
Borneo	1 6 „ 2 0	0 0 „ 0 0
Madagascar	1 9 „ 3 6	0 0 „ 0 0
Assam—No. 1 ...	3 2 „ 3 4	2 6 „ 2 8
„ No. 2 ...	1 9 „ 2 8	1 8 „ 2 0
„ No. 3, &c. ...	0 0 „ 0 0	0 0 „ 0 0
Mozambique—red ball	3 3 „ 3 8½	2 9 „ 2 11
„ sausage ...	3 5 „ 3 6	2 0 „ 2 10
„ white ball	2 9 „ 3 3	2 6 „ 2 10
„ red unripe	0 0 „ 0 0	1 3 „ 1 11
„ Lamu ball	3 1 „ 3 3½	1 10 „ 2 9

African (at Liverpool).—Quiet. and at yesterday's srles there was only a limited demand at, in most cases, rather easier prices. Sales about 80 tons.

	Present Prices.		1899.	
	s. d. s d.		s. d. s. d.	
Gambia ...	1 5¼@3 0		1 11 @ 2 6½	
S. Leone and Manoh Twists, Niggers, &c ...	2 6 „ 3 4¼		2 1 „ 2 10	
Thimbles ...	2 1½ „ 3 3		1 11½ „ 2 8½	
Congo Ball and Loango Ball	2 7 „ 2 9		2 0 „ 2 5½	
Tongues ...	2 4 „ 2 6		2 0 „ 2 3	
Lagos Lump ..	2 5 „ 2 5½		2 2½ „ 2 2¾	
Lagos Biscuits and Strips	2 8 „ 3 0		2 4½ „ 2 6	
Calabar ...	2 3½ „ 2 4		2 1½ „ 2 3¼	
Cameroon, Batanga ...	2 6¼ „ 2 8½		2 2 „ 2 4¼	
Assinee, Bassam, &c....	1 11 „ 2 5¼		1 9 „ 2 4¼	
Gold Coast Lump (selected)	2 5 „ 2 5½		2 2¼ „ 2 2¼	
„ „ Biscuits	2 7 „ 2 10		2 6½ „ 2 7	
„ „ Strips ...	2 10 „ 3 0		2 7 „ 2 9¼	
Accra and Gold Coast Lump	1 10 „ 2 4		1 7 „ 2 2	

(Average for all India 8 96d.) *February 10th.*

Garden.	Total.		Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Sou chong.		Broken and Souchong.		Fannings, Dust, and Various.	
	Quantity	Price.	Quantity	Price	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price.
Travancore ...	803 p	7·46												
Arnakal ...	104 p	8	15	8¼	41	7¼	32	9¼	5	6¼	3	6	8½c	4½ 6¼
Cherian Malay ...	117 p	7	97 p	6¾ 7¾	20	6	...	...	...	...	...	...	...	...
Glenmary ..	150 p	8	92	8 9	20	6½	...	...	...	...	...	...	38 p	5 7¾
Invercauld ...	45 p	6¾	...	...	21	6½	16	7⅛	7	5¾	...	...	1½c	4¼
Stagbrook ...	63	8¼	12	7¾	27	7¾	...	...	12	10¾	...	...	12	7⅛
Sth Trav Est Ven...	125	7⅛	...	...	56	7	59	7¼ 8¾	...	...	...	...	10	5¾
SITCo Kuduwa K...	199	7	141	6½ 8	15	5¾	...	...	...	...	...	...	43	4½ 7¼
Travan T E CoBA..	105	7⅛	...	...	38	7¼	26	8¼	20	6½	...	...	21	8
Neilgherry ...	133 p	7·61												
Pykara Falls ...	72 p	7⅛	...	...	27	6¾	25	8½	...	...	...	...	20½c	7
Seaforth ...	61½c	7¾	23½c	9¼	38½c	7	...	...	...	...	...	...	...	...
South Wynaad.														
Perrindotty ...	48 p	7¼	25½c	8½	...	...	15½c	7⅛	...	...	...	...	8	5½
Perringodda ...	37½c	8	...	...	26½c	7¾ 8¼	11¼c	8¼	...	...	...	...	...	...

PLANTING OPINION.

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WRITTEN BY PLANTERS FOR PLANTERS.

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DOMESTIC OCCURRENCE.—The fee for inserting a domestic occurrence will be *One Rupee* for each insertion, payable in advance.

N. B.—Remittance, should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 17th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Please note the change of address.

Coorg.

Polli Betta, *8th Mar. Weather.*—It looked very cloudy and threatening on Sunday; but beyond a few drops no rain fell. Rain would be in good time in a fortnight more. Clouds flit by every day. *Crops.*—Gleaning going on. Last blossom appears to have set. Pruning is being pushed on with; but there is a good deal to get through. *Labour.*—Sufficient. *Health.*—Generally good.

BRAZILIAN COFFEE.

We are glad to see not only that our remarks some 2 or 3 months ago about Brazilian coffee have been republished in Brazil, but that certain influences are at work to give support to our belief that the time for pessimism with regard to coffee has passed. Allowance must be made, no doubt, for the wishes of Brazilian planters as well as Indian. Interested alike in prospects of a rise in prices, both may allow the wish to become the father to the thought. Hence, sanguine estimates of prospects must be received with some reserve. It appears certain, however, that tight money and a higher level of exchange are having the natural effect of checking coffee-production in Brazil, just as they are in India. It will take time for this effect to become visible in statistics, but the reports that reach us tend to show that coffee growing in Brazil is by no means as alluring as it once was to the investor. There is a movement for combination and union in nearly all the centres of the coffee producing area. This looks as if

things had not been going altogether well from a financial point of view. So strong is the movement, that the Santos correspondent of the *Brazilian Review* even considers it extremely likely that a total reform of the political parties will be brought about by this movement, which professes to be eminently economical but evidently aspires to greater influence and weight in the legislation and direction of public affairs. In short, Brazil is likely to have an agrarian party, like England had, and France and Germany have at present. We may readily concur in his remark that "whether the union of the most important classes in the State of S. Paulo into a party will prove beneficial, depends upon their aspirations and the way in which they will formulate them and will want to attain their end. If they study the causes of the present crisis and learn from the economical history of other agricultural countries, which have partly or totally become industrial since, they will be of great value for the development of the country, which is entirely agricultural. Anyhow, this unrest and this activity, without direction yet, shows the precarious situation our agricultural class is in, and it looks as if the crisis will be still more aggravated by scarcity of hands." Planters wished to reduce wages, but this, we read, they will not be able to do, as the extension of coffee plantations, which would in a way compensate for the reduction, has almost come to a standstill for want of suitable land in the other districts and above all for want of money to undertake the extensions. This circumstance induces many Italian colonists to abandon fazenda work and go home or live in the towns, as the produce they derived from planting vegetables or maize between the rows of young coffee trees (older ones, extending too much, do not allow it) was their chief income and this is now done away with for the above reasons. So there is an actual scarcity of hands, which might become still greater should the treaty of commerce that Italy concluded with France lately, stimulate industry and agriculture in the first mentioned country, thereby stopping emigration.

There are pessimists as well as optimists all the world over, so we must not accept the opinion of one individual as absolutely reliable. Still, we cannot fail to be cheered by the perusal of such distinct utterances from a Brazilian source as the following: "The coffee growing industry is no more a paying one." If Brazil discovers this to be the case, a reaction in prices is certain to follow, and Indian planters would no doubt be very glad to see it. It is stated that even estates bought at comparatively low prices and worked by cheap European capital, like the S. Paulo Coffee Estates, are not remunerative. Messrs. Hayn, Roman & Co., Havre, point out that only on £120,000 preferred shares has the foreseen dividend for 6 months been paid, but nothing on the £150,000 ordinary shares. Besides, they point out that this company, founded in July 1897, although it had to pay cost of keep and production for the six previous months from 1st January 1897 had only to pay interest on debentures and dividends from 1st July 1897 onward. In the current season these expenses will be doubled. The company carried forward £3,057. This season the estimated outturn of the estate, 140,000 *arrobas*, has not been attained. From information gathered up-country the actual yield is only 98,000 to 100,000 *arrobas*. Now the average gold price of coffee has been lower this year than last, especially for washed coffees, of which this Estate produces a fair amount. It is not likely, therefore, to show a profit. The fittest will survive, the rest will have to stop; and if Brazilian coffee culture has to pass through a period of storm and stress, the probability is that prices will begin to firm up all over the world. The latest advices received from Brazil estimate the total crop of Rio and Santos at about 8,267,000 bags, but Brazilian estimates bear a bad name. *Apropos*, however, we may refer to recent remarks by Messrs. Dubbing & Zoon:—"It has been satisfactory to observe, that deliveries have again been on an increased scale, as much as 34,960 tons more in Europe and 22,760 tons more in the United States. This year's augmentation chiefly means more consumption, judging by the figures of duty payments in six principal European countries. If the present Brazil crop should indeed turn out to be moderate, stocks will soon show a reduction and it now looks as if the maximum had been reached. . . . Three years of excessive production raised the visible supply from 197,000 tons to 410,000 tons. Reduced crops and steadily increasing consumption are likely to put an end to overproduction. In so far, and considering the present low range of values, the outlook for the coming year is decidedly brighter, although it would not yet be wise to take too rosy views. Invisible supplies are still considerable, and much depends upon the coming crops in Rio and Santos, about which reports are still conflicting. Past seasons have taught us, how little can be depended on Brazilian crop estimates. In case next crop in Rio and Santos should turn out about equal to the present one, say about 8 million bags, which is still an open question, values of coffee would not be long in reaching quite another basis."

Without desiring to pose as optimists, we may frankly express the belief that the chances of an upward movement are greater than those of further depression. Recent New York quotations lend some little support to this opinion.

TEA AND ITS PESTS.

In a recent number the *Ceylon Observer* remarked on the entire freedom of tea on the Hauteville Estate from fungoid or insect pests of any kind, and gave the Manager, Mr. Jackson's explanation of the safeguard he adopted against the approach of such enemies. Mr. Jackson stated that after pruning he removes all gormandizing stems, and roots with sharp alavangas; (2) he buries all prunings green in holes, one to every four trees in every alternate line, and in certain soils supply unslaked coral lime with the mass of green prunings; (3) he removes all moss on tree, and ground and wash the trees with kerosine oil and soap mixture The cost of the latter 'mossing and bugging' is from Rs.3 to, eventually Rs 1·50 per acre of pruned tea. He does not think there would be much complaint of insect (or fungoid) pests, if everyone did this regularly, and he says it keeps the trees in a very healthy condition and far more ready to respond to all other treatment. He has followed this plan for years on tea and has successfully used this 'Kerosine Oil Emulsion' to coffee also. As to burying green prunings, &c., after a number of years he finds he is able to reduce more expensive manuring very considerably, and yet get as good yields, &c. It is by no means implied that 'mossing and bugging' once means a lasting preventive. Mr. Jackson, indeed, lays particular

stress on the fact that safeguards such as he advocates must be imperfect so long as they are not generally adopted. What is done by one man's care is but too apt to be undone by another's carelessness.

COFFEE PRICES.

Reports of sales of East Indian coffee between the 9th and 17th ultimo, contain some instructive information as to prices. There has been some despondency of late in regard to values of coffee, especially among Mysore men. This, no doubt, has been partially due to a fall in prices of the Mysore berry, resulting from deterioration of quality. What *can* be done is shown by some of the prices lately realised, which afford testimony to the value that the Home trade sets on parcels of exceptionally fine quality. A few leading figures will suffice to illustrate our meaning The following sales are reported :—

Coorg.						
					P.B.	T.
Faith	115/-	109/-	98/-	135/-	70/-	
Chisholms }	101/-	76/-	—	112/-	50/6	
Silpikadu }						
A. B. Heroor	101/-	75/6-	48/-	111/-	52/6	
Mangles }	100/6 to 101/-	76/-77/-	49/-	111/-	50/-	
Allicutty Mountain }						
Mysore.						
Utollalu Mockett ...	107/-	90/-	69/-	123/6	65/-	

The "Faith" figures are a splendid record, 135*s.* for peaberry and 70*s.* for tryage; in fact, any of the above sets of figures must surely show that profits are still to be made out of coffee. But we have, of course, given the pick of the bunch. Coorg figures go as low as 75*s.* No. A, and 98*s.* peaberry. Mysore 50*s.* 6*d.* per bid and 75*s.* (bid); Nilgiri (of which very little was offered,) ranges from 61*s.* to 92*s.* for No. A, while a small lot of peaberry fetched only 80*s.* Wynaad figures are just about as unsatisfactory, though 102*s.* was touched for peaberry. Nelliampathy averaged well, ranging from 81*s.* for A to 103/6*d.* peaberry. A glance over the list given in our Market Report columns will tend to show that there is Indian coffee and Indian coffee, and that while the tryage of certain Coorg marks ranks far above medium Brazilian coffee, size C of Mysore, sizes B and C Nilgiri, and size C even of Coorg berry in rare instances, might easily be classified with Brazilian in so far as price is concerned. For our part, we have faith in Indian coffee still, if planters will but aim at maintaining great superiority of quality, and we regard it as a good augury that "Faith" should have stood so easily at the head of the market during recent sales. It would be interesting to know how far artificial fertilizers had a hand in the game.

INFLUENCES OF THE PLAGUE SCARE.

In some respects Indian planters have certainly had occasion to regard the plague as a blessing in disguise. It is, indeed, surprising to note how great has been the influence of this dire disease at a very long distance from the scene of its operations. Among Europeans in Southern India there has been no scare on account of the outbreak of plague in various places. But a London paper has seriously published the following remarks :—"The Indian Mutiny with its terrors was the outcome of outraged religion, of religious fanaticism on the part of Native contingents in the Indian army; what will be the sequel, if Government, forced by a rapid spreading of the plague, has to adopt extreme measures? They might throw the whole Indian population into a religious frenzy, the prospects of which would be too terrible to contemplate." Our contemporary realises that this is an extreme view to take, and adds:—"The European portion of the Indian army, we feel sure, would be able to quell effectually any plague riot; but there is no disguising the fact that the position is regarded in India as very grave indeed." It then proceeds as follows:—"How would trade here be affected by the plague? It would probably mean a repetition of last year's experience. Natives not finding any sale for their goods in India, the Bazaars being closed, would consign to Europe all they possess, and would sell cheaply in order to realise money to fly to places of safety. It is a most uncomfortable feeling to planters and shippers alike to know that at the slightest sign or threat of a visit of the plague in their district, their coolie workmen and staff would desert them at a moment's notice, leaving the half-gathered crops and unshipped goods to rot where they lie. This uneasiness and uncertainty naturally interfere greatly with business in the threatened districts, and have consequently a disturbing effect on trade in the whole of India. The natural desire is to ship as quickly as possible as long as there is labour available, and to approach further business entailing distant shipment with great amount of caution. News from the affected parts of India is therefore looked forward to with great interest and anxiety.

The exaggerations in the above are so great that criticism is uncalled for. He would be a strange planter, indeed, who was not always in a hurry to get his products to market unless that market showed unmistakable indications of a rise in prices. "Further business entailing distant shipment" is a matter for merchants rather than tradesmen, but while there is good reason to believe that merchants are leaning towards a curtailment of "future" business in view of the *possibilities* of plague, few, if any, in this Presidency, regard this dread scourge as likely to be comparable with the Indian mutiny in its disastrous influence on trade!

THE UNITED COFFEE GROWERS COMPANY, Ld.

The scheme of co-operation among coffee planters has taken shape, and a small company has been started "for the purchasing or receiving of coffee or other produce, and preparing the same for sale, but more especially for the preparation and sale of coffee, roasted and ground; and, if deemed advisable, to act generally as merchants and agents for planters: *Capital:* Rs.200,000 in shares of Rs.100 each. *Directors*: Messrs. Alex. Allan, Coonoor; A. G. Nicholson, Coonoor; James Stanes, Coonoor; W. Rhodes James, Coonoor; and E. P. Oakshott, Madras. Agents in India and London, Messrs. Gordon Woodroffe & Co. Further details are given in our advertisement columns.

That we wish the Company success, goes without saying, for its success would no doubt be of service to coffee-planters in stimulating demand for the product they devote their attention to. At the same time, this service can only be a small one unless the Company develops into something much larger than it is to be at the start. Machinery is to be erected capable

of dealing with about 300 tons of coffee per annum, with motive power to drive machinery of double this power. The following statement is given to show that with an outturn of only 100 tons per annum, a 13 per cent. dividend should be earned :—

To	Rs.	By	Rs
Purchase of 100 tons coffee at 750	75,000	100 tons coffee roasted, ground and tinned, less, loss in roasting, say, 25 per cent. = 75 tons at 14 annas per lb.	1,47,000
Cost of tins, labels at 2 annas per 1 lb. ton for 75 tons	21,000		
Stuff including export for Roasting, etc. ...	6,900		
Distribution and Freight on 75 tons at 35 ...	2,625		
Travelling and samples at 500 per month	6,000		
Management, Office expenses, etc.	6,000		
Depreciation of Machinery and Buildings at 7½ per cent. on Rs.30,000 ...	2,250		
Contingencies	1,225		
	1,21,000		
Balance, Profit...	26,000		
	Rs... 1,47,000		Rs... 1,47,000

Rs.37/8 per cwt. does not appear to be a price that will stimulate the production of high-class Indian coffee and on the other hand 14 annas per lb. *nett, wholesale,* is scarcely a rate that will stimulate consumption. The figures are, however, obviously not intended to be accurate, for to turn over 100 tons of coffee per annum would not involve the employment of Rs.200,000 capital. Consequently either higher prices might be paid for coffee purchased or lower prices be accepted for coffee sold, and still the estimated dividend earned. Again, with an increase of turnover, the above figures might be greatly modified, and we see no reason why the Company should not, under careful management, be worked profitably. It is to be feared, however, that Coorg coffee will remain entirely, and Mysore almost entirely, beyond the sphere of the Company's operations. Whatever reputation it may achieve for its coffees, therefore, will probably not be the highest that might be achieved by East Indian coffee. As regards the competition of imported tinned coffee, we fear too sanguine a view is taken. The price of 'Lion' brand roasted coffee in New York, for instance, is $10 per 100 1 lb. packages—say 5*d.* per lb. What is to prevent this, or other similar brands, from being imported, at less than *one-half* of the price to be asked by the new Company ? There is just a possibility that our result of the new Company's endeavours may be to give a stimulus to the '*importation*' of coffee, by stimulating a demand for the 'tinned article' we trust, however, that as it progresses it will see its way to disarm competition of this sort.

THE AMERICAN TEA MARKET.

A writer in the *Journal of Commerce and Commercial Bulletin* (New York) has elicited some very interesting remarks from Mr. Blechynden. The envoy of queen Tea states that when stocks are taken into account the consumption of coffee in America will be found to be about the same as in previous years, although the importations are larger; also that although the contrary is asserted, the official figures show an actual increase in the net imports of tea during the five years ending June 30, 1897. The longer the period taken for comparison the more marked is the increase, not only in actual imports but the imports *per capita*. The fact that there has been a great reduction in the imports during the current season is, he says, due to causes other than a decrease in demand. But apart from that fact the comparison of the figures of any two selected years is apt to be misleading, as is shown when those for 1896 and 1897 are taken. The imports in 1896 were some 93 million, and in 1897 some 112 million pounds. The great increase in imports did not mean a corresponding increase in consumption, but was due to the fact that the tea season was an early one, the Government, or fiscal, year not corresponding with the tea season, and much of surplus should be credited to the following season's account. Mr. Blechynden holds that the causes which reduced the importations this season are, first, and most important, the sudden imposition of duty on tea, and, secondly, the passage of the Tea Act in the previous year 'to prevent the importation of impure and unwholesome teas.' To understand the present position of the tea trade these two factors have to be considered together. The 'tea law' has undoubtedly excluded much of the rubbish which used to be imported and which was responsible to a great extent for the comparatively small amount of that article consumed in this country. The latter measure paralysed the trade for many months, as retailers would not meet the enhanced cost of tea by a corresponding price. The two together placed a premium on the surplus stocks of bygone seasons, heretofore unsaleable, some of which had been in the country as long as twenty years. Such stuff acquired a fictitious value, as there was no other cheap tea in the market and no more could come in. The amount of this antiquated trash and the amount of stock actually held in the country has been a surprise to most of the trade and has been the only obstacle to the development of business in new teas. What these stocks must have been can be gathered from the fact that, although some 40 million pounds of tea were imported from June 1st to December 1st, 1898. but 12 million pounds were cleared, or paid duty, during that period. It is now known, we are informed, that there was from eight to nine months' supply in the country, that these are gradually being absorbed and that until they are absorbed, business will remain dull. It is cheering, therefore, to learn also that "all the rubbish and accumulations of previous years have been swept away, and thanks to the new tea aw only fairly good teas will be admitted. Stocks are ower than ever and when the demand from the country egins to come in it must continue and be a lasting one. The tea in bond is in strong hands."

ADULTERATED COFFEE.

There are signs that many coffee planters think that the English law does nothing to prevent the adulteration of coffee ; but this is not so. Almost every Mail brings us advice of prosecutions instituted and penalties imposed.

for although the law needs amendment no doubt, it at least does something of what is required by advocates of pure coffee. Among the cases advised by this Mail is one where 40% of chicory was mixed with coffee. We are glad to note that the grocer in fault was fined £5.

In the United States also this matter of adulteration is receiving attention. The North Carolina Agricultural Experiment Station has instituted an investigation of the food supplies for sale in the State, with a view to ascertaining the extent to which adulteration is practised. As regards coffee, samples were bought in the open market, twenty were examined, and seven (representing 35 per cent.) were found adulterated. Lown's "Capital," "Star," and another without a name were found excessively glazed; "Red Seal," "Hero," and "Crescent" (Smith Brothers) were found to contain excessive amount of coffee screenings, and "Number Twelve" was found to be excessively glazed and to contain also an excessive amount of screenings. All cheap coffees examined were glazed. The report says:

Coffees are often roasted with the addition of sugar or syrup. This is called glazing. Some coffee roasters claim that it is necessary to glaze coffee to prevent the loss of its aroma, or the addition of qualities that are injurious to it. Experiments have shown that coffee roasted with sugar weighs from 4 to 12 per cent. more than the same coffee roasted without sugar. This gain in weight is a decided advantage to the roaster, and as decided a disadvantage to the consumer. The increase in weight is due partly to the roasted sugar and partly to the water, which is retained to a greater extent by the glazed than by the unglazed berry. Excessive glazing gives the berry a glossy black appearance, and the dark-brown substance formed by roasting sugar colors the coffee infusion and makes it appear stronger than it really is. Moderate glazing need not be considered an adulteration if the fact is stated on the label; excessive glazing must be considered so under any circumstances.

Seventeen samples examined showed from 0·73 to 2·78 per cent. of cold water extracts; fourteen exceeded 1 per cent., and four samples over 2 per cent. organic extract.

Of three coffees costing over 20 cents per pound, all were unglazed.

Of fourteen coffees costing less than 20 cents per pound, all were glazed.

It is curious that while some manufacturers assert that glazing is necessary to the preservation of the coffee, all the high-grade coffees were unglazed, and all the low-grade glazed. If glazing is necessary to preserve the good qualities of a poor coffee, how much more necessary ought it to be to preserve the better qualities of a fine coffee.

The coloring of coffee, to imitate better grades, or otherwise improve the commercial value, is called facing. Some of the pigments used are Prussian blue, indigo, lead chromate, clay, azo colors, and charcoal The raw berry is moistened with water containing a little gum and agitated with the coloring mixture. The coloring matter used forms only a very small percentage of the coffee; and while the pigments might be harmful if consumed in appreciable quantity, one would have to drink a large amount of coffee to take even the smallest medicinal dose. There is no evidence that the coloring matter is injurious to the health, but injurious or not, its presence is an adulteration.

No high-priced coffee was found adulterated. Purchasers are advised to beware of coffee which has no brand and to which the roaster or importer is ashamed to fix his name.

Tests for imitation coffee were made in every sample examined; no imitation coffee was found. The present low price of coffee probably discourages the manufacture of imitation coffee. Cheap coffee is so cheap that it hardly pays to manufacture coffee to mix with it, and high-grade coffee can be more easily mixed with cheap coffee with less danger of detection. This may account for the absence of the imitation in all the samples examined.

TELEGRAPHIC QUOTATIONS.

	Mar. 3	4	6	7	8
LONDON.—					
Bar Silver	27 7/16	27 7/16	27 3/8	27 7/16	27 7/16
Bank Rate	3%	3%	3%	3%	3%
Coffee	[flat]	...	...	...	...
Mysore ave. (B) size. ...	67/6	67/6	...	67/6	...
Ceylon, Mid.	105	105	...	105	...
Cinchona Bark	[firm]	...	...	...	...
" per unit ...	1 3/8 d.	...	...	1 3/8 d.	...
NEW YORK.—					
Coffee—Fair Rio	6 1/4	6 1/4	6 1/4	6 1/4	6 1/4
" Futures, June ...	6·25	6·28	6·30	6·31	6·26
Silver—Comml. Bars ...	59 5/8	59 1/2	59 3/8	59 3/8	59 3/8

NOTES.

The Coorg Planters' Association. A General Meeting of the Coorg P. A. will be held on the 13th inst.

Ceylon Tea Shipments to the U. K. The actual shipments for February were 7 3/4 millions the same as the estimate. The estimate for March is 8 to 8 1/2 millions.

South Mysore Planters' Association. The Annual General Meeting will be held in the Travellers' Bungalow, Saklaspur, on Thursday, 30th instant, at 1 P.M.

Cinchona Bark in Venezuela. The following are statistics of exports in 1895 and 1896:—

1895.	1896.
33,055 kilos.	13,917.

The Tea Tax in the States. It is stated that the war taxes in the United States are to continue two years longer. This, of course, includes the import duty on tea.

Ceylon & Australia. Shipments of Ceylon tea to Australia during February 1899 amounted to 1,740,632 lbs., as against 1,031,972 in the corresponding month in 1898, and 787,916 in 1897.

The Calcutta Tea Sales. At the last tea sales of the season 2,500 packages were sold. The market was active and advancing. Common grades were chiefly in request. The average price at the previous sale was only 4 as. 2 pies.

Vanilla. Owing to a bad crop, the quantity of Vanilla exported from Mexico in 1897 was barely half of what it was in 1896, but the very considerable increase in price served in great measure to compensate this loss.

The Java Coffee Report. It is stated with regard to the coming coffee crop in Java that the private crop is estimated at 350,000 piculs and Government's crop at 250,000, in all 600,000 piculs against 300 to 350 thousand last year and 1 million in 1897.

Ceylon—not India. A Vancouver paper says: "Mr. May's new grocery store at the corner of Pender and Howe streets is a model of completeness. A prominent feature is his complete stock of 'Hondi' Ceylon tea." Ceylon to the front again!

Kashmir. The import duty on tea in Kashmir is about to be reduced from about 16 to 5 per cent. *ad valorem*. A large quantity of China tea is consumed, and Kangra Valley planters also supply the market.

Rubber. It is reported from Home that a large Company is to be started in London for the cultivation of Para rubber in the Straits, with a capital of 10 millions sterling. The Company is the outcome of the great demand that exists for manufacturing purposes—a demand which is increasing, and which the present sources of supply are quite unable to meet.

A "Pretty" Tea. The *Canadian Grocer* remarks :—"A small consignment of tea was received the other day by J. Wilson, Toronto, representative of the Indian and Ceylon Tea Co., the counterpart of which was recently sold at auction in London, England, at 16*s*. per lb. It is an Indian golden-tipped pekoe. It is a decidedly pretty tea."

Coffee in Northern Burma. In order to get rid of the leaf fungus, a Toungoo planter writes :—"We are burning down everything except small fields, lightly attacked which we are spraying with lime, sulphur and blue stone, with what success we hardly know yet." After this fresh seed is to be tried ; but really careful cultivation is imperative.

Mr. H. O. Newport in Queensland. The newly appointed "Instructor of Coffee Planting" to the Government of Queensland was, when last mail advices left that colony, on a tour up the North-eastern Coast to report on the existing coffee, suitability of land for opening, &c. This report will be of interest to coffee planters in Southern India as well as in Queensland.

The London Tea Sales. Reports of 2nd ultimo are not quite so favorable. Though the market was termed "steady," the Ceylon average was only 8½d. a fall of ¼d., and the Indian average only 9d. (or ½d. down). Of Ceylon, 21,000 packages were offered, 20,000 sold ; of Indian 46,000 offered, 42.000 sold. The stock of Ceylon Teas was 17,000,000 lbs. which shows a decrease of 1000,000, lbs.

The Consumption of Tea in the U. K. It was stated at the last meeting of the General Committee of the Indian Tea Association that there was an increase of 6 million lbs. in the home consumption of British grown tea during the last 12 months, and an increase of 3 million lbs. in the exports, making a total expansion of 9 million lbs. India showed a gain of 11 million lbs. for the year against a decline of 2 million lbs. in Ceylon teas.

Labour on the Pulneys. Our "Season Report" friend at Dindigul sent in his 'copy' so late last week that we had to publish his accusation of error on our part without comment. Our statement in issue of 25th ultimo was, however, *not* wrong, as he asserts, as we mentioned that we were alluding specially to *parts* of the Pulneys, and in doing so, we wrote on the authority of the proprietor of an estate which, as we remarked, had been abandoned because of the scarcity of labour. We are not free to give details

Bolting Coolies. A South Kalutara (Ceylon) correspondent gives the Tamil labourer a bad name. He writes :—"Tamil coolies giving a deal of trouble ; dishonest chetties have, I believe, started eating-houses in various centres and harbour run-away coolies whom they pass on to a kangani under advances, to bring coolies from the coast. Of course this kangani is in the trick and allows the coolies to bolt. After a month or two they are again transferred to some other kangani in another district. This triangular business is, I am told, carried on to a great extent."

Ceylon Tea Properties for Sale. Under an order of the Court of Chancery in England, the estates known as the Bunyan and Ovoca tea plantations in Maskeliya and belonging to the estate of the late Mr Thomas Gray, will be offered for sale by public auction on Thursday, the 27th proximo, in London. The extent of the properties is nearly 563 acres of excellent tea soil, of which 533 acres are under cultivation, the remainder being planted with fuel trees or waste land. A Madulsima Estate is also included among the many estates for sale in the market. The estate consists of nearly 1,100 acres, 300 of which are planted with tea in full-bearing.

Para Rubber. The following figures show Rubber receipts for the last six months of 1897 & 1898 :—

	1897.			1898.	
July	1,035	tons	Against	1,119	tons
August ...	1,130	„	„	1,370	„
September ...	1,650	„	„	1,750	„
October ...	1,860	„	„	1,920	„
November ...	2,675	„	„	2,475	„
December ..	3,166	„	„	2.585	„
	11,516	tons		11,219	tons

or a decrease of 297 tons during the last months of 1898.

Colombo Tea Sales. Regarding the sale on 1st instant, the *Times of Ceylon* reports that the excitement prevailing the previous week was not repeated, but satisfactory prices were obtained. About 8,441 pkgs. = 650,524 lbs. were offered, of which about 7,253 pkgs. = 556,552 lbs. were sold The sale passed with a very firm tone, all common leaf tea being in strong demand and prices generally shewing a further advance. Broken Pekoes were somewhat irregular and rather neglected, except strong thick liquoring leafy sorts, which were well competed for. Among the finest teas in the sale were : Glasgow, Rickarton and Naseby. From low-country estates, good invoices were offered from—Torwood, Arapolakande, Pallegodde, Farnham, Folatagama and Eila.

"Orange" Pekoe. The *Canadian Grocer* states that "a couple of years ago, tea brokers in Canada were annoyed a great deal by the samples they received from London being flavored with oranges. Representations were made to the postal authorities in England, with the result that greater care was promised in

the future. Up to quite recently this promise was carried out. Now however, the same trouble has again cropped up. The contamination is caused by the mail bags containing the samples of tea being put in proximity to the shipments of oranges in the holds of steamers crossing the Atlantic." Apparently this genuine "Orange" Pekoe or Congou or whatever it may be, does not find favour with buyers and brokers have to wait for fresh samples of tea before they can do business.

Adulterated Tea in the United States.

From a report on investigation made by the North Carolina Experiment station it appears that nine samples of tea were examined, and four (or 44 per cent.) were found faced with black lead or Prussian blue. The Director states that facing is not injurious to health, but makes the tea appear better than it really is. and is a practice to be condemned. As the *American Grocer* remarks, however:—It is scarcely fair for analysts to use the percentage basis of comparison in arriving at the extent of adulteration. If only two samples had been examined and one found impure, it would show that fifty per cent. of the samples examined were adulterated, but it would be preposterous to assume from that that 50 per cent. of all articles of like nature were more or less debased.

The Government Botanist.

We note that this official is to draw Rs.700 a month, plus Rs.50 a month Exchange Compensation allowance and Rs.125 a month House-rent allowance. Why Exchange Compensation allowance should be granted in the case of officers engaged in the year of grace 1899, with the rupee fairly steady at 1*s.* 4*d.* is one of those things that "no fellah can understand!" Planters must hope that it does not mean that Government hopes to engineer exchange up to par again, and then dock this particular allowance. "House-rent" allowance is an antiquated anomaly, "Exchange Compensation allowance" a modern one. Both might well be dispensed with henceforth, and salaries assessed on a simple basis—pension contingencies being of course taken into account at the time of assessment.

Leguminous "Manure."

Apropos of Mr. B. Nelson's interesting letter on another page, we may remark that an ex-Ceylon Planter writes from South India to the *Times of Ceylon*:—"I never have had an opportunity myself of trying leguminous plants as manure; but the system adopted on many tea estates in India of hoeing in the weeds, and burying prunings when tea is pruned, acts as green soil manure, and, I have no doubt, prevents the soil from becoming too quickly exhausted, as would appear to be the case, in many instances in Ceylon, shown by the falling off in yields. In land that is not too steep, if we were to sow some leguminous plant, such as mustard or indigo, which would prevent the spread and growth of seed weeds, and hoe this in, instead of the natural weeds, I think it would do more good in adding to the fertility of the soil."

"Indian Gardening."

Our Calcutta contemporary is, like ourselves, trying to please its readers, and catering to suit their taste. A Calcutta lady has now promised a series of letters from the hills on gardening for ladies. The writer is said to be an authority on gardening, and if she really gives her notes a pleasing shape the letters should be very attractive. The promise of closing remarks on "savoury dishes from purely Indian products" scarcely savours of gardening, but perhaps that will not detract from the interest of the recipes promised. *Indian Gardening* is a very pleasing paper in many ways, and no doubt its proprietors know what they are about when they go in for what at first sight looks like somewhat eccentric "cross-breeding." The first "Ladies' Gardening Letter" is dated from *Coonoor*, by the way; so that it directly concerns readers in Southern India.

Planters and Progress.

At the last meeting of the Legislative Council of Ceylon, on 2nd inst., the Hon. Mr. J. N. Campbell stated that exchange had been a loss to the planting community, which would represent a large loss to the planters, and Government have gained Rs.7,20,000 by the remittances sent home. Planters, he said, do not object to the improvement of the country in various ways, else he would not represent them, but they wish to know whether they bear an undue proportion of the taxation and for that reason a Committee to inquire into the incidence of taxation had been appointed. The Planters' Association were not unreasonable and they had pressed for this reduction, [of railway rates] which he only asked should be made for one year or until the report of the Committee on taxation was received and if they were not taxed more than the rest of the community it should be withdrawn. He hoped his request would be favourably received.

Coffee Possibilities of Porto Rico.

Assistant Secretary of War Meiklejohn (American) has made public an abstract of a report made a short time ago by W. Korda to General Brooke. The report refers to a recent visit made by Mr. Korda through some of the cane and coffee districts of Porto Rico. Mr. Korda was commissioned to make the trip by the Association of Agriculturists and Manufacturers of Porto Rico, for the purpose of ascertaining the state of affairs in the coffee regions, and, in behalf of the association, to inform the United States Government, in case it were deemed advisable or necessary, of the general condition of the country. The itinerary made by Mr. Korda was through the vast and rich coffee districts of Ciales and Jayuya. He says that every foot of this ground gives forth some fruit or profit. The ground which is not covered by coffee or cocoa trees produces plantains, bananas, tobacco, corn, peas, sweet potatoes, etc. Pure running water is met with everywhere. The coffee crop then being gathered was abundant, and promised to reach 15,000,000 pounds.

A Rubber peculiar to Columbia.

In a recent official report, the British Consul at Tolima, Columbia, makes the following reference to a tree which is little known as a producer of rubber. If the rubber is really of good quality, it may in time prove of importance, owing to its adaptability to high elevations, which, as a rule, is not true of rubber trees. The report says:—A very important species of rubber is indigenous, and I am inclined to think peculiar, to Tolima. Unlike other important kinds of rubber, it grows at high elevations, namely, at from 6,000 to 8,000 feet above sea-level. Several

thousand bales of it were exported a dozen years ago. But, as the tree was only locally distributed, the source of supply was soon exhausted. The authorities at Kew have named this plant *Sapium biglandulosum*, a species which is also said to be found in British Guiana, where, however, it seems to be of no value as a rubber producer. In connection with the cinchona plantations . . . a plantation of this rubber was made about ten years ago. The trees grew with remarkable rapidity, with trunks a foot in diameter in six years; but this plantation shared the same fate as the cinchonas—that is, it was abandoned years ago because the cinchona was abandoned. With renewed attention, however, this plantation may still be made important.

The Calcutta Tea Season. Reporting on the season that is just at an end, Messrs. Watson, Sibthorp & Co., of Calcutta, remark:—"The past season has been one of the worst the trade has ever gone through, the range of prices, until quite recently, has been most unsatisfactory, due at the commencement of the year to the large stocks in London and as the season went on to the heavy shipments from here during the busy months. Fortunately the low range of prices stimulated consumption so much in all quarters that the demand has now overtaken the supply and since the beginning of this year prices have improved to a very considerable extent, so much so that there is now every reason to hope the new crop will meet with a good reception. The increase in the trade with outside markets is very marked, large orders from various places have been held here all through the season and many of them had unfortunately to remain unfulfilled in consequence of the dearth of suitable teas, if such teas had been available, there is no doubt the increase of shipments to other ports instead of being about five millions lb. would have been much nearer double that quantity and that at a range of prices far above those ruling in London. A comparison of the average prices realised here and at home is quite misleading as here are sold a very large proportion of the poorest teas grown in India, including a lot of dusts and fannings, while nearly all the best teas find their market in London and help to swell the average there."

LETTERS TO THE EDITOR.

THE ADULTERATION OF COFFEE.

Sir,—In your excellent leading article on Adulteration, in your issue of the 4th instant, you seem to me to have made one mistake and that a serious one.

You say that Section 9—"that in connection with the "sale of mixed articles the vendor should supply the pur-"chaser with a label setting forth that the article is "mixed"—meets the wishes of coffee planters.

In my opinion the section does not go far enough and is nearly useless as it stands. What we want is that the actual proportions of coffee and mixture should be stated on the label. In a former crusade against adulteration, a packet called on the outside "French coffee" was bought in a shop and analysed, and was found to contain one per cent. of coffee and 99 per cent. of vegetable refuse. Yet in this case the vendor had done all that was required of him by the section, as he stated on his label, that the coffee was mixed, and the purchaser was left in ignorance of the contents of his packet. But if the actual proportions of the various ingredients were clearly stated on the label, then the consumer could purchase coffee, chicory or roast vegetable refuse according to the dictates of his palate and the coffee producer would have no ground of complaint.

George Romilly.

[Mr. Romilly's letter has reached us too late to permit of reference to the papers from which we learnt the views of the Federation of Grocers' Associations, but we think we may say that though the manifesto, as a mere summary, did not specify that proportions of ingredients should be stated on the labels on mixed articles of food, the more detailed recommendations of various Grocers' Associations were to much the same effect as Mr. Romilly's suggestion. It was in that belief that we wrote the article that appeared in our last issue.—Ed. *P. O.*]

COFFEE CULTIVATION WITHOUT MANURE. MANAGEMENT OF *E. LITHOSPERMA* SHADE. THE BUMPER CROP.

Dear Sir,—The many planters who are now growing *E. lithosperma* shade will no doubt be interested in hearing of the latest results obtained on the original *E. L.* shaded coffee. I hope that some account of my experiments, which have ended successfully, may be interesting to my fellow-planters, and may help them to avoid mistakes that I have made and enable them to arrive at successful results in less time than it has taken me. Before writing further it may not be out of place to record the obituary of Dr. Schultz, of Lupitz, Germany, who may be called the father of soil renovation by means of leguminous crops in Europe. I extract the following from the *Standard* of January 25th: "By the death of Dr. Schultz, of Lupitz, Germany loses an agriculturist of world-wide fame for his practical application of science in agriculture. Dr. Schultz was the first to apply systematically the theory of the nitrogen-accumulating capacity of leguminous plants, a nd this he did before the researches of Hellriegel and Willfa rth had demonstrated the truth of that theory, and distinctly explained it. By growing and ploughing in leguminous crops, principally lupins, at intervals, and applying phosphoric and potassic manures, Dr. Schultz raised the condition of his farm of almost barren sand to a state of considerable fertility. Whereas during the first ten years of his tenure he grew miserably small crops of inferior grain and other produce, he has produced recently 26—32 bushels per acre of rye and six tons of potatoes. At first, rye was the only white-straw crop that could be grown on the land; but for some years good crops of wheat, barley and oats have been produced and sugar beet has been cultivated successfully. The improvement was accomplished *without the feeding of live stock or the application of expensive nitrogenous manures.* [Italics are mine.] Dr. Schultz's fame, as an agriculturist, procured him a seat in the Reichstag in 1887, which he held until his last illness began, in the latter part of last year."

As it was through reading an account of the Lupitz system that coffee cultivation without manure dawned on me as a possibility, I hope the above extract will not be considered irrelevant, for although it is not mentioned in the extract given above, it is a fact that the soil that Dr. Schultz had to work on was so poor that the mineral manures referred to were applied to enable the leguminous crops to grow, and not for the benefit of the succeeding grain crops. An ordinary rabbit-warren would probably be not an unfair definition of the land he took in hand. We have here the record of the successful application of the leguminous theory in a temperate climate, and

I challenge anybody to show cause why it should not similarly be applied in the tropics. There is one difference only as regards coffee estates, and that is that their soils are fortunately not so poverty-stricken as the unpromising soil with which Dr. Schultz had to experiment. In an article that appeared in *P. O.* about last January year—"Soil Renovation"—I gave an analysis of worm-casts which proved that under leguminous shade worm-casts obtained a richness in nitrogen equal to twice that in ordinary worm-casts in meadow land in England. I think this analysis clearly establishes that legumes in the tropics are in no way behind those of the temperate regions in their renovating powers. I have always advocated planting *E. lithosperma* 15 feet apart in the coffee, with the object of securing the maximum loppings and consequent humus, and the maximum of root development and consequent nodule development; as the nodules are the nitrogen traps, it logically follows that the more nodules the greater amount of atmospheric nitrogen is assimilated. I find it best to lop the young trees as high as can be conveniently reached, as they are then in better condition for the after-treatment that I am about to describe, which has given very successful results. As close planting is liable to lead to overshading, a most fatal condition of things for good crops, I recommend felling each alternate line in alternate years, the trees to be felled immediately under the branches which in the first felling would be about 8 feet. The time of the year for felling must, of course, vary in different districts; but in this district, where the bulk of the rain falls in the S. W. monsoon, I find that felling trees from the 20th July to 20th August gives the best results. Leaf Disease generally shows up fairly about the end of July, and when that happens then is the time to fell. It has a wonderful effect, as the coffee immediately starts growing, and throws off leaf-disease in a marvellous way. I have found felling in the way I have described far more efficacious than any thinning and lopping; I believe the reason is the following: When the trees are felled they at their maximum foliage development, and also the maximum nodule development. By felling there is naturally a great check given to the tree, and enormous quantities of rootlets covered with nitrogen-charged nodules decay in the soil immediately, thus acting as a powerful and efficacious manure for the coffee. In thinning the shade there is not the same check to the tree, and the rootlets and nodules instead of being diverted for the benefit of the coffee, continue to feed the parent tree. I think this is the explanation of the difference in effect on the coffee between thinning and felling. As this treatment may seem somewhat drastic, I may add that the shade trees grow again readily and by the following twelve months have made an average growth of 15 feet. A number of trees that I have felled for the second time with only their twelve-months growth on them are growing again with unabated vigour. As this is far more severe treatment than they would be subjected to in the alternate year system there seems no reason why they should not be permanently so treated. In reference to results the following simple figures will prove at a glance what *E. lithosperma* has done for the coffee.

Crop in 1889 just under 2 cwts. an acre.

Crop in 1898 just over 7 cwts. an acre.

Coast outturn 1889 crop 6—40 bushels parchment per cwt.

Coast outturn 1898 crop 4—83 bushels per cwt.

The true significance of these figures will be better appreciated in comparison with other coffee in the district. Within a 20-mile radius of this it is doubtful whether any surviving coffee has given 7 bushels an acre.

The 1898 crop was very much handicapped by the weather or it would have been much larger. The blossom was brought out on the 19th February by a local thunderstorm, and March and April were absolutely rainless, and never more than ½ inch of rain fell at a time till the end of May. As a result of the abnormal drought many of the trees lost from half to three-quarters of their crop and doubtless the outturn was also prejudicially affected.

As to cost of cultivation, although I have advocated in the early stages burying all the loppings and thinnings green, yet as the shade trees grow older and earthworms work the soil freely there is no necessity for burying anything. When as in my case I applied castor poonac without any effect on the coffee, it is clear that there is no need to bury the loppings to get the nitrogen, the soil having been enriched to such an extent by natural agencies through the annual decay of the rootlets, leaves and loppings, etc., that the loppings may safely be left on the ground as a mulch; they will gradually on decay yield up their mineral constituents, and no inconsiderable portion of the nitrogen will be stored in the ground through the action of earthworms and other earth-dwelling creatures.

In my own case I have never buried the loppings, and yet the accumulation of nitrogen has been so great that the worm-casts analysed ·83 nitrogen against say ·45 of ordinary cattle manure, and as the worm-casts are produced at a greater weight per acre than cattle manure is ordinarily applied, the necessity for cattle manure as an adjunct to coffee cultivation is not obvious. At any rate, leguminous shade and worms can give it a good many points and a beating. The cost of felling and lopping the shade trees may from my exprience be safely calculated at not exceeding Rs.2-8-0 per acre, and this with probably the most inefficient labour in S. India and as weeds do not flourish under this system of cultivation the cost of felling, *i.e.*, MANURING, and weeding does not exceed Rs.10-0-0 per acre per annum.

I say nothing about the cost of other works, as all planters can estimate the cost for themselves. The reduction of the important item manure to Rs.2-8-0 an acre would mean a great difference in the expenditure and would prevent a good many places being swamped in the impending storm. There are three evils from which coffee planting in India at present suffers, low prices, plant diseases, and a "token" currency. The first two are unavoidable, and the third unjustifiable. I don't suppose any planter for even a moment supposes that the Currency Committee is likely to render justice to India. If there are any, they have only to recall the circumstances under which the Committee was created and the protests evoked from the Governor of the Bank of England and leading business circles. The Secretary of State for India is the Creator of the Committee, and as for the Secretary of State's opinions here they are in a nutshell. I quote from a speech in the *Standard* of January 26th: "By the automatic influence of good trade "and a high exchange, the currency difficulty was solving "itself, and he trusted we were within measurable distance of "an effective gold standard, which, if once established, would "be of incalculable benefit in *promoting India's power of* "*production.*" The higher exchange is, the less the producer gets for his produce; therefore the less the producer gets for his produce the more India's power of production will be promoted is the only reasonable deduction to be derived from

his words. This is what our old friend Euclid calls a "*reductio ad absurdum*," and it is perfectly clear that logic formed no part of the Secretary of State's education.

To assume that the Secretary of State for India has any intimate acquaintance with India would be superfluous, but surely he cannot be ignorant of the effect the low price wheat has had on wheat growing in the U. K. Has the power of production been promoted? Why should lower prices for produce have a different effect in India than England? I should think there cannot be the slightest doubt that we shall have to work in future with a 1*s.* 4*d.* rupee, and to enable that to be done in many places successfully the cost of production must be reduced, and I don't know of any easier way of doing it than by the aid of legumes.

Why should there be any need to purchase any nitrogenous manures when the atmosphere can be drawn on for an unlimited amount? and with the aid of a suitable tree like *E. lithosperma* vast amounts of the mineral constituents needed by coffee can be drawn from depths far below the coffee roots.

In concluding the final article on "coffee cultivation without manure," I should like to express my high appreciation of the great interest taken in it by a large number of planters, and the hope that they may meet with a still larger measure of success than I have.

B. Nelson.

[The length of the above very interesting letter deters us from commenting on it, or on the subject it touches upon, in our present issue. We shall revert to the matter later, and we trust that some among our readers will also favor us with remarks or criticism, so that a very important question may be fully discussed.—*Ed. P. O.*]

GENERAL ARTICLES.

CEYLON TEA AVERAGES, 1898.

The *Times of Ceylon* gives the following comparative figures, showing the prices realised for the last four years for teas off a number of well-known and representative properties in various parts of the planting districts. All these teas were sold locally, not in the London market. The prices are in cents.

	1895	1896	1897	1898		1895	1896	1897	1898
Agra Ouvah	69	61	55	52	Knavesmire	45	34	32	32
Anchor Mark	59	52	45	44	Langdale	67	55	48	46
Ardlaw and					Macaldeniya	56	52	40	38
Wishford	65	58	55	44	Maha Ouvah	54	47	45	43
Castlereagh	50	46	40	40	Malvern	49	37	30	30
Clunes	47	39	34	33	Middleton	65	52	55	47
Clyde	53	44	37	33	Mocha	62	57	48	46
Deaculla	55	52	42	40	Naseby	70	65	71	50
Dickapitiya	54	47	41	37	Stamford Hill	65	55	48	43
Dunbar	49	47	42	42	Patiagama	56	48	41	33
Eadella	47	34	32	32	Queensland	53	44	53	43
Eila	47	40	33	32	Roseneath	49	39	33	30
Farnham	55	43	40	33	St. Heliers	50	45	39	36
Glasgow	61	58	51	50	Stisted	49	48	37	36
Glentilt	53	49	45	47	Talgaswela	50	41	38	35
Glencorse	49	42	40	32	Templestowe	56	47	40	38
Great Valley	52	42	40	34	Tientsin	73	53	44	46
Harangalla	49	42	33	34	Torwood	55	40	38	32
Harrington	61	54	51	45	Vogan	52	46	40	34
Ivies	43	37	34	36	We-oya	46	38	32	30
Kelani	55	39	36	37					

AMMONIA IN RAIN-WATER.

Referring to a letter in the *Ceylon Observer*, in which it was mentioned that, in his analysis of rain water collected on Meeriabedde estate, between November 16th, 1883, and March 6th, 1884, the ammonia from 90 inches was equal to 87 lb. per acre, Mr. John Hughes has submitted his *full* report, with the remark that he had previously drawn attention to the figures as being unusually high and much above what he had found in rain-water collected by Mr. G. Walker at Bogawantalawa. The report is old, but we give it nevertheless. It reads as follows:—

Analytical Laboratory 79, Mark Lane, London, E.C.,
No. 1. June 12th, 1884.

Rain water received in a stone jar case with wicker collected on Meeriabedde, Koslanda, Ceylon, between November 16th, 1883, and March 6th, 1884, and supposed to represent the 20·81 inches of rain registered between the above dates.

An imperial gallon was found to yield on evaporation, solid residue dried at 110° c= 5·74 grains consisting of:—

Organic and Volatile Matters	1·12
Mineral Matters	4·62
Total ...	5·74

Also by direct determination—

	Per Gallon. Grains.		Per acre for every inch of rain.
Free Ammonia	·291		
Albuminoid Ammonia ...	·008		
	·299	equal to	lb. ·966
Nitric Acid	·510	„	1·648
Sulphuric Acid	2·307	„	7·458
Chlorin	·397	„	1·283
Equal to Chloride of Sodium	·654	„	2·114
Lime	1·332	„	4·306
Magnesia	·100	„	·323

Assuming that the average annual rainfall on the estate to be 90 inches—the total quantity of ammonia from the above results would amount to 87 lbs. in round numbers, and the Nitric Acid to as much as 148 lbs.

The figures are so very high, and so much above what was found in the rain water collected by Mr. Walker, of Bagawantalawa and reported on last November, that it would be desirable to make enquiry respecting the manner in which this particular sample was collected and stored between the 16th November, 1883, and 6th March, 1884.

From the accompanying Table of Rainfall,* it will be noticed that the total of 20·81 inches extends over 42 days and has been made up by numerous showers, most of which are less than half inch; in only six instances did the quantity exceed one inch per day, and in these it varied from 1·35 to 3·62 inches. Doubtless the rain yielded by these showers does contain a much larger proportion of Ammonia and Nitric Acid to that found in water representing a heavy storm of from 3 to 6 or more inches of rain, but it would be desirable to make enquiries as suggested, especially as the relatively large quantity of Mineral matters found on evaporation, leads me to conclude that some impurities had become accidentally introduced.

For sending samples of water, clean white glass spirit bottles well corked are always to be preferred to stone jars.—John Hughes, F.C.S., Fellow of the Institute of Chemistry.

Surely this is a matter that deserves further investigation at the present time—in India as well as in Ceylon?

[* We do not consider it necessary to publish this.]

CINCHONA CONTENT AND THE GERMAN FACTORIES.

It was, perhaps, somewhat rash on our part to undertake the terrible amount of research that has been necessary to say with anything like confidence what is a fair average percentage of alka-

oidal content in the bark which has entered Germany during the last ew years. Even after comparing extensive series of analyses that ave been made officially in Java and British India, and availing ourselves of the kind assistance of Mr. David Howard, we feel that ur figures ought to be placed before readers with explanations of he way they have been arrived at, so that they shall not bear an ppearance of absolute precision. Commercial men, however, will e satisfied by a very brief statement of these, and as our object has een mainly to show that although confessedly the 5 per cent. *uinine* average we allowed in the bark imported into Germany as too high, it was not so much too high an *alkaloidal* figure as to hrow doubt on the official Government figures of the imports of ark and exports of quinine.

We threw out a suggestion last week that several correspondents ad been misled through ignoring altogether the content of alkaloid n bark other than quinine. On the other hand, the laboratory man might make a mistake in the other direction by looking upon the whole of the alkaloid in the bark as so much merchantable product. To avoid both mistakes, we have employed in our inquiries, and also in what follows, the term "available alkaloid" to express all that can be extracted from the bark and sold. This will, as a practical result, almost resolve itself into calculating the amount of quinine and cinchonidine in the bark, and that, though subjected to checks by us, is very nearly the principle followed in our calculations.

The matter then stands thus: We sent to Germany and Holland in 1893-8 (inclusive) about 7,360 tons out of a total of 21,121 tons that Germany received altogether, most of the rest of her imports being from Java, through Holland, or direct. The bark we sent her had amongst it about 3,706 tons of Indian, 2,465 tons of Ceylon, 602 tons of African, 238 tons of Javanese, and 370 tons of South American, assuming that we sent her supplies of these barks in the same proportion as we received them. Now, if trustworthy analyses of a comprehensive character of all these barks had been published, it would be comparatively easy to calculate how much available alkaloid Germany has obtained through England; and the Java bark content presents little difficulty in this way. But we have to gather our figures for the "English" bark from all sorts of sources. Taking the East Indian as one that has been subjected to independent analyses of a fairly extensive character, and neglecting such of these as are abnormal, we note that Hooper in 1894-95 speaks of bark which had a quinine sulphate yield of 3·94 per cent. and a content besides 0·71 per cent. cinchonidine, ·13 per cent. quinidine, and ·52 cinchonine as being of the average composition of officinalis bark. Again, the average quinine sulphate yield of all crown bark ground up at one of the Government factories in India during 1889-97 was 3·6 per cent. We have spoken of the yield partly because—and this is important to note—the factory results agreed well with the laboratory analyses. These analyses give much higher content than what was obtained, for instance, by Messrs. Boehringer and Sœhne from East Indian bark a few years previously (1888-1889 and 1890). But they cover years which we are now noting, and are of a comprehensive character.

Following the same plan with red bark, we note that Hooper, in 50 specimens, found an average of 1·40 per cent. quinine (*not* sulphate), 2·25 per cent. cinchonidine, 1·92 per cent. cinchonine. A corresponding analysis of crown bark gave 2·93 per cent. of quinine (*not* sulphate), and 1·40 of cinchonidine, besides other alkaloids. Red bark, whether from Java, Ceylon, India, or Africa, does not differ much. In the case of the South American barks, the percentage now a days is not important as a commercial problem, but Germany has taken large amounts of quinine from cultivated calisaya bark during the last 10 years, and she has found it to average pretty well 4½ per cent. of quinine sulphate, containing little else.

These figures and others which we have in our possession lead us to think that if we allow 4½ per cent. as an amount of "available alkaloid" in the bark Germany has obtained from England during the last six years. 5½ per cent. of quinine sulphate in all the bark she has obtained elsewhere, and in addition to the latter 2¼ per cent. of cinchonidine from the red bark she has obtained from Java (and not through us), we shall form a fair estimate of the total available alkaloid that Germany has purchased during that period. This would give a purchase of 1,113 tons of alkaloid. The export for the six years was 1,082 tons, leaving about 31 tons (and the residue of former years) for home consumption during these six years, and for stock at the end of 1898.—*British and Colonial Druggist.*

BONE-MEAL AS MANURE.

There are, observes *Indian Gardening*, few substances known to agri-horticulturists and used as manure, about the value of which there is such diversity of opinion as bone-meal or bone-dust. We do not think this difference of opinion is so pronounced among European and American authorities as it is in India. In the early issues of this journal we endeavoured to combat the opinions of Dr. Leather and one or two Bengali officers of the local Department of Agriculture, who maintained that bone-meal had very little manurial value, and that the enormous export of bones from this country, which was then, and is now, taking place, did not affect the fertility of the Indian soil in the least—agriculturally. We expressed exactly the contrary opinion, and we contend that we are right. Mere assertion, however, is of little value without corroborative evidence.

Attention was directed to the large exports of bones from India so far back as 1889 (vide *Pioneer* of 14th September, 1889), when it was stated that in the previous year the exports of bones had been unusually large, having been 35,500 tons, valued at 17½ lakhs of rupees. The shipments for the five years ending 1887-88 had averaged 22,600 tons, valued at 10¾ lakhs of rupees. The *Pioneer*, in referring to these figures, said:—"These increasing exports are not a matter for congratulation so far as India is concerned." Mr. G. M. Woodrow, Professor in the College of Science, Poona, and at present Director of the Botanical Survey of Western India, who is a recognized authority as an agri-horticulturist, wrote in 1889:—"The subject of bone-crushing is of extreme importance for the agricultural advancement of this country, because, as is well known, bones contain, weight for weight, 17 times as much valuable manure as good cowdung, while the selling price of bones uncrushed in this district is not more than three times the price of cowdung. It is also well known that there is no special deposit of phosphatic mineral available for manure in the Bombay Presidency; yet Bombay exported to British ports in 1884 bones for manure to the value of £99,000. If this continues many years the result will be a serious diminution of the small proportion of phosphates existing in our soils, and consequent exhaustion and sterility; but the obvious remedy is to crush the bones and return them as manure to the soil they came from." Compare this with the opinion of Dr. Leather (vide *Indian Gardening*, 30th September 1897), in which he said that until it is found that bones are of *considerable* value to some particular crop in India, "it can hardly be said that their export constitutes any serious loss to the ryot."

The export of bones from India has been on the increase every year since attention was drawn to the subject ten yeare ago. India's loss is the gain of other countries. Gardeners and farmers on the continent and in America recognize the value of bone manure, for the garden as well as for the farm; and there is a large demand for bone-meal. It is well known to gardeners that bone-meal is a valuable fertilizer for a large number of plants, especially those cultivated in pots. Mere chemical analysis of a substance does not go to show that it is of more or less *manurial* or nutritive value. For instance, analysis of the seeds of *Indigofera cordifolia* (to which reference is made in another place) showed that it contained 35·21 per cent. of albuminates against 25·06 per cent. in pulses and 9·12 per cent. in cereals; yet its *nutritive value*, as compared with cereals and pulses, is given by Professor A. H. Church, of the Imperial Institute, London, as 79 against 100 for cereals and pulses. No matter what the analysis may be, it is found by practical experience that bone-meal is of value to the gardener, whether used in the pure state or in the form of superphosphate. It is therefore satisfactory to find that bone-mills have been established in the neighbourhood of Calcutta, which may be expected to do a considerable trade in this valuable soil fertilizer, in India as well as out of it, but we would prefer to see the trade extended in India. From long experience in the garden, we can confidently recommend bone-meal to our readers as a most valuable fertilizer; plants as a rule are benefited by the application of it. Pot plants, especially, show their appreciation of it. The difficulty hitherto has been to obtain bone-meal in assimilable form; and to those who desire to use this valuable manure, we recommend them to apply to the Bally Bone Mills, the Calcutta Agents for which are Messrs. Ewing and Co., of 7/1, Lyon's Range. We have had samples of their manufacture sent to us for in-

spection, and they are excellent, being in various stages of fineness, from the coarse stuff fit for the field, to the fine flour for pot plants. The Magra Bone Mills, also of Calcutta, exhibited samples of their manufacture at the recent Agri-Horticultural Show, and they also turn out the several grades of meal. We have already noticed these in a previous issue. We have only to warn the Government and the trade that foreign countries are offering inducements to Indian houses to export bones in large quantities; and that unless some means are adopted to check these exports, India will within a short time, as pointed out by Professor Woodrow, be denuded of the "small proportion of phosphates existing in our soils."

BOARD OF TRADE RETURNS.

January, 1899:—A summary of the various entries of articles *imported* into the United Kingdom during January, amongst other facts, represents—

Cocoa (raw) as in but scanty supply, concurrently with increasing deliveries and a rapidly diminishing stock.

In the first month.		1899.	1898.	1897.
Imports	lbs.	2,047,239	6,187,898	2,991,918
Home consumption ...	„	3,231,623	3,023,058	3,265,006
Exports	„	1,100,784	957,821	1,011,233
Stocks in bond ...	„	14,482,000	18,025,000	23,784,000
Value of imports ...	...	£96,064	£169,905	£83,242
„ exports ...	...	34,021	32,592	24,933

Cocoa (prepared.)—The movements here were of a halting character, with a preponderating stock in bond.

In the first month.		1899.	1898.	1897.
Imports	lbs.	433,437	913,314	494,424
Home consumption ...	„	517,323	895,185	469,145
Exports	„	105,685	44,688	32,868
Stocks in bond ...	„	1,092,000	353,000	72,000
Value of imports ...	...	£40,670	£62.085	£39,690
„ exports ...	...	10,509	4,900	3,723

Coffee came to hand rather sparingly, and better clearances sufficed to reduce the surplus quantity in reserve.

In the first month.		1899.	1898.	1897.
Imports	cwts.	36,171	58,037	39,985
Home consumption ...	„	24,593	20,698	21,705
Exports	„	40,382	29,805	15,911
Stocks in bond ...	„	289,000	214,000	153.000
Value of imports ...	...	£130,975	£280,548	£167,860
„ exports ...	...	140,146	115,799	70,734

Chicory was represented by full average arrivals, moderate deliveries, and an excessive amount in the bonded warehouses.

In the first month.		1899.	1898.	1897.
Imports	cwts.	8,847	8,753	7,421
Home consumption ...	„	6,579	7,442	6,408
Exports	„	46	39	225
Stocks in bond ...	„	16,000	13,000	10,000
Value of imports ...	...	£4,326	£3,867	£3,634
„ exports ...	...	66	25	169

Tea.—The importations fell materially short of those in 1897, and without any great expansion in the joint deliveries of all kinds, the stock was speedily reduced.

In the first month.		1899.	1898	1897
Imports—China ...	lbs	2,455,425	2,997,650	1,299,768
„ British East India...	„	12,215,582	15.888,182	12,864,705
„ Ceylon	„	7,893.205	9,547,733	7,310,820
„ Other countries ...	„	1,012,128	763,558	549,103
Total imports ...	„	23,576,340	29,197,123	22,024,396
Home consumption—China ...	lbs.	1,221,466	1,355,383	1,683,716
„ „ B.E.I. ...	„	12,036.353	11,135,289	11,084,277
„ „ Ceylon ...	„	6,346,719	6.582,743	6 384,141
„ „ O.C. ...	„	352,194	349,568	191,184
Total	„	19,956,732	19,422,983	19,343,318
Exports—China	lbs.	1,048,031	1,299,941	1,400,262
„ British East India ...	„	808,300	598,191	437,654
„ Ceylon	„	742.653	799,078	654.309
„ Other countries ...	„	52,666	28,177	32.651
Total	„	2,651,650	2,725,387	2,524,876
Stocks in bond	lbs.	102,224,000	106,913,000	102,978,000
Value of imports	...	£856,855	£1,120,691	£872,653
Of which British Indian ...	...	451,416	631,651	526,601
„ Ceylon	...	287,923	362,794	284,217
Value of exports	...	109,541	112,893	100,858

STRAY NOTES ON MANURES.

Why Lime is Valuable as a Fertilizer.—In soils deficient in lime, applications of lime are necessary to supply plant food. The indirect value of lime is perhaps more important than its direct action. It unlocks unavailable potash, phosphoric acid and nitrogen of the soil. It also exerts a decided influence on the mechanical conditions of soils. Compact soils are made light, and loose soils are made more compact. It also furnishes conditions in the soil favorable to the activity of micro-organisms which convert the nitrogen of organic matter into nitrates and thus makes it available as plant food. On soils that are sour, lime is valuable in neutralizing the acidity.

MANURING OF TROPICAL PLANTS.

(*Continued from issue of 11th February* 1899.)

(ii.) Phosphatic fertilisers.

1. Phosphoric acid, soluble in water—as furnished in acid phosphate, containing 14 to 21 per cent. phosphoric acid—is the most assimilable form for this plant-food ingredient. The acid phosphate is manufactured by decomposing slowly soluble crude phosphates by means of sulphuric acid. When liquid phosphoric acid is empl oyed to decompose the crude phosphates, we obtain so-called double superphosphate, containing 35 to 45 per cent. of phosphoric acid, soluble in water. The latter material should be used wherever fertilisers have to be brought from a distance, as its cost is but little higher, and the freight charges only half as much.

2. The phosphoric acid contained in Thomas' slag is not soluble in water, but is very effective, so that we are correct when we say that the phosphoric acid is soluble in the soil. Experiments conducted by Prof. Wagner, Darmstadt, Prof. Maercker, Halle a.S. and others, have proven that the phosphoric acid soluble in a given solution of citric acid produces the same effect as that soluble in water. However, as the solubility in citric acid of the different slags varies from 30 to 90 per cent. of the total phosphoric acid, the consumer should purchase a high grade Thomas slag, i.e., one containing the highest possible percentage of phosphoric acid soluble in citric acid.

In addition to this quick-acting phosphoric acid, Thomas' slag also contains some that is dissolved slowly, the effects of which are even felt after some time; this fact is of especial importance in the case of arboreous plants.

Another beneficial effect is produced by the high percentage (30 to 50 per cent.) of lime contained in Thomas' slag, a matter which is especially worthy of consideration with soils deficient in this ingredient.

3. Bone-meal (steamed bones) is very slowly decomposed in the soil, and, according to the latest investigations, produces a much less marked effect than Thomas' slag, though formerly the contrary was believed to be the case. Steamed bone meal is, therefore, used only when it is intended to enrich the soil permanently. Bone-meal is decomposed in the same manner as acid phosphate, in order that the phosphoric acid it contains may be made available in the form of water soluble phosphoric acid.

(iii.) Potassic Fertilisers.

The potash contained in the ashes of plants is a very good source of this ingredient. However, ashes are placed upon the market in such limited quantities that they do not require special attention except in rare instances. The principal sources of potash, which is one of the essential plant-food ingredients, are the Stassfurt potash salts; these are placed upon the market in the following forms:—

1 Crude potash salts, being the natural products of the mines. These are furnished in a finely ground state as carnallit, kainit, and sylvinit. In addition to muriate or sulphate of potash, they contain magnesia salts and chloride of sodium (common salt); these latter, however, as a rule, possess but little value for plant nutrition.

The acids (muriatic and sulphuric) must first be converted in the soil with the aid of lime, and, together with the by-products, worked into the deeper layers, in order that the crude salts may be made available. The effect of the crude potash salts, is, therefore, primarily shown in changing the condition of the top soil. The salts absorb moisture from the air, and thereby make the soil moist and compact; this is very valuable in the case of light dry soils, less so in the case of heavy soils. Great caution should be exercised in the application of crude salts to sensitive plants; they injure the burning quality of tobacco and decrease the percentage of sugar in sugar-cane.

On the other hand, crude salt should be applied to plants that consume large quantities of salt, such as cocoanuts; also when it is desired to combat large insects-pests, as in cotton. The crude potash salts are preferable to common salt for this purpose, as they supply at the same time one of the essential plant-food ingredients, thus serving a double purpose. When the products have to be procured from a distance, kainit, sylvinit—the latter, as a rule, contains the larger percentage of potash—are preferable to carnallit, as the last-mentioned salt is not only poorer in potash but very readily absorbs moisture. However, as a rule, the application of refined potash salts is more advantageous, as they are much purer and contain a larger percentage of potash (four to five times as large). On account of the high freight charges to the colonies, the 1-lb. of pure potash is cheaper in the refined than in the crude salts.

2. The sulphates, such as sulphate of potash and sulphate of potash-magnesia, have been successfully applied to all plants especially to those in which the quality of the yield is of prime importance, *e.g.*, tobacco, sugar-cane, tea, pine-apples, and oranges.

3. In all other cases muriate of potash should be employed; it offers the advantage of being somewhat cheaper than the sulphates, while the effect is the same, especially as regards the quantity of the yield.

4. Carbonate of potash-magnesia does not contain any chlorine or sulphur, thus bringing the potash to the plants in a directly available form. This fact is of importance in the case of delicate plants or such as require large amounts of potash during the primary stage of growth.

(iv.) Fertilisers containing two or three Plant-food Ingredients.

1. Nitrate of potash is obtained from East India under the name of "Bengal saltpetre;" it can also be manufactured by converting muriate of potash and nitrate of soda, and the manufactured product is considerably purer and of higher grade. Nitrate of potash contains both nitrogen and potash, is comparatively pure, but rather expensive.

2. Peruvian guano, fish guano, and tankage contain chiefly nitrogen and phosphoric acid; they, therefore, require an addition of potash in order to produce good effects.

(v.) Calcareous Fertilisers.

According to Prof. Maercker, a soil containing less than 0·25 per cent. of lime will always respond favourably to lime fertilisation; one containing from 0·25 per cent. to 0·5 per cent. will probably do so, and the application of lime has produced good results even on soils containing more than 0·5 per cent. of this material.

A sufficient supply of lime in the soil is of the utmost importance as it not only is a valuable plant-food ingredient, but also improves the physical condition of the soil. Should the soil be deficient in lime, the planter should not fail to supply this ingredient, artificially.

Sour and heavy soils are neutralised and loosened by lime, and are thus more easily worked, and produce better yields. Furthermore, lime hastens the process of decomposition going on within the soil, causing the more rapid conversion of humus into carbonic acid, and accelerating the formation of nitrate. Lime is of much importance in assisting in the decomposition of potash salts, but this action will deplete the soil of its supply of lime; 220 lb. of potash salts convert and force into the lower depths of the soil about an equal quantity of lime.

Among calcareous fertilisers the following deserve mention:

1. Marl, which contains from 10 to 70 per cent. of carbonate of lime, according to the nature of the substance, so that the amount of marl required depends upon the percentage of carbonate of lime it contains. In order that lime may produce the best effect, 2,000 lb. of lime must be applied to the acre. Recently, finely ground limestone has been applied with success to light soils.

2. Freshly burnt lime consists of quicklime which absorbs moisture from the atmosphere and then falls to a fine powder. The material acts much more vigorously in the soil than carbonate of lime, and is, therefore, to be preferred, especially on heavy soils. 2,000 lb. to 35,000 lb. of slaked lime will satisfy the needs of the soil for from four to eight years. In the case of light soils, it is more advantageous to apply smaller quantities at shorter intervals.

3. Plaster or sulphate of lime does not produce a very favourable effect upon the soil. As this material only dissolves certain plant-food ingredients in the soil, it is only natural that its application should be but temporarily or partially successful.

Tables giving the Composition of the most important Fertilising materials.

	Name of Material.	Nitrogen.	Phosphoric Acid.	Potash.	Organic Matter.	Water.
1.	Stable manure (animal manure)—					
	Fresh manure (with straw)—					
	Horse	0·58	0·28	0·53	25·4	71·3
	Cow	0·34	0·16	0·40	20·3	77·5
	Sheep	0·83	0·23	0·67	31·8	64·6
	Pig	0·45	0·19	0·60	25·0	72·4
	Common stable manure (fresh)	0·30	0·18	0·45	21·2	75·0
	,, ,, (partially rotten)	0·50	0·26	0·63	19·2	75·0
	,, ,, (strongly rotten)	0·58	0·30	0·50	14·5	79·0
	Liquid manure	0·15	0·01	0·49	0·7	98·2
	Poudrette	0·55	0·28	0·20	3·0	95·5
	Hen dung	1·63	1·54	0·85	25·5	56·0
	Pigeon dung	1·76	1·78	1·00	30·8	51·9
11.	Nitrogenous fertilisers—					
	Nitrate of soda	15·5	..	..	..	2·6
	Sulphate of ammonia	20·5	..	..	..	4·0
	Dried blood	11·8	1·2	0·7	78·4	13·4
	Horn-meal	10·2	5·5	..	68·5	8·5
	Oil cakes—					
	Earth-nut cakes	7·6	1·3	1·5	85·6	10·4
	Chinese Soja-bean cakes	6·9	1·5	1.1	83·0	11·9
	Cotton-seed cakes	6·2	3·1	1·6	82·2	11·2
	Sesame cakes	5·9	3·3	1·5	79·5	11·1
	Cocoanut cakes	3·7	1·3	2·0	82·0	12·7
	Wool dust	5·2	1·3	0·3	56 0	10·0
111.	Phosphatic fertilisers—					
	Acid phosphate	..	14-21	..	..	..
	Double superphosphate	..	35-45	..	..	..
	Bone-meal (normal)	4·0	20-25	..	30·0	6·0
	Thomas' slag	..	15-21	..	..	..

From the average analyses of Dr. E. V. Wolff, "Praktische Dungerlehre, 12 Edition, Berlin, Paul Parey, 1892. This publication gives more exact figures for a great number of fertilising materials.

Name of Salt.	Sulphate of Potash.	Muriate of Potash.	Sulphate of Magnesia.	Chloride of Magnesia.	Chloride of Sodium.	Sulphate of Lime [Gypsum].	Insoluble in Water.	Water.	Content of Pure Potash: Average.	Content of Pure Potash: Guaranteed.
100 parts contain	K_2SO_4	KCl	$MgSO_4$	$MgCl_2$	$NaCl$	$CaSO_4$				
A. Crude salts [natural products of the mines]..	23·6									
1. Kainit	21·3	2·0	14·5	12·4	34·6	1·7	0·8	12·7	12·8	12·4
2. Carnallit	..	15·5	12·1	21·5	22·4	1·9	0·5	26·1	9·8	9·0
3. Sylvinit	5·2	28·3	3·6	1·8	51·3	1·8	4·2	3·8	20·7	15·0
B. Concentrated salts [manufactured products]										
[a] Sulphates—nearly free from chlorine..										
1. Sulphate of Potash. {96%	97·2	0·3	0·7	0·4	0·2	0·3	0·2	0·7	52·7	51·8
{90%	90·6	1·6	2·7	1·0	1·2	0·4	0·3	2·2	49·9	48·6
2. Sulphate of Potash magnesia.	50·4	..	34·0	..	2·5	0·9	0·6	11·6	27·2	25·9
[b] Salts containing chlorine. ..										
4. Muriate of {90/95%	..	91·7	0·2	0·2	7·1	..	0·2	0·6	57·9	56·8
Potash. {80/85%	..	83·5	0·4	0·3	14·5	..	0·2	1·1	52·7	50·5
{70/75%	1·7	72·5	0·8	0·6	21·2	0·2	0 5	2·5	46·6	44·1
5. Calcined manure salt high [grade]. ..	..	44·5	22·5	4·6	12·4	2·9	5·3	7·8	28·1	20·0
6. Calcined manure salt [low grade]. ..	..	25·6	31·1	6·3	10·3	3·5	10·6	12·6	16·2	15·0
	Bicarbonate of Potash.		Carbonate of Magnesia.							
Carbonate of Potash magnesia.	40		33·6			1·0		25·4	18·8	18·5

According to numerous average analyses made by the "Verkaufs-Syndikat der Kaliwerke," Leopoldshall-Stassfurt.

Fertilisers containing Two or Three plant-food ingredients; and a few important Refuse Materials.

Name of Material.	Nitrogen.	Phosphoric Acid.	Potash.	Organic Matter.	Water.
Phosphate of Potash ..	..	36-38	25-27	..	..
Nitrate of Potash ..	13·5	..	44·0	..	..
Peru guano (available) ..	7·0	11	4·0	30·0	16·0
Fish gauno	8·5	13·8	0·3	56·2	9·8
Tankage	5·8	17·4	0·3	49·1	8·0
Ashes, leaved wood ..	..	3·5	10·0	..	..
„ coniferous trees ..	..	2·6	6·0	..	..
„ soft coal	..	0·2	0·2	..	..
„ lignite	..	0·6	0·7	..	..
„ peat	..	1·2	0·5	..	..

From the average analyses of Dr. E. V. Wolff, "Praktische Dungerlehres 12 Edition, Paul Parey, 1892. This publication gives more exact figure' for a great number of fertilising materials.

TEA CULTURE IN ASSAM.

The Report for the year 1897–98 published by the Assam Administration shews, says *Capital*, "That the total number of gardens in the province at the close of the year 1897 was 822, being an increase of 22 gardens as compared with the previous year; 27 new gardens were opened, but after allowing for those closed or removed, amalgamated with other gardens or abandoned, the nett increase is 23, of which 2 are in the Sylhet District, 6 in Kamrup, 3 in Durrang, 5 in Sibsagar and 7 in Lakhimpur Districts. Cachar and the Sylhet districts have the largest number of gardens at present, but considerable extensions of the area under tea and the number of gardens in the Sibsagar and Lakhimpur Districts continue to be made, there being now 171 gardens in the former and 149 gardens in the latter district."

The following are the principal extensions of the total area of the tea gardens during the year:—

Sylhet	31,223 acres.
Sibsagar	1,125 „
Lakhimpur	16,031 „

the nett increase after allowing for small reductions in other districts being 45,122 acres. The figures, however, for the Sylhet district, which are compiled from the Managers' returns, must, it is noted, be accepted with some reserve. The total area of all lands held by tea planters at the close of 1897 was 1,136,261 acres.

The following gives the total area under mature and immature plants during the past six years:—

	Under mature plants. Acres.	Under immature plants. Acres.	Total. Acres.
1892 ...	213,525	33,667	1,044.984
1893 ...	221,368	35,257	1,042,277
1894 ...	229,316	39,480	1,054,992
1895 ...	234,909	41,105	995,787
1896 ...	247,655	44,254	968,895
1897 ...	263,213	47,337	1,014,017

The extensions under the actual cultivation of tea during the year were principally as follows:—

Sylhet District	3,744 acres.
Durrang District	2,117 „
Sibsagar District	3,939 „
Lakhimpur	7,408 „

the total extension allowing for small extensions in other districts being 18,641 acres as compared with 15,895 in 1896. The increase was due partly to the opening of new gardens and partly to extensions in existing tea estates. The total yield for the whole province was 107,266,332 lbs. as compared with 109,727,359 in 1896, but the year's crop was on the whole a poor one chiefly owing to unfavourable weather and sickness among the labour force.

The yield per acre was as follows:—

	1896.	1897.
Surma Valley	460 lbs.	440 lbs.
Brahmaputra Valley ...	431 „	384 „
Whole province	443 „	408 „

These figures differ slightly from the figures given by the Indian Tea Association.

No reliable information was obtained under the head of prices from the Deputy Commissioners, but the figures furnished by the Indian Tea Association indicate that the prices were lower for both valleys than in 1896:—

	1896. As. P.	1897. As. P.
Surma Valley Teas ...	6 10	5 11
Brahmaputra Valley Teas...	8 3	7 8

TEA, &c., COMPANIES.

The Rayigam Company, Limited.—A Meeting of the Shareholders in this Company was held at Colombo on the 1st instant, Mr. Albert Rosling in the Chair.

The Chairman speaking on the annual report which was taken as read, said that the pluckings had been poor in the latter part of the year, so much so that after October, it was plainly seen that they would be short of their estimates. Of Pará rubber 6,000 young plants had been put out and some of the older ones ought now to commence giving seed. They had also completed the manuring of the two estates, and hoped to commence another round of it this year beginning with 100 acres of the older tea on Rayigam.

The report stated:—

Rayigam. Acreage:	acres.	Annandale.	acres.
Tea in bearing	... 362	Tea in bearing	... 274
„ partial do	... 264	Forest and Grass	... 22
„ not in bearing	... 69½		
Forest	... 504½		
Total	... 1,200	Total	... 296

After writing off R4,818·21 for depreciation on buildings and machinery, there remains a balance of R14,543·76 available for distribution. The Directors propose to write off R1,319·11, being one-fourth of the original preliminary expenses, and to pay a dividend of 2 per cent, which will absorb R12,000, carrying forward a balance of R1,224·65. The crop of tea was 206,269 lb. from Rayigam, of which 50,400 lb. were shipped to London and sold at an average of 5¾d. per lb., while the bulk of the crop was sold locally averaging 32·20 cents per lb. The crop was 8,731 lb. less than was anticipated, entirely owing to the unfavorable weather during November and December. The crop of tea from Annandale was 76,314 lb. of which a small portion was sold in London at an average of 7¼d, and the balance locally at 47·40 cents per lb. The crop on this

estate was 3,686 lb. less than estimate, also due to the unfavorable weather prevailing during the last two months of the year. Of the 20 acres proposed to be opened last year, 18½ acres have been cleared and planted. It is not intended to make further extensions during the present year. The estimate of crop for the current year is 250,000 lb. from Rayigam and 82,000 lb. from Annandale. Owing to the small amount available for a dividend, the Directors have agreed to waive their fees. The dividend was agreed to.

The Ceylon Provincial Estates Company, Limited.—The Fourth ordinary General Meeting of the shareholders of this Company was held at Colombo on the 3rd inst, Mr. F. L. Clements presided.

The report stated:—

The tea crop amounted to 430,951 lbs. against an estimate of 425,000 lbs. for the year, which may be regarded as a satisfactory result, seeing that the season was not altogether a favourable one for the growth of leaf. The total profit for the year was R76,371·16. The cost of producing the tea and bringing it to market works out at 26·10 cents per lb. against 29·25 cents last year, and the expenditure includes a sum equal to 1½ cents a lb. for manuring operations. The average nett selling price of the teas, on the other hand, shows a falling off from 1897, the rates being 42·73 cents and 45⅜ cents per lb. respectively. The clear profit resulting from the season's working, after providing for interest on mortgages, &c., amounts to R60,661·19, out of which an interim dividend of 3 per cent has been paid to the shareholders, and the Directors now recommend the payment of a final dividend of 4½ per cent. on the paid-up capital, making 7½ per cent. for the year. The interim and closing dividends together account for a sum of R42,950, and, after providing for Directors' fees, it is proposed to apply the surplus to part-payment of the expenditure which has been incurred during the year on permanent works not chargeable to revenue. This expenditure amounts to R28,166·76, and includes the cost of completing the factory on Brownlow and nearly all the necessary outlay in connection with the new works on Aadneven, together with the upkeep of land not yet in bearing on the two estates. The estimates of expenditure for 1899 are again based on a crop of 425,000 lbs. of made tea, there being hardly any young land coming in, and the f.o.b. rate works out at 27·36 cents a lb., including the cost of manuring 180 acres of tea.

A final dividend of 4½ per cent. is to be paid, making 7½ per cent. for the year, and of a sum of R1,500 of to the Directors as remuneration for the services during their past year, was authorized.

The Soom Tea Co., Ld.—The annual report says:—The teas were as usual shipped for sale to the London market, and we have been advised of the disposal of 100,400 lbs. at 9⅛d. per lb. which in consequence of the high exchange rates ruling during the past year, equals annas 7-9 per lb. nett only in Calcutta, as compared with 9 1/16d. or annas 9-6 per lb. nett for 83,600 lbs. sold to the same date last year. The quality of the produce was in common with the general bulk of Darjeeling teas somewhat disappointing and we can only trust that better quality will be produced during the coming season. The total outlay for the year was Rs.55,246-1-3, as, compared with the original estimate of Rs.55,400, and the following is a summary of the season's working:—

Expenditure.					
On Garden	Rs.	42,785	0	0	
In Calcutta	„	12,461	1	3	
					55,246 1 3
Revenue.					
Nett proceeds of 84,450 lbs. tea sold in London	Rs.	41,454	2	5	
Estimate proceeds of 15,950 lbs. tea sold as per telegraphic advice ...	„	7,178	0	0	
Estimated proceeds of 6,630 lbs. tea supplied to London	„	3,092	0	0	
Proceeds of 100 lbs. tea sold at Factory	„	125	0	0	
Interest on Government Securities ...	„	681	12	4	
Miscellaneous Receipts at Garden ...	„	1,280	6	0	
					53,811 4 9
Loss on season's working ...Rs.					1,434 12 6

After adjusting this account and transferring the above loss, there remains a balance at debit of Rs.2,857-4-4.

Kurseong and Darjeeling Tea Co., Ld.—The Directors state:—We regret to say the manager's anticipation of a yield of 1,000 mds. of tea for the season, as stated in his report of February 1898, has not been realised. The total yield for the season was 58,125 lbs. tea and the average price realised As. 7-6 per lb. The quality of the tea from the Darjeeling district was again not up to the standard, probably from climatic causes; but the lower average is due chiefly to the very low prices that have ruled for tea through the year. The result of the season's working is a loss of Rs.3,214-1-4. The garden is among the oldest in the district, consequently the soil is more or less impoverished. Unlike Cachar and Assam there are no *bheels* at hand from which soil can be put on for mixing with the old soil; while the freight on ordinary manures, as crushed bones, makes their use almost prohibitory. Taking into account the yield for the last few years the estimated yield for 1899 is taken as 400 mds. or 72,000 lbs. tea—

	Rs.	As.	P.
The garden expenditure	26,038	4	0
Calcutta agency, stores, freight on tea, &c ...	8,000	0	0
	34,038	4	0

Kandyan Hills Company, Limited.—The Annual General Meeting of shareholders of the Kandyan Hills Company, Limited, was held at Colombo on 4th instant, Mr F. Macindoe presided.

The report stated:—

Acreage.	
Tea in full bearing	320 acres
Tea 2½ years old	32 „
Tea planted 1897	58 „
	410 acre
Cacao	90 „
Reserve land...	810 „
	1,310 acres

The crop amounted to 107,405 lb. of made tea and cwt. 150·0·27 of cocoa. The former was produced and placed in the market at the rate of cts. 30·95 per lb., including the cost of manuring 60 acres of the tea and realized a nett average of cts. 36·23 per lb. The cocoa crop represented an expenditure of R27·75 per cwt., and sold at R43·20 per cwt. in Colombo.

Notwithstanding the short out-put of tea, which is explained in the Report as being due to the effects of a very unfavourable season, a considerable saving has been effected in the cost of placing the tea on the market, while the selling rates shew a distinct improvement on those of the previous year. Instead, therefore, of only a profit of R237·28 on the working as was the case last year, there is a profit of R8,009·86, which under the circumstances may be regarded as a fairly satisfactory result and shews that things are improving. Interest charges on money advanced for further developing the property, however, are heavy, and after carrying forward last year's balance, there is still a sum of R6,957·76 to debit of profit and loss account, which it is proposed to carry over to the new season. The estimates for 1899 point to a yield of 130,000 lb. of made tea costing 28 cts. a lb. in Colombo and 130 cwt. of cocoa.

To place the Company on a better financial basis, it is proposed to issue Preference Shares bearing interest at the rate of seven per cent. per annum, and to be preferential both as regards interest and capital for the purpose of paying off the existing debts to the National Bank of India, Limited, and the agents on which interest is running at current rates.

Tonacombe Estates Company, Limited.—The fifth general meeting of Shareholders of the Tonacombe Estates Company, Limited, was held at Ambewatte House, Slave Island, on 11th instant:—Mr. W. H. Figg (Chairman), presided.

The report stated:—The total quantity of tea secured was 190,073 lb., which has been sold at an average of 41·49 cents per lb. net. The total cardamom crop was 7,379 lbs., which have realized Rs2·01 per lb. net. Of cinchona bark 17,628 lbs. have harvested and sold for Rs1,718,73. The total expenditure on working account amounted to Rs61,232·17. The balance available after providing for depreciation is Rs20,841·34, and the Directors propose to pay a dividend for the year at the rate of 5 per cent. absorbing Rs14,000, to place Rs6,500 to credit of extensions account, and to carry forward Rs341·34 to next account. The debenture issue of £7,000 is repayable on 31st December 1901, and the Directors are of opinion that it is desirable to redeem them, if possible, on that date Under any circumstances they do not think it expedient to attempt to pay a larger dividend than 5 per cent. per annum before that date. The crops of 1899 are estimated at 210,000 lbs. Tea 8,000 lbs. Cardamoms against an expenditure of Rs64,485·50.

DISTRICT ASSOCIATIONS.

SHEVAROY.

Proceedings of a Meeting of the Committee of the Shevaroy Planters Association, held in the Victoria Rooms on Monday, the 6th March 1899, at 1 p.m.—PRESENT: Messrs. Thurston Short, J. W. Large, C. G. Lechler, S. M. Hight, Rev. J. M. Kempf; Mr. R. Gompertz, *Honorary Secretary.*

1. *Read* correspondence which has passed about the resolution of the Government of India on the report of the S. I. P. E. C.

Resolved that if Section 19 of the Fugitive Offenders' Act of 1881 (44 & 45 Vic. c. 69) is to be incorporated in the draft of the proposed new labour bill, and the Magistrates be given power to discharge an offender, instead of sending him to the place where the offence occurred, to stand his trial there, this Association considers it absolutely necessary in the interests of justice that his discharge should always be conditional on his paying into Court any advances which may be due to the complainant, together with the costs of the case.

2. *Read* letter from Honorary Secretary, South Mysore Association, to the Secretary U. P. A. S. I.

Resolved that this Association approves of the letter in question, particularly of the suggestion that when the Magistrates accept bail they should be bound to satisfy themselves that the security offered is substantial.

3. *Read* copy of letter from the Chairman, Mr. Romilly, to the Hon'ble Mr. Hodgson, dated 2nd ultimo.

Resolved that this Association approves of the suggestions of the Chairman, U. P. A. S. I., as set forth in above letter:—

Read and *Recorded* the following letters:—

17/U. W. Circular from the U. P. A. S. I., requesting to be favoured with an expression of opinion upon the resolution of the Government of India regarding the report of S. I. P. Enquiry Committee, and (2) copy of a letter from the Chairman to the planting member of the Legislative Council.

18/U. W. Circular from the Secretary, U. P. A. S. I., regarding the cultivation of tea in India.

19/U. W. Circular from the Secretary, U. P. A. S. I., with copy of letter written by the Hon'ble Mr. H. P. Hodgson, regarding the telegram which appeared in the *Madras Times* headed 'Labour Contracts for Planters.'

20/U. W. Circular from the Secretary, U. P. A. S. I., forwarding copy of Section 19 of the Fugitive Offenders' Act, 1881, (44 & 45 Vic. c. 69) which is referred to in the Government of India's Resolution anent the report of the S. of I. Enquiry Committee.

21/U. W. Circular from the Secretary, U. P. A. S. I., forwarding copy of a letter from the Hon'ble Mr. H. P. Hodgson. Although it refers particularly to a letter from the Central Travancore Planters' Association, it contains matter of general interest.

3/G. A communication from Government to the S. P. A. regarding the new Ghaut-Road.

19/P. Acknowledging receipt of this office letter of complaint against the Police and informing that it will receive due attention.

3/F. Replying to this office letter regarding prevention of coffee thefts, etc.

24/D. Letter from Mrs. Dickins, wishing to become a member of the S. P. A.

The following papers were laid on the table:—

19/P. Letter from the President, Taluk Board, informing that the balance under Taluk Board. Rs.435 has been taken up for Plague purposes, and so cannot be used for repairing the Chembanath Road.

Proceedings of the Central Travancore Planters' Association held at Penshurst Bungalow on Saturday, 21st January 1899.

Proceedings of the Wynaad Planters' Association held at Meppadi, 8th February 1899.

Commercial Circulars No. I of 1899, Ruby (2 copies).

Planting Opinion, 4 copies, dated February 4th, 11th, 18th & 25th.

(Signed) C. G. LECHLER,
Chairman.
(„) R. GOMPERTZ,
Honorary Secretary.

WYNAAD.

Proceedings of a General Meeting held at Meppadi, on 1st March 1899.—PRESENT: Mr. J. W. Hockin (*Chairman*), Messrs. C. E. Abbott, B. M. Behr, L. H. F. Day, A. C. Glenie, Dr. M. Hayes, R. Lamb, C. C. Lance, C. A. Mackenzie, D. Mackenzie, W. MacKinlay, J. R. Malcolm, B. Malcolm, J. S. Malcolm, J. S. Nicols, H. S. Powell, G. Romilly, S. Robinson, A. Trollope, R. K. Walker, A. West, H. Waddington, H. B. Winterbotham, W. G. Wright and E. deFonblanque, (*Honorary Secretary.*)

Proceedings of last Meeting.—The Proceedings of the last Meeting were taken as read.

Election of new members.—The following new members were elected:—

Dr. M. Hayes, proposed by Mr. C. E. Abbott.
Seconded by Mr. G. Romilly.
Mr. C. C. Lance, proposed by Mr. E. deFonblanque.
Seconded by Mr. J. S. Nicols.

Amendment of Rules.—Proposed by Mr. G. Romilly,
Seconded by Mr. R. K. Walker,
That any Resolution that has been passed at a General Meeting of which fourteen (14) days' notice has been given to members shall be considered final, and no further discussion allowed on the subject for six (6) months from the date of meeting. *Carried.*

Coffee Robbery Reward Fund.—A list was circulated for contributions to reward the Police for the excellent manner in which they had prevented the theft of Coffee during the crop season and Rs.120 was collected in the room.

The Secretary was authorized to pay the Police the sum of Rs.150.

Roads.—Read letter from the Collector of Malabar to the Secretary to Government, on the subject of Government funds towards the upkeep of the Calicut-Choladi and Chundale-Sultan's Battery Roads.

Resolved that the Chairman and Secretary be asked to address Government on the subject, through the Collector of Malabar.

U. P. A. S. I.—It was resolved that it was unnecessary to alter the date of the financial year to that of the U. P. A. S. I.

Pudu Padi Post Office.—The Secretary was requested to write to the Postmaster General, asking for a reply to his letter of 22nd December 1898.

Plague.—The Secretary was requested to write to the Collector of Malabar on the subject of interference by Police officials as regards outgoing coolies.

Mr. Romilly stated that his Cherumah coolies had asked for cheques payable at Calicut rather than take cash, as they had been blackmailed on the road.

Mr. D. Mackenzie and Mr. Day made somewhat similar statements.

Papers on the Table.

Papers referring to Plague rules.
Do. Labour Ordinance.
Shevaroy Planters' Association, 5th February 1899.

A vote of thanks to the Chair closed the Proceedings.

E. DEFONBLANQUE,
Honorary Secretary.

KANAN DEVAN.

Minutes of Quarterly General Meeting held at Manale, on 16th February 1899. PRESENT: Messrs. H. E. Tollemache, T. W. Schmid, A. J. Fox, A. W. John, R. Hedges, A. Cameron, J. A. Hunter, C. Burn Murdoch, Nicol Thomson; J. S. Sealy (*Honorary Member*), Baron von Rosenberg (*Chairman*), H. M. Knight (by proxy, Baron von Rosenberg.)

Notice calling meeting taken as read.

Read and confirmed minutes of last meeting.

Mr. A. H. Sharp's retirement.—Proposed by Baron von Rosenberg, "that this Association expresses its regret at the resignation of Mr. A. H. Sharp, its Honorary Secretary for nearly 10 years, on his leaving the district. That it records its grateful appreciation of his unvarying and successful services to the Association—that it resolves to commemorate this appreciation by presenting him with a Silver Punch Bowl, to bear the following inscription—"Presented by the members of the K. D. P. A., to A. H. Sharp, Esq., Honorary Secretary of the K. D. P. A. during nearly 10 years, February 18th, 1899." Seconded by Mr. T. W. Schmid and carried by acclamation.

Chairman.—Proposed by Mr. Thomson that the question of a Chairman *vice* Baron von Rosenberg be held over till next meeting in May. Seconded by Mr. R. Hedges and *carried.*

Honorary Secretary.—Mr. C. Burn Murdoch was elected Honorary Secretary *pro tem.* till May, and accepted conditional to the Association clerk, who knows the work, being allowed him. Proposed by Mr. Hunter, that should it not be possible to arrange for the clerk to do Company's work as well as the Association work, the Association will pay his entire salary for the three months. Seconded by Mr. Cameron and *carried.*

K. D. P. A. Agencies.—Proposed by Mr. S. A. Hunter, that from 1st April 1899, the services of the K. D. P. A. Agents at Ammayanaikanur and Boday be dispensed with by the Association. It is suggested that from 1st April Agents shall be arranged for separately by the K. D. H. Produce Company and by individual planters, but, if possible, that the same Agent at Ammayanaikanur should be retained by all parties, and that their accounts be sent in separately. Seconded by Mr. R. Hedges and *carried.*

Proposed by Mr. J. A. Hunter, that this meeting do confirm the action of the President in paying the Association Rs.1,000 on behalf of the outside members for the land and buildings belonging to the K. D. P. A. at Boday, and that steps be taken to put the purchasers in possession. Seconded by Mr. Nicol Thomson and *carried.*

Proposed by Mr. R. Hedges, that an entry in the account of Rs.500 advance to cart contractor by Messrs. Finlay, Muir & Co., be eliminated therefrom. Seconded by Mr. T. W. Schmid and *carried.*

Surplus Funds.—Proposed by Baron von Rosenberg, that as the Association accounts show a considerable surplus, and passing members having reported that the sum of Rs.700 voted will be quite insufficient for repairing the Boday Mettoo ghaut, a further sum of Rs.1,000 be voted for this purpose. Seconded by Mr. J. A. Hunter and *carried.*

Proposed by Baron von Rosenberg, that any further surplus funds, after the Mettoo Ghaut Road has been put in order, be expended in taking over the three Tanalam houses between Boday and Devikulam at half cost price. Seconded by Mr. J. A. Hunter and *carried.*

Labour Act.—Proposed by Baron von Rosenberg, that the Association supports Mr. Romilly's letter and the points called attention to therein—extradition into Native States is of the first importance to us, it should be made as direct and simple as possible, and the cumbrous roundabout procedure in force in criminal cases avoided—a Labour Act would be of little or no use to us unless extradition is also given. Seconded by Mr. J. A. Hunter and *carried.*

Medical Grant.—Read correspondence with Honorary Secretary *re* medical grant. Proposed by Mr. R. Hedges, that copies of the correspondence be sent to the British Resident. Seconded by Mr. T. W. Schmid and *carried.*

Plague Measures.—Proposed by Mr. Nicol Thomson, that this Association views with alarm and regret the decision of the Travancore Government in refusing to take steps to medically examine immigrants from plague-stricken districts of British India, and takes this opportunity to offer its warmest thanks to Messrs. Finlay, Muir and Co. for undertaking this duty, which ought to devolve on Government. That a copy of this resolution be sent to the British Resident. Seconded by Mr. T. W. Schmid and *carried.*

Proceedings closed with a vote of thanks to the Chair.

C. BURN MURDOCH,
Honorary Secretary.

MARKET REPORT.

By Mail advices of 17th February 1899.

COFFEE.

The *London Commercial Record* says:—The limited supply of really fine qualities continues in good demand at very full prices, but the bulk of the auctions has consisted of more or less undesirable descriptions, and the general tone of the market is dull. Ceylon sold with good competition at fully late rates. There has been a larger supply of new crop East India, of which a considerable proportion, considering the time of year, failed to find purchases; as a general rule the quality has been extremely disappointing, and the only description which has met with a good general demand has been Coorg, which, being much more attractive than any other growth, was nearly all sold at steady prices; with few exceptions, the Mysore has been much below the standard of previous years, both in color and quality, and an unusually large proportion had to be withdrawn from the auctions, and where sales were made there was a further decline in value of 2s to 4s per cwt.; Wynaad was rather easier, and Nelliampathy was fairly steady. Colory Costa Rica brought extreme prices, but other descriptions of Central American were generally slow of sale, and good ordinary sorts declined in value. A quiet tone has prevailed in futures and prices are rather easier, closing as under:—

London ...	Santos.....	March delivery	...	30s. 6d
New York.....	No. 7 Rio.....	„	„	... 550 cents.
Hamburg	Santos.....	„	„	... 30¾ pf.
Havre	Santos...	„	„	... 37¼ francs.
Holland.....	Good ordinary Java		...	... 31 cents.

Imports, Deliveries and Stock of Coffee in London are as follows:—

The preceding figures exhibit—

In the Imports a decrease this year of	1,858	tons.
Home Consumption an increase of	98	„
Export an increase of	320	„
Stock an increase of	2,551	„

Auctions this week have passed off as follows:—

Ceylon.—62 casks and tierces 14 barrels sold, low grown small 35s, medium 61s, bold 79s, peaberry 50s; *Plantation*, smalls 64s to 77s, low middling to middling 99s to 107s 6d, bold 108s 6d to 115s, peaberry 95s to 109s.

East India.—2,171 bags partly sold as follows:—*Coorg*, smalls 47s to 51s, middling colory 68s 6d to 72s, good middling 74s 6d, bold 91s to 98s 6d, peaberry 103s to 115s; *Mysore*, smalls 45s to 47s 6d, low middling 60s 6d to 69s 6d, common bold dull green 80 to 88s 6d, peaberry 95s 103s; *Neilgherry*, smalls 45s 6d to 52s 6d, fine bold 102s, peaberry 80s.

Nyasaland —13 bags withdrawn.

Johore.—*Liberian.*—27 bags dull bold yellow realised 31s 6d.

Jamaica.—Of 256 barrels 238 bags offered 210 barrels and bags sold, smalls 31s to 33s 6d, good small colory 42s, good ordinary greenish 33s 6d to 35s 6d, fine ordinary 39s 6d to 45s 6d, low middling brownish colory 49s to 52s 6d, bold 63s 6d, peaberry 38s to 41s.

Costa Rica.—2,154 bags nearly all sold, smalls 31s to 51s 6d, good to fine ordinary green 43s 6d to 45s, low middling to middling 55s 6d to 66s, good to fine middling 68s 6d to 89s, good to fine bold blue 95s 6d to 102s 6d, very fine hard blue 106s, peaberry 40 to 100s.

Guatemala.—Of 191 bags offered 80 bags sold, ordinary foxy greenish 36s 6d, good to fine ordinary bold brownish 39s to 45s, peaberry 41s 6d.

Vera Paz.—35 bags sold, fine ordinary brownish 41s 6d to 42s, peaberry 40s.

Peruvian.—38 bags sold, good ordinary foxy greenish 36s.

Colombian.—488 bags mostly sold, smalls 27s 6d to 31s, fine fine ordinary 47s, low middling 52s to 52s 6d, middling dull green 57s 6d to 59s, bold dull green mixed pale 60s to 71s 6d, good bold bright greenish colory 83s 6d to 88s, peaberry 56s to 59s.

Venezuelan.—Of 443 bags offered 60 bags sold, fair small green mixed 33s 6d, low middling dull green 48s.

Bolivian.—84 bags sold, good ordinary bold yellowish 40s 6d to 41s

Salvador.—50 bags bought in.

Porto Rico.—361 bags withdrawn.

To-day's auction supplies consisted of 118 barrels, 264 bags Jamaica, 33 bags Nyasaland, 5 bags Peruvian, 288 bags Vera Paz, 630 bags Columbian, 272 bags Costa Rica, 360 bags Ecuador, and 50 bags Guatemala. The sales went off quietly without alteration in prices.

Prices realized at auctions for the principal marks of East India:—

MYSORE.

	0	A	B	C	PB	T
JP & HB ◇ Guntanaik Mysore ...		85-0	60-0	48-6	104-0	43-0
Utollalu Mockett ◇ Mysore ...	107-0	90-0	69-0	—	123-6	65-0
Rungiah's Mysore	95-0	64-6 bid	55-0	—	—	47-0
JRE ◇ Buoponji Mysore ...	85-0	58-6	47-0	—	85-0	41-0
HGB Mysore		65-6 bid	50-0 bid	43-0	101-6	45/6
Yellagode Mysore		90-0	65-0	49-6	90-6	40-0
Clifford's Mysore Balehonnur ...		85-0	57-0	38-0	98-0	35-6
Do. do. ...		67-6 bid	no bid	—	96-0	40-0
Do. do. Kerkie Coondah		81-6	59-0	46-0	98-0	37-6

	O	A	B	C	PB	T
Goody Tota Mysore		88-6	69-6	45-0	96-0	45-0
Murgaddi Mysore		82-6	50-0 bid	45-0	98-6	40-6

	O	1	2	3	PB	T
Murkull U ◇ Mysore ...		95-0	71-0	52-6	109-6	44-0
Do. do. ...		98-0	75-0	57-0	112-0	51-0
Coogenhully U ◇ Mysore ...		100-0	74-0	52-0	87-0	47-6
Jeccan U ◇ Mysore		98-0	74-0	51-6	89-0	47-0
BG ◇ Kundurkhan Mysore ...	87-0 bid	61-0 bid	45-0	—	104-0 bid	48-0
S ◇ Kerekhan Mysore ...	89-6	64-0	—	—	105-6	49-0
Netrokul Mysore	83-0	60-6	42-0	—	75-0 bid	44-0
Yalliemudloo Mysore ...	—	77-0	58-0	47-6	104-6	42-0
Macdougall's Mysore ...	85-6 bid	61-0 bid	46-0	—	98-0	43-0
PM&Co △ Marthi Cannally Mysore.	81-0 bid	59-0 bid	46-0	—	96-6	43-0
Maynard's Mysore Walshams ...	no bid	no bid	46-0	—	95-0	44-0
Yester □ Mysore	80-0	50-6 bid	46-0	—	96-0	39-0
Maynard's Mysore Hitlow △ ...	83-6	no bid	45-0	—	101-6	40-0
MP & Co ◇ Bare Kodie Mysore ...	83-6 bid	no bid	45-0	—	98-0	40-0

COORG.

	A	B	C	PB	T
Binny's Coorg Bunjagherry ...	94-0	67-0	48-6	112-6	51-0
Do. do. Cannon Kadu.	93-6	70-0	48-0	105-6	48-6
Coorg Cota Kadoo	97-0	75-6	49-0	112-0	52-0
	98-0				
Abial Coorg	88-0 bid	60-6 bid	46-0	106-6	42-0
HGP Beechlands	75-0 bid	57-0 bid	—	98-0	44-0
Binny's Coorg Wudderhully ...	92-0	66-6	49-0	108-6	47-6
Do do. Purchie Kadu ...	93-6	70-6	49-0	107-0	46-6
G R Evans Aalie Topoo South Coorg ...	95-6	76-6	49-0	103-0	46-6
Binny's Coorg Koondalum Kolli ...	84-0 bid	65-6 bid	49-0	99-0	44-6
Gerrard's Coorg Mylatpur	95-0	68-0	47-6	105-0	48-0
Muskelbora	95-0	69-0	48-0	107-6	48-6
WMB Attymangla South Coorg ...	96-6	72-6	46-0	109-0	50-0
Mangles Allicutty Mountain ...	101-0	77-0	49-0	111-0	50-0
...	100-6	76-6			
Chisholm's Coorg Chinagiri ...	100-0	78-0	—	110-0	49-0
Faith Coorg	115-0	109-0	98-0	135-0	70-0
Chisholm's Coorg Sipikadu ...	101-0	76-0	—	112-0	50-6
Aynsley	96-0	74-0	49-6	111-0	51-0
Bajee Collie South Coorg	91-0	68-6	49-0	107-0	48-0
Chisholm's Coorg Corringabetta ...	96-0	69-0	48-0	110-0	50-6
Do. do. ...		70-0			
St. Edmund's Coorg	98-6	72-6	48-0	110-6	47-6
AB Heroor	101-0	75-6	48-0	111-0	52-6
Chisholm's Coorg Bannagalla ...	97-0	73-6	—	108-6	49-0
IM Balakadoo	97-0	74-5	48-0	103-6	51-0
Grant and Abb's Cowerie Betta ...	96-0	72-0	51-0	112-6	50-0
...	97-0				

	1	2	3	PB	T
WWF ◇ B	89-0 bid	64-0	—	103-0	47-0
Trelawny's Perembo Colly	95-0	66-0 bid	—	107-0	47-0
CBS Coorg Karie Kollie	94-0	65-0	—	105-0	48-6
Arbuthnot's Yemmagoondi... ...	88-6	64-0 bid	—	105-6	49-6
Wright's Hooroor	92-6	66-0	—	104-0	47-0
Arbuthnots Kemba Kollie	90-0	57-0 bid	—	104-6	45-0
CMN Korthikad	83-0 bid	no bid	—	103-0	41-0
Wood's Suntikoppa	97-0	73-6	47-0	105-0	48-6
W ◇ Alicadoo	85-6 bid	no bid	—	103-0	47-0
GMM △ Coorg Abial Mountain ...	92-6 bid	69-0 bid	—	109-0	47-6
Kowrie Cadoo Coorg	91-0 bid	67-6 bid	—	108-0	46-6
Hanchi Betta Coorg	90-6 bid	66-6 bid	—	107-0	45-0

WYNAAD.

	A	B	C	PB	T
Walker's Estates Touramulla ...	65-6	52-0	45-6	94-0	46-6
...	65-0	51-6		93-6	
Arbuthnots	84-6	57-0	—	102-0	43-0
Panora Peak	67-0	52-6	47-0	92-6	40-0
	66-6	52-0			
Errumaculla	70-6	55-0	45-0	75-6	39-0
Colarie	68-6	51-6	43-0	90-6	29-0 bid

NELLIAMPATHY.

	A	B	C	PB	T
OCC Victoria	85-6 bid	63-0	—	101-0	41-6
Do. Alexandra	92-6	63-0	—	103-6	41-6
Nelliampathy Manalaroo	81-0	53-6 bid	—	—	36-0

NEILGHERRY.

	A	B	C	PB	T
Manaar	61-0 bid	49-0 bid	45-6	no bid	38-6
Scotforth	92-0	59-0	52-6	80-0	

TEA.

Indian.—There was about the same quantity brought to the hammer, the total being 42,100 packages *versus* 41,100 packages in the previous weed, and 30,700 packages for this period of the preceding year. Competition was brisk for nearly all descriptions, particularly common to fair Pekoes and Pekoe Souchongs, which were in many cases ¼d to ½d per lb. dearer, while good medium to fine Pekoes and Orange Pekoes often showed a decided advance when quality was desirable. Ordinary to finest broken kinds, though not taken up so freely as the before-mentioned, also participated somewhat in the improvement.

For 34,200 packages on Garden Account, 9¼d per lb. was realised, against 8½d per lb. for 24,500 packages, and 9½d per lb. for 24,700 packages in the two foregoing seasons.

Ceylon.—There was a marked diminution in the amount catalogued, it being only 14,600 packages, compared with 24,200 packages on the 7th inst., and 22,400 packages for the same time in 1898.

Medium to fine broken Pekoes met an irregular demand and in the majority of cases where fulness in cup was lacking, former rates were barely maintained, though prices were steady for those with attractive liquor. Leafy sorts under 8d per lb. were in special request, and quotations for these were ¼d and often ½d per lb. over those of last week. The better grades of Pekoes and Orange Pekoes were also well supported, and Continental orders were more plentiful for suitable parcels. Finest and choice lines were sparsely represented in the sales, but the few available retained their value.

The average has risen to 8½d per lb. On the 9th inst. it stood at 8⅛d per lb., and 7⅞d per lb. in 1898.

Java.—Rather over 700 packages of direct import were submitted to the trade, and in sympathy with other growths fine teas ruled firm, while inferior were dearer.

For next week, 1,600 packages are declared.

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns were:—

From 1st to 14th Feb., 1899 ... ... 8,244,516 lbs.
" " 1898 ... ... 8,279,439 "

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated February 17th, 1899, says:—

QUANTITY BROUGHT TO AUCTION IN LONDON,
From 1st June to Date.

	Indian.	Ceylon.	Java.
1898-1899.	1,246,411 pkgs.	812,291 pkgs.	32,630 packages.
1897-1898.	1,227,173 "	859,323 "	30,489 "

42,833 pkgs. Indian
14,927 " Ceylon
756 " Java
} Total 58,516 packages were offered in public auction this week.

The United States and Canada took the following quantities of British Grown Tea during each of the last seven years:—

1898.	1897.	1896.	1895.
lbs. 13,608,696	11,361,840	9,623,283	7,816,467

1894.	1893.	1892.
lbs. 4,723,370	3,981,837	3,075,900

It is satisfactory that an increase should have been shown last year, when the unsettled political conditions are remembered to-

gether with the imposition of a heavy duty upon Tea, imposed as a temporary war tax. The most interesting feature has been the transit of Tea from Calcutta and Colombo in vessels sailing under the American flag and going direct to New York.

Indian.—The market has further advanced for all descriptions Teas under 6½d. to the extent of ¼d. to ½d., better descriptions, with good liquor, from ½d. to 1d. per lb. The comparative costs given in the table below illustrate the moderate range of prices ruling in spite of the late advance. Exports to U. K. from 1st April to middle of month, lbs. 133,937,000, against lbs. 132,420,000; shipments first half of month lbs. 2,210,000, against lbs. 1,970,000 last year.

Ceylon.—All Teas up to 8d. per lb. were dearer, Teas for price being ¼d. to ½d. up. Exports to U. K. first half of month lbs. 4,500,000 against lbs. 4,500,000 last year. Av. for wk, 8·55d., against 7·39d. same wk. 1898.

Java.—The small sale passed with good spirit at rather dearer prices.

IN AMERICA.

The *American Grocer* of 1st ultimo reports:—Market very firm for low priced tea, with better demand. The character of the market will be shown at the public sale to-day.

To-day at noon the Montgomery Auction and Commission Company hold a monthly auction sale of teas, comprising 3,546 packages, as follows: 285 half- chests Moyune, including fancy extras; 50 half-chests Japan, basket-fired; 147 half-chests Congou; 329 packages India, Java, and Ceylon Pekoe—an attractive assortment; 1,436 half-chests and boxes Amoy—fancy, crop 1897-98; 58 half-chests Foochow; 1,241 half-chests and boxes Formosa, including an invoice of "Golden Key."

Thomas Martindale, of Philadelphia, under date of January 28, says: "The week now closing has been a wonderful week among those lucky men who hold fairly large stocks of teas, and the lines that have changed hands and the consequent appreciation in their values have somewhat dazed the rank and file of the grocery trade, and they rub their eyes and wonder what it all means. To-day inquiries came from New York asking for spot Congous, either old or new, at prices that last week would have appeared high; but now they are not high enough to induce the owners (what few there are) to part with their holdings. We are all deluged with request from all corners of this broad land for samples of teas, it matters not what kind,' any old thing' will do, provided it is ' under a quarter.' From the paucity of stocks held here and in other large cities it would seem that teas will continue to advance in price for some time yet; at any rate, until the regular jobbing trade is fairly well supplied."

IN CANADA.

The *Canadian Grocer* of 3rd ultimo says:—Teas, generally, are developing a stronger tone. Spot teas of Indian and Ceylon growth on the Canadian market are practically exhausted, and brokers are, in some instances, asking a cent per pound more than they were a week ago.

The exhaustion of the stocks of these teas is alone sufficient to give the local market a firmer tone, as prices here have, for some time, ruled much lower than in London, Eng. But the tendency of the outside markets is still upward.

China green teas, which have been firm for some time, are also dearer, holders refusing to accept less than an advance of one cent per pound, over the figures at which they were sellers a fortnight ago.

Local jobbers are also firmer in regard to Japan teas, and an advance of ½c. per pound is demanded in some instances.

CINCHONA.

Good thin Java quill, partly mossy, sold at 5*d.* per lb.; fair flat. bold Cartagena at 4½*d.*; good flat yellow Bolivian cultivated Calisaya at 10½*d.*; and fine large bold East Indian quill "Cascade's" at 5*d.* per lb.

Amsterdam bark market.—Cinchona bark advanced 42 per cent. in price in the Amsterdam auctions. The tone of the market was animated and nearly the whole of the offerings sold, no less than 18,564 kilos, or 40,600 lbs., of quinine in bark form being sold out of 21,778 kilos, or 47,640 lbs. The unit came out at 6·7 cents per half-kilo (between 1⅛d. to 1¼d. per lb.), against 4·7 cents at the last auctions. Altogether 4,310 packages were sold out of 4,777 offered. *Manufacturers'* bark ranged from 9½ to 69¼ cents, and *Druggist's* bark from 14 to 50 cents. Below we give the amounts purchased by the various buyers, stated in kilos. of quinine sulphate equivalent:—

English and American Quinine factories (principally).	Brunswick factory.	Mannheim and Amsterdam factories.	Frankfort and Stuttgart factories.	Miscellaneous buyers.	Total sold.	Bought in or withdrawn.	Total offered.
4,662 kilos.	3,761 kilos.	3,460 kilos.	3,203 kilos.	3,478 kilos.	18,564 kilos.	3,214 kilos.	21,778 kilos.

QUININE.

The speculative movement of the past fortnight continued until Tuesday, when matters quieted down a little. On Friday and Saturday some 170,000 oz. of German changed hands at 1*s.* 0½*d.* to 1*s* 1*d.*; April delivery, 1*s.* 1¼*d.* to 1*s.* 0⅞*d.*; May, 1*s.* 1⅝*d.* to 1*s.* 1½*d.*; and June, 1*s.* 1½d. On Monday the market again opened strong with an active demand, and it was estimated that some 120.000 oz. (including sales and resales) found buyers at 1*s.* to 1*s.* 1¼*d.* for spot, and March, April, and May delivery at 1*s.* 1½*d.*, although for forward delivery there were few sellers On Tuesday the market advanced to 1*s.* 1¾*d.*, the business done (50,000 oz.) being mostly at 1*s.* 1½*d.* to 1*s.* 1¾*d.*, with small lots of B & S. brand at 1*s.* 2*d.* per oz., the market closing with sellers at that figure. The makers decline to do business at any price at present, but it is stated that they will advance their quotations 2*d.* per oz. after the bark-sales. It is notable that outside brands are not looked at, showing that the demand is purely speculative.

Later.—Since the foregoing was set up the result of the Amsterdam cinchona-sales has been received, and owing to the 44-per cent. advance in the unit, buying has been vigorously resumed in Mincing Lane at 1*s.* 2*d.* for spot, and 1*s.* 2¼*d.* May. B. & S. and Brunswick brands have advanced their prices by 2*d.* per oz. to 1*s.* 2*d.*; B. & S. not being willing sellers. Other makers are expected to follow at the rate of 2*d.* per oz. all round. In auction Amsterdam and Taillandier's brands were held for 1*s.* 1*d.* per oz., and the agent of the former now wants 1*s.* 1½*d.*

CARDAMOMS.

Offered, 269 packages. Sold, 91. A feature of the offerings was again the large proportion of *Ceylon Malabar* kind put up. Very little of them sold, however As regards *Ceylon Mysore*, the following prices were obtained: Fine bold to extra bold, 4s. 4d.; good ditto, 3s. 8d. to 3s. 11d; fine bold, 3s. 11d.; good bold, 3s. 6d.; ditto brownish, 3s. 4d.; good medium, part lean, 2s. 10d.; good very small, 2s 7d.; fair dull, long brownish, 2s. 4d.; seeds, 2s. 6d to 2s. 8d. *Malabar* dull lean, 2s. 8d. to 2s. 9d.; brownish or spotted, 1s. 8d. to 2s. 2d.; seeds, 2s. 8d. long wild exceptionally good, 3s. 7d.; fair, 2s. 7d.

COCOA.

A further slight advance was obtained at Tuesday's auctions, when 6,629 bags were offered, of which nearly 4,500 bags sold. Of 1,858 bags Trinidad catalogued, 1,700 bags sold at 1s over valuations—superior red 78s to 80s, good to fine ditto 74s to 76s 6d, ordinary to fair 72s to 73s, and low to common weathered 63s up to 69s. Of 3,591 bags Grenada offered, 2,400 bags were placed at 72s to 73s for fine, 69s 6d to 71s for good, 66s to 69s for common to fair, and 61s for low, showing an appreciation of 1s per cwt. 157 bags Jamaica mostly sold at steady rates—69s to 70s for good fermented and 65s 6d to 66s for common to ordinary. 66 bags Costa Rica brought 69s to 72s. 199 bags African retired unsold. Of 734 bags Ceylon brought forward, 230 bags sold with no material alteration from last week, viz.: good bold and medium red 70s to 74s, medium and small partly grey 67s to 69s black and pickings 58s 6d to 64s per cwt. Private sales include 50 bags Bahia at 71s 6d, 250 bags

fine African at 72s, 600 bags Ceylon, fine bold red 83s, collected 68s to 70s, and 250 bags Guayaquil, Arriba at 78s to 82s and Caraquez at 71s to 72s 6d per cwt., also 500 bags Grenada ex the auctions at 71s 6d to 72s 6d.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

	1899.	1898.	1897	1896
Imports, B.P. .. bags	17010	25335	17594	26791
Foreign ...	7241	27710	8990	7793
Home Con., B.P. ...	10681	17028	11310	10277
Foreign ...	8323	7839	10214	9803
Exports, B.P.	6005	4341	5937	4610
Foreign ...	6237	6882	6322	2913
Stock, B.P.	45907	64005	79629	77671
Foreign ...	45263	46489	53873	71443

PEPPER.

Black.—A firm market this week, and prices in sellers favor. On the spot about 1,000 bags Singapore have been sold at 5¼d to 5⅜d for fair, and for arrival 200 tons are reported placed, viz., March-May at 5½d to 5⅝d, closing buyers on the return of small shipments for the first half of the month.

At public sale on Wednesday only 30 bags Singapore were catalogued of which 13 bags damages sold at 5⅛d per lb.

The shipments of Black Pepper for the first half of February compare as follows:—

	1899		1898.	
U.K.—Singapore... 50	75		230	230
,, Penang ... 25			*nil*	
Continent...	30			40
U.S.	150			*nil*
Total tons ...	255			270

To-day 60 tons Singapore sold: spot at 5¼d, February-April and March-May shipment at 5 1/32d. *White* is quiet and easier. On the spot 400 to 500 bags have been sold, viz., fair Singapore at 8⅛d down to 8 1/16d, and fair Penang at 7⅞d to 7 15/16d. For arrival the only sales reported is a lot of 10 tons Singapore March-May shipment at 9d per lb.

At auction on the 15th inst. 228 bags Singapore passed the hammer unsold at 9d to 10d per lb.

The shipments of White Pepper for the first half of February compare as follows:—

	1899		1898.	
U.K.—Singapore... 20	20		230	230
,, Penang *nil*			*nil*	
Continent	20			*nil*
Total tons ...	40			230

GINGER.

Cochin.—For new crop cut there was good competition, but other kinds were very slow of sale, and very wormy small cut sold at lower rates. 178 cases 182 bags catalogued and 170 cases 20 bags sold—*new crop*, good bold some medium cut and scraped 85s medium with a little bold ditto 70s 6d, medium and small ditto 50s, small 38s, small, washed brown rough 25s, cuttings 18s 6d; *old crop* small, roughly cut and scraped very wormy 25s 6d to 27s per cwt.

Japan.—44 bags partly sold at 18s per cwt. for sea-damaged limed.

Jamaica.—315 barrels met a good demand and 250 barrels sold at some advance, small brown 67s, low to common dark Rhatoon 55s to 63s per cwt.

China Galls slow of sale at 52s 6d c.i.f. On the spot no sales reported.

Siam Sticklac is quiet and sales unimportant.

Indian and Ceylon Tea taken by the United States and Canada during each of the last seven years.

INDIAN TEA.

	1898.	1897.	1896.	1895.	1894.	1893.	1892.
Re-exports from U. K.	2,212,020	1,746,963	1,808,216	1,731,950	1,420,205	1,532,573	1,389,281
Transhipments via U. K.	1,366,931	3,309,114	3,123,224	2,299,781	896,025	507,674	147,145
Direct exports via China	805,377	607,167	*abt.* 327,333	*abt.* 40,000	*abt.* 112,000	*abt.* 71,000	*abt.* 50,000
Direct exports from Calcutta ...	1,587,373	*nil.*	*nil.*	*nil.*	*nil.*	*nil.*	*nil.*
Total lbs. ...	5,971,701	5,663,244	5,258,773	4,071,731	2,428,230	2,111,247	1,586,426

CEYLON TEA.

	1898.	1897.	1896.	1895.	1894.	1893.	1892.
Re-exports from U. K.	3,362,898	3,153,284	2,828,104	2,542,573	1,769,204	1,449.720	1,324,182
Transhipments via U. K.	1,207,708	1,855,150	1,165,926	880,732	370,414	232,771	61,304
Direct exports via China	1,185,445	690,162	370,480	321,431	155,522	188,099	103,988
Direct exports from Colombo ...	1,880,944	*nil.*	*nil.*	*nil.*	*nil.*	*nil.*	*nil.*
Total lbs. ...	7,636,995	5,698,596	4,364,510	3,744,736	2,295,140	1,870,590	1,489,474

(Average for all India 9·22d.) *February 17th.*

Garden.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust, and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.
Neilgherry ...	**324**	**7·79**												
Dodabetta ...	30 p	6	...	...	20	6	10½c	5⅜	...	...	...	...	...	...
Dunsandle ..	55½c	6¾	35½c	6¼ 7¼	...	...	20½c	6¾	...	...	...	...	...	...
New Hope ...	306 p	7⅜	72½c	8⅜ 9	104	7¼ 7⅓	60½c	10¼	...	...	70	6¼ 6½	...	...
Nilgiri Plant Glen...	18½c	8½	9½c	9¾	9½c	7¼ 7⅓	...	...	...	...	...	...	...	...
Travancore ...	**883 p**	**7·88**												
Arnakal ...	85 p	8	13	8¼	45	7½	21	9¼	...	...	...	.	6½c	7½
Carady Goody ...	86 p	7½	55 p	7⅓ 8⅓	12	6¾	...	...	9	6½	...	.	10½c	5 6¼
Fairfield ...	110	7¾	...	...	44	7¼	40	8¾	7	6½	13	6½	6	6
Isfield T. Co. Isfield.	60	7	...	...	60	7	...	...	...	..	...	..	...	...
Kanan Dev. Hil. An.	108½c	8¼	...	...	30½c	8½	48½c	9½	30½c	7½	...	...	...	...
Mlapara ...	50	6½	...	...	48	6½	...	...	...	...	...	..	...	...
Penshurst ...	134	7⅞	64	7⅜ 9½	34	7	...	...	22	6¾	...	...	2	5
Travan. T. Co. Pam.	122 p	9	25	8	7	7¼	76 p	9 10½	6	6½	..	..	14	7⅓
Vembanard ...	128	8	...	...	37	7¾	58	8¾	4	6¼	21	7¼	8½c	6½
													8	6¼

PLANTING OPINION.

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SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 24th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Please note the change of address.

MR. CAMERON ON LEAF-DISEASE IN COFFEE.

We have thought it well to place before our readers in complete form Mr. J. Cameron's report on his recent visit to Coorg for the purpose of conducting certain experiments and making investigations with a view to the improvement of coffee cultivation and the prevention of leaf-disease. The report includes a reprint of an article that Mr. Cameron contributed to this paper some time ago. This also we give to-day, notwithstanding that it has appeared in our columns before. Our desire is that the present issue should put before the reader the whole of Mr Cameron's report, with the sole exception of the botanical list that has not yet been submitted. This will follow.

It is unnecessary to introduce Mr. Cameron to our readers or to dwell upon his capabilities as an expert in plant-cultivation. He is well known in Southern India, and his report speaks for itself. Briefly, he advocates what every experienced coffee-planter now recognizes to be the chief preventive of leaf-disease and its best cure—*viz.*,

good cultivation. From beginning to end the report harps upon harmonious strings: select seed carefully, plant carefully, prune carefully, shade judiciously, manure prudently, study the requirements of the plant, and meet them as far as may be. Thus you will have a hardy, disease-resisting plant, and will be able to correct some of the errors of the past. These errors are very forcibly referred to in the "summary" given by Mr. Cameron at the close of his remarks. He there states that the coffee industry in Coorg has entered the forcing stage. The soil has been unfairly exhausted, too much has been claimed from it, and, as the above authority says:—"What was wasted and taken from nature as a free gift, has now to be returned with more than compound interest, and it will take a long time, if ever accomplished, to readjust the debt." He adds that the planter who can return to the land a liberal percentage of his profits, will sustain the forcing system for many years to come, even if no other factor arises to infuse new life into the industry. But he considers that not only cultivation, in all its details, must have very careful attention, but that hybridisation will be found to be a very important matter, and "that the renovation of coffee is not wholly a matter of soil enrichment." No doubt he is right. Yet, reviewing his remarks from the practical planter's point of view, we would specially direct our readers' attention to what is said about *cultivation*. Hybridisation is certainly not a 'fad,' it deserves the planter's earnest consideration, and we trust that a goodly number will take it in hand, and experiment patiently and wisely. To the majority, however, the protection of their own particular interests must be the first care, and we cannot expect that the work of hybridisation will occupy the attention of more than a few. Nor can we even desire otherwise, for it is a work that must be carried on with the utmost care Neglected, when once begun, or carried on without due discrimination between what is good and what bad, it might do harm where good was intended. It is better, therefore, that the few should give special attention to the fascinating mysteries of cross-fertilisation, &c., and the many attend diligently to the practical needs of the plants on their estates, with a view to the curing of disease where it has broken out, and the prevention of it in other cases. Mr. Cameron points the way He wisely states that a table showing quantities of different manures to be applied per acre for different crops is not of the slightest use to the planter, who possesses but one product on many different kinds of soil. His report also hints that no fixed rule for the manuring of coffee-lands in general can be laid down. "The application of proper manure in correct quantity and at the most serviceable time, are things which should be assiduously learned from practical experience." Experiment and experience should go hand in hand, and Mr. Cameron's report should be read not as intended to tell the individual planter exactly what he should do, but to give him the general lines he should try to follow, varying the details according to the circumstances, the conditions, the necessities, of his own particular estate.

With reference to Mr Cameron's remarks on the employment of seeds from different districts and countries, and the study of the coffee fields of the whole planet, we have a word to say. Mr. Cameron makes kindly allusion to our own attempts in this direction. Now, while various planters have manifested an interest in our papers on "Coffee in Distant Lands," not one has yet taken notice—so far as we can judge—of our suggestion concerning the importation of foreign seed and the exchange of seeds generally. It may be that many planters are already effecting exchanges or importations of the kind suggested; but we have doubts on this point. We go so far as to say that an organised system of 'importation' and exchange is almost a necessity at the present time, and though it is a work that District Planters' Associations might carry out for themselves, or the U. P. A. S. I. for all of them, we are still ready to do all in our power to aid it, whenever a start is made. Coorg coffee-seed has made a name for itself all over the world, and we can easily imagine that Coorg planters may think they have nothing to gain by importing what they are likely to regard as *inferior* sorts It is at least possible, however, that present superiority may vanish if exchange of seed be avoided, and a system of in-breeding persistently resorted to. For the rest, we would invite our readers' special attention to Mr Cameron's remarks on shade and drainage. It will probably be said that there is nothing *new* in the advice he gives. Perhaps this is the case. Nevertheless his advice is good, for it lays stress on several very important matters, it puts them clearly before the planter, and if he is wise enough to act upon it, he will eventually be a gainer, no doubt. The report before us is the outcome of Mr. Cameron's own experiments in Bangalore as well as of his brief tour in Coorg, but it must only be regarded as a more or less general statement of what is desirable for the production of strong and healthy coffee plants. Considering how short a time Mr. Cameron was in Coorg, his report is specially deserving of praise, and the planting community owe him a debt of gratitude for studying matters so closely and carefully as he has done. They are indebted also to the Mysore Government for the loan of his services, and to the British Resident for the kind assistance he rendered when the idea of a special visit to Coorg was first mooted. There is but one practical way of demonstrating gratitude for the services rendered by Resident, Government and Specialist. This is, to make good use of the advice given. If planters in Coorg and Mysore and on the Nilgiris and elsewhere profit by what Mr. Cameron has done in their behalf. they will give the best possible proof of their appreciation of what has been done for them.

TEA IN ASSAM, 1897-98.

An Official Administration Reports often contains very useful information, but there is generally a strong flavour of "ancient history" about it, owing to the delays that occur before such reports are placed before the public. Thus, the Report on the Administration of the Province of Assam for the year 1897-98 appears almost a year later than the last date to which it has reference. Still, though much of its interest is lost in consequence of this, much still remains, and the statistical portion that refers to tea manufacture will be of interest, even now, to many of our readers. It is curious, by the way, that tea is classified entirely under the head of "Manufactures" in this report; no mention of tea cultivation is made, under the head either of crops or "agriculture." However, the fact that the tea plant is *grown* in Assam is not entirely overlooked

in the report under notice, which states that the year 1897-98 was an unfavorable one for tea, the prolonged drought from October 1896 to March 1897 having checked the growth of the leaf, so that plucking operations were delayed. The total area under mature plants at the end of the year was 263,213 acres, which shows an increase of 15,558 acres over the figures of the preceding year; while the area under immature plants had decreased from 49,259 acres to 47,337 acres. The total acreage under tea was thus 310,540 in 1897-98, against 296,914 in 1896-97—an increase of 13,626 acres, or between 4½ and 5 per cent. The total outturn of the province was 107,266,332 lbs., or 2,461,027 lbs. less than in 1896, the average yield per acre being 408 lbs., as compared with 437 lbs. on the previous year. Thus an extension of acreage of nearly 5 per cent. was accompanied by a reduction of rather over 2 per cent. in the outturn. Unfortunately, there was also a falling off in the average price realised, which was returned as 5 as. 11 p. per lb. for Surma Valley teas and 7 as. 8 p. for Brahmaputra Valley teas, as compared with 6 as. 10 p. and 8 as. 3 p, respectively, in 1896. The total area of tea garden grants increased from 968,895 to 1,014,017 acres.

Allowance must always be made for inaccuracies, as planters are not usually willing to furnish very accurate returns regarding their estates. The Assam tea industry is so extensive, however, and tea stands so entirely by itself there as the only manufacture of importance, that the figures before us may be taken as sufficiently near accuracy for all practical purposes. What we notice specially is that extensions continue Low prices have not stopped them. Drought and depression may check but they do not entirely stop the taking up of new lands, the further planting out of gardens previously partially opened. At the the end of 1897 there were 822 tea gardens in Assam, at the end of 1896 only 800. In the interval two had been closed, two amalgamated with others and abandoned, but 27 gardens had been newly opened. In 1896 the number newly opened was only 20, but in that year the work of amalgamation was proceeded with much more actively, 31 gardens being thus merged in others. In Cachar no new garden was opened in the year under review, in Sylhet only 3; the chief changes were in Kamrup (6 new gardens) Sibsagar (5) and Lakhimpur (7); but the *area* increased chiefly in Sylhet, where 31,223 acres were added to the area under tea in the preceding year. The following figures show the total area of all lands held by tea planters in 1897—presumably *at the close* of that year—the areas under tea cultivation and the yield:—

	Total acres.	Under cultivation.	Yield lbs.
Cachar	282,583	61,190	22,031,593
Sylhet	212,626	70,200	26,153,168
Khasi and Jaintia Hills ...	100	30	4,000
Goalpara	852	410	140,798
Kamrup ...	20,283	5,873	753,228
Darrang	122,050	33,984	11,154,360
Nowgong	53,160	12,659	4,019,795
Sibsagar	246,907	70,644	24,021,294
Lakhimpur	197,700	55,560	18,988,096
Total ...	1,136,261	310,550	107,266,332

The official report warns us that the area figures shown against Sylhet in the table from which the above figures are extracted, are of doubtful accuracy. The rate of outturn varied from 132 lbs. per acre in Kamrup to 474 in Sylhet. The yield per acre for the Surma Valley, the Brahmaputra Valley, and the whole province was, according to district returns:

	1896. lbs.	1897. lbs.
Surma Valley	460	440
Brahmaputra Valley	431	384
For the whole province	443	408

More interesting still, in many ways, are the following figures, which give the area under mature and immature plants and the total area of tea gardens in Assam during the last fifteen years:—

	Under mature plants. acres.	Under immature plants. acres.	Total area of tea gardens. acres.
1883	161,707	27,746	923,664
1884	158,158	31,694	913,476
1885	159,876	37,634	921,891
1886	170,138	33,855	934,134
1887	177,900	33,179	950,171
1888	188,329	28,347	955,499
1889	196,689	30,560	990,665
1890	200,658	30,380	994,497
1891	208,407	33,416	996,746
1892	213,525	33,667	1,044,984
1893	221,368	35,257	1,042,277
1894	229,316	39,480	1,054,992
1895	234,909	41,105	995,787
1896	247,655	44,254	968,895
1897	263,213	47,337	1,014,017

These statistics are a record alike of steady progress and of the enormous magnitude that the tea industry has now attained in the province of Assam.

RUBBER IN PERAK.

Mr. L. Wray, Curator and State Geologist, Perak, has published a very interesting memorandum on Rubber growing in Perak. He states that the first seed of the Pará rubber was introduced into Perak in the year 1882, but did not germinate. A second lot, received a little later, was planted at Kuala Kangsar; so that the larger trees there are now about 14 years old. Some seed from these was planted in the Museum grounds at Tarping in 1887. The soil is very bad, the land having all been mined over, yet the trees have grown well and have attained a considerable size. So well did they do in fact, that it was decided to plant Pará rubber trees out on waste lands, and a commencement was made in 1891. The trees are doing well. They do well also at Parit Buntar, Siriawan, Tapah, and Batu Gajah, and Mr. Wray considers that they "will thrive in any locality, from the *bakau* swamps to the foot-hills, and on any soil, from rich alluvial to old mine-heaps." He thinks that from 15 to 20 feet apart is the correct spacing. The greatest difficulty in planting *Hevea brasiliensis* is, he says, the very short time that the seed remains good after it falls from the trees. The time that elapses before they are planted should not under any circumstances be longer than a week, and if they can be planted before this so much the better. Sown at once, nearly all germinate; but each day that intervenes increases the number of failures till, at the expiration of ten days or so, none grow. The trees are prolific seed-bearers. Where the land is ready it is an advantage to plant the seed at stake, but where this cannot be

done not much loss would follow planting in nurseries and then transplanting. "The thing to avoid," says Mr. Wray, "is the production of double stems near the ground, caused by the original shoot dying out or being broken off." A little judicious pruning in the first few years is advisable, after that they need very little care. Mr. Wray adds some interesting remarks on tree-tapping, but we need not concern ourselves at present with this branch of the subject.

If planters who have tried *Pará* or *Ceará* or *Castilloa* in Southern India would give us brief notes of the results achieved, they might pave the way for an extension of cultivation. If these trees could be grown in India so as to yield a fair amount of rubber, they should prove a source of considerable profit to planters.

CINCHONA.

Animation characterised the last Bark sales at Amsterdam, and the desire to buy was general. The *Chemist and Druggist* reports that the richest parcel offered was a lot of 14 bales Ledgeriana stem bark in broken quill, produced on the Government estate. It analysed 11·43 per cent. of sulphate of quinine, and sold at from 68¾ c. to 69¼ c. per half-kilo. The quantity of bark bought in at the auctions represented an equivalent of 3,214 kilos. of sulphate of quinine. The following figures show the result of the first two auctions of the years 1899, 1898, 1897, and 1896 :—

—	Packages offered at the two Sales.	Total Weight.	Total Quinine.	Average Quinine Content.	Quinine Sold.
		kilos.	kilos.	per cent.	kilos.
1899 ...	12,867	1,103,249	53,547	5·26 to 5·39	47,682
1898 ...	12,202	1,095,672	56,181	5·14 „ 5·40	28,288
1897 ...	12,481	1,136,086	59,766	5·26 „ 5·75	50,128
1896 ...	14,441	1,320,438	69,037	5·14 „ 5·53	54,534

The units were as follows :—

—	1899.	1898.	1897.	1896.
First sale ...	4·70c.	6·90c.	2·12c.	3c.
Second sale ...	6·70c.	5·50c.	2·90c.	2·82c.

The rise in prices is decidedly encouraging to planters.

By the way, three new kinds of cinchona-bark were brought to the notice of the Zürich Pharmaceutical Association at a recent meeting. Two were from South America and were supposed to be of the old *Calisaya* variety, but only one was of that class the other being the cinchona of Cochamba. The barks were very poor in alkaloids, and neither gave the thalleoquin in reaction, so that they were free from quinine. Although apparently belonging to the yellow barks, they are described as most closely resembling Maracaibo bark. Nothing is said about the third new kind put forward beyond the mere fact that it was placed before the meeting.

U. P. A. S. I. SECTION.

[*Under the control of the Secretary, U. P. A. S. I.*]

Mr. E. E. Green, the Government Entomologist, Ceylon, has sent the following interesting letter, dated 11th inst. :—

As bearing on the question of the importation of Lady-bird beetles from Australia, it may interest you to learn that on examining some specimens of 'Mealy-bug' (*Dactylopius* sp.), sent from N. S. Wales—for identification, I found a live Larva of some lady-bird beetle that had been accidentally included in the small package and had subsisted during the voyage on the coccids sent me for examination. The specimens arrived in a small box—about 2 inches in diameter—and came by the ordinary post, without any special care in packing.

This accidental introduction promises well for the successful importation of regular consignments of beneficial insects by post.

I am leaving for England on the 8th April—on short furlough—I return to Ceylon in September—to take up my new appointment as Economic Entomologist to the Ceylon Government, with residence at the Royal Botanic Gardens, Peradeniya.

* * * * *

Mr. John Cameron's report on his visit to Coorg, of which a copy is given elsewhere in this issue, has been published also in pamphlet form, and copies have been despatched to the various District Planting Associations, and newspapers, &c. Planters requiring copies can obtain them, at 8 annas per copy, from Messrs. Higginbotham & Co., Madras, or Messrs. E. C. Duff & Co., (the proprietors of "Planting Opinion") Madras, or the Secretary to the U. P. A. S. I.

* * * * *

In regard to the Labour question, the Madras Government has been requested to give full consideration to the views expressed by the U. P. A. S. I. in August 1897 and, before adopting any such Bill as has been proposed, to take the sense of the planting community in respect to it, through the medium of the Planting Member of Council. Steps have been taken to ascertain the opinions of members of the various District Planting Associations interested, and these will be duly put forward for consideration.

* * * * *

Reference was made in the Government of India's resolution on this subject to "section 19 of the English statute at present applicable to cases in which extradition from India is sought by courts in Ceylon." Our readers will, therefore, probably be interested in the following extract from the Act referred to, the Fugitive Offenders Act, 1891 :—

Where the return of a prisoner is sought or ordered under this part of this Act and it is made to appear to a Magistrate or to a superior Court that by reason of the trivial nature of the case, or by reason of the application for the return of such prisoner not being made in good faith in the interests of justice or otherwise, it would, having regard to the distance, to the facilities of communication, and to all the circumstances of the case, be unjust or oppressive, or too severe a punishment, to return the prisoner either at all or until the expiration of a certain period, the Court or Magistrate may discharge the prisoner either absolutely or on bail, or order that he shall not be returned until after the expiration of the period named in the order, or may make such other order in the premises as to the Magistrate or Court seems just.

Any order or refusal to make an order of discharge by a Magistrate under this section shall be subject to an appeal to a superior Court.

MECHANICAL TEA-BULKING.

Mr. J. H. Apjohn, Chief Engineer to the Port Commissioners, Calcutta, lately gave a demonstration on the working of his invention for the mechanical bulking of tea, and re-packing. The chief objection to any such process is that factory-bulking must always have the preference. The following remarks in a review of the Tea Trade by Messrs. Barnes & Co., Calcutta, are distinctly *apropos* :—

"At a time when every saving in expenses is of vital importance to growers, the necessity of most careful bulking cannot be too fully impressed upon them, and it stands to reason that the cheapest and best place for bulking is the factory, because labour is cheaper. facilities are handy for packing tea quickly while it is fresh. Unnecessary delay and exposure are avoided, and a saving of ¼d. per pound in London charges is made. It cannot be denied that many fine parcels of tea lose flavour through lying all day on a warehouse floor, exposed to the air, while the treatment in re-packing leaves much to be desired Again, where teas are sold "to arrive," on forward samples, which is a growing custom in the American trade, it is of the first importance that the whole of the break should be of one dead-level quality, which cannot be obtained without careful bulking in the factory. In Australia and foreign markets, where large warehouses do not exist, and bulking cannot therefore be carried out, the break is represented by two or three chests, from which buyers draw samples, and upon these samples purchase the teas, and owing to unequal quality, frequent allowances and rejections have now to be made, which would otherwise be avoided During the past season a few parcels came before us where the difference in quality in teas, invoiced as one break, was as much as 8d. per pound!!"

There is not the slightest reason to suppose mechanical bulking to be impossible, but it must be adapted to the requirements of single factories. As far as we can ascertain from the remarks of our Calcutta contemporaries Mr. Apjohn has not yet attained this goal. His idea is to bulk the teas in *Calcutta*.

TELEGRAPHIC QUOTATIONS.

	Mar. 10	11	13	14	15
LONDON—					
Bar Silver	27½	27½	27½	27½	27½
Bank Rate	3%	3%	3%	3%	3%
Coffee	[dull]	...	[dull]	[dull]	[dull]
Mysore ave. (B) size. ...	66*s.*	...	66*s.*	66*s.*	66*s.*
Ceylon Plantation ...	105*s.*	...	105*s.*	105*s.*	...
Stock, tons	.	...	...	14,442	...
F'night's Indgs. ...	...	...	...	2,600	...
„ del.	...	...	...	1,400	...
Cinchona	1⅜	...	1⅜	...	...
NEW YORK.—					
Coffee—Fair Rio	6⅛	6⅛	6⅛	6⅛	6⅛
„ Futures, June ...	6·20	6·16	6·13	6·15	6·19
Silver—Comml. Bars ..	59⅜	59⅜	59⅜	59⅜	59⅜

NOTES.

Calcutta Tea Sales. The average price realised at the last sales was 5 as. 1 pie.

Prize Essay. We hope to announce the result of this competition in our next.

Ceylon Tea in Russia. The Thirty Committee has voted a further sum of £500 for advertising and pushing Ceylon tea in Russia.

Fire at Bogawantalawa. A serious fire is reported from Ceylon, the Kotiyagala and Bridwell *Kaddies* at Bogawantalawa having been burnt down on 10th instant, soon after midnight.

Tea in Coorg. The following appears in the Report on the Administration of Coorg for the year 1897-98: "The opening of a tea plantation by a syndicate in the Sampaji Ghat. a district where coffee has completely died out, will, if successful, and it promises well, form the commencement of a fresh era of prosperity in Coorg.

Coffee and Cocoa in Martinique. Both Liberian and the "Mocha" coffee are being cultivated extensively in Martinique, but the product will not be exported for some years to come, when the trees will come into full bearing. Cocoa has already made great progress, but similar remarks apply to it also. A premium is granted to cultivators by the Consul Général.

Coffee in British Africa. *Rhodesia*, in an article on the Cape to Cairo Railway, has the following sentence with reference to the future traffic on the proposed railway :—"India rubber from the west of the trunk line, coffee from Northern Rhodesia—and it may be here remarked that the finest coffee in the world is grown in the Shire (Highlands) not to be beaten in flavour even by Java."

Coorg in 1897-98. In a prefatory note to the Coorg Administration Report, 1897-98, Colonel Donald Robertson, the Chief Commissioner, observes :—"The year was an eventful one in that the coffee crops upon which the prosperity of Coorg mainly depends, was, following the previous year's inferior outturn, a poor one, whilst the money market was remarkably tight; so much so, in fact, that it was difficult to obtain money on any terms."

The London Tea Market. Messrs. Gow, Wilson & Stanton, cabled to Colombo on 9th instant that the London tea market was generally steady, good liquoring sorts easier, and Pekoes for price dearer. The average for the week was 8¾*d*—¼*d* up. Reuter reported "medium rather irregular," and stated that 27,000 packages Ceylon tea had been sold out of 28,000 offered, and 34,000 Indian out of 36,000. The average for Indian was 9¼*d*. an advance of ¼*d*. upon the previous week's rate.

More Statistics. The *St. Louis Globe Democrat* is very near absolute accuracy in its figures on the import of quinine into America. The information is conveyed to the public in the following paragraph :—"Quinophagists."—A new word applied to Americans is "quinophagists," indicating that they consume more quinine than any other people in the world. The total imports exceed 1,500,000,000 grains a year, an average consumption of 20 grains to each inhabitant.

Vanilla in German East Africa. Dr. W. Busse states in a German official publication that the results obtained in the cultivation of Vanilla in German East Africa leave no doubt that the colony is well adapted for it. The experiments made in the Cameron district give equally favorable prospects. East African vanilla holds its own with the best Bourbon kind, and it is believed that the supply from the German protectorate will, at no distant time, cover the German demand.

Java Tea in Holland. The following figures give a comparison between Java Tea in Holland in 1897 and 1898.

	1897. Chests.	1898. Chests.
Imports	67,600	67,900
Home consumption	32,600	36,200
Exports	28,900	34,900

Those for 1898 are the top figures. The exports include: To Germany, about 16,000 chests; to England, about 10,000 chests; to Russia, about 1,800 chests; Persia and the Levant, 5,900 chests.

Ceara Rubber in New Caledonia On return from leave Governor Feillet took with him 10,000 seeds and distributed them through the "Union Agricole" to several of the settlers for trial. The result is stated to have been "marvellously successful." With few exceptions, the seeds sprouted and the trees have withstood a cyclone. In fact, the New Caledonians are convinced that the Ceará Rubber tree "does not require as hot and moist a climate for its development, as is the case with other species of the india rubber tree." We wonder if they will still hold this view when the time comes for *tapping* the trees.

Cocoa in Venezuela. It is reported that Cocoa is scarcely produced at Maracaibo in sufficient quantity for home consumption, that only 19 tons were exported in 1896, and it is added that "prices obtained in the consuming markets do not encourage the growers to pay much attention to the Cocoa plants." Nevertheless exports from other parts of Venezuela are considerable. Thus in 1896:—

	Kilos.	Value.
La Guaira	5,130,000	£307,800
Puerto Cabello	376,444	20,000
Maracaibo	38,704	2,000
Ciudad Boliva	22,983	1,014

Kaiserliche Königliche Ceylon Tea! Some time ago the "Thirty Committee" forwarded to Berlin 5,000 lbs. of Ceylon tea for distribution to the German regiments, as might seem best, and at the same time a special silver mounted chest (made of various Ceylon woods), containing choice Ceylon tea, was despatched for presentation to His Imperial Majesty the German Emperor. The duty of presenting the chest was entrusted to Mr. J. P. Ryan, on behalf of the Committee, in co-operation with the proper authorities. Mr. Ryan has now cabled, "personal audience Emperor Empress to-day. Both cordially thank Ceylon." Therefore the heart of the Ceylon planter is glad, and the local earth rejoices at the k. k smile.

Tea and Coffee. In the course of a comparative statement (in *McClure's*) of the foods used by the principal people Mr. G. R. Waddon states that the consumption of *Tea* is as follows:—(in ounces): United Kingdom, 88; Australia, 88; Canada, 70; United States, 24; Russia, 9, and of *Coffee* (in ounces): Netherlands, 370; Denmark, 247; Belgium, 176; United States, 155; Switzerland, 112; Germany, 78; France, 53; Austria-Hungary, 32; Italy, 17; Great Britain, 11; Spain, 9; Russia, 3. The Netherlands get *good* coffee, the United States *very cheap* coffee; but why Italy, Great Britain, Spain and Russia should compare so badly with Belgium and Switzerland is far from clear. Perhaps a little canvassing is wanted?

The American Tea Duty. The needs of the American Government are such that more, and not less, revenue will be needed. *Apropos* of questions raised as to the probable removal of the duty on tea, Assistant Secretary Howell recently stated:—"It is practically certain that no change can be made until the summer of 1900, even if it is made at the earliest possible moment. Action will not be taken at the present session of Congress, and the next regular session does not begin until December, 1899. A thorough revision of the revenue laws would require many weeks of consideration in committee, and, according to all precedents, would not become law until June or July, 1900. I do not think any changes of the revenue laws will occur at that time, but it is practically certain that none can occur at any earlier date."

Manipur Tea Seed. We learn from the Assam Administration Report, 1897-98, that there was a noticeable decrease in the import of tea-seed from Manipur, partly due to the crop having failed in the Manipur State and partly to the depreciation of the Manipur seed. The report states:—"This seed used to hold a high place, and commanded a ready sale in the market, but last year it proved most unsuccessful, as nearly 90 per cent. of it was bad and would not germinate. The indiscriminate plucking of the seed before it was sufficiently ripe is the cause assigned for this result." Imports in 1895-96 were 877 maunds, in 1896-97 4,351 maunds, in 1897-98 only 645 maunds. In 1895-96 the value was estimated at about Rs.26 per maund, in the subsequent years at Rs.40 per maund.

Java Quinine. During 1898 about 116,000 oz. of Java Quinine, from the Bandoang factory, were imported into Amsterdam, and chiefly sold privately at from 14½ fl. to 19½ fl. per kilo. or, say, about 9*d*. to 12*d*. per oz. Latest advices state that there is now no stock left in Amsterdam, and nothing has been offered for future delivery. The quality has greatly improved during the year, and new averages between No. 2 and No. 3 of the Dutch Pharmacopœia. During December 100 cases of quinine were exported from Java, of which 50 went to Rotterdam and the remainder to the United Kingdom. Total exports during 1898 were 1,172 cases or 468,800 oz., of which about 94,400 oz. went to Amsterdam, 75,200 direct to New York, 20,000 to Rotterdam, and the rest (say, 279,600 oz.) to London.

Present-giving Tea Trade. An irate Family Grocer writes to the *Grocer* that only one thing more is needed to make the present-giving tea trade a success, namely, some enterprising firm offering "rent and taxes given away with a pound of tea." This would catch on, for it is on this principle that the divi.-paying stores have flourished—by paying out their dividend before rent terms, thus assisting the improvident spendthrift the more-we-eat the-more-we-save class, who are prepared to pay any price for a rubbishy article provided

only they get a big enough dividend. He wonders when the other trades now being encroached upon are going to wake up to this abuse; and asks:—What if some enterprising ironmonger were to lay in a stock of tea and ticket—"With each of our handsome tea kettles at 2*s.* 6*d.* we will give 'for nothing' 3 lbs. of our choice orange Pekoe," &c.

Mr. H. O. Newport. The *Cairns Argus* of 10th ultimo has the following note, under the head of "The New Coffee Expert":—"Mr Howard Newport, the newly-appointed expert in coffee culture to the Government of Queensland, is at present in Cairns, and will be present at the meeting of the Chamber of Commerce, to be held next Tuesday. Mr. Newport has had considerable experience and will be able to impart a good deal of valuable information to those interested. At present Mr. Newport's plans are that he will spend about a month here, during which time he will visit Kuranda, under the guidance of Mr. Mayers, the Russell, Bloomfield, Daintree, and other districts. So far he has only seen Hambledon, and consequently cannot express any opinions. His desire is to see all the planters in the various districts. He arrived from Cooktown last Saturday, having seen all there was to see there."

Japan Tea. A consular report on the Trade of Hioga and Osaka during 1897, states that over 16,000,000 lbs. of tea was exported, an increase of nearly 10 per cent. on the previous year, and about one-seventh of the whole was exported by Japanese merchants direct, instead of through the local foreign firms. It is observed that the increase in the cost of labour and materials is making it difficult to produce teas at a low enough cost to meet the requirements of America for a good sound tea at about 25c. or 1s. a lb. retail; and that unless Japan can supply that demand, the American will probably take some other kind of tea as a substitute, or else take to coffee. Exports from Yokohama amounted to 26,518,298 lbs. About 30 per cent. of the exported from Japan is taken by New York and the Eastern States, 33 per cent. by Chicago and the West, 14 per cent. by the Pacific coast, 22 per cent. by Canada, and the small remainder—less than 1 per cent.—goes to Europe and elsewhere.

The Colombo Tea Market. The *Times of Ceylon* reports that though no great excitement prevailed at the Colombo tea sales of the 8th instant there was keen competition, and the sale went off with spirit. The sale showed an advance all round, but particularly in lower leaf grades of tea. Pekoe Souchongs fetched 37 cents; and Pekoes were readily taken at 41 cents; while Dust, which in former times could be bought for 19 cents, was difficult to get at 27 or 28. Buying for the most part was confined to two or three local firms, who purchased largely. The following is our contemporary's usual official return from the sale room:—At to-day's public sale of tea at the Chamber of Commerce Rooms, about 7,442 pkgs. = 580,318 lbs. were offered, of which about 5,978 pkgs. = 466,530 lbs. were sold. All grades met with keen competition at the auctions, medium and fine teas being in much better demand. Prices throughout the sales, though, were irregular. All common leaf teas again realized very full rates. Among the finest teas in the sale were: Middleton, High Forest, St. John's and Glasgow. Among the low-grown teas, good invoices were offered from: Carney, Rayigam, Clyde, Ruanwella and Rondura.

S. Paulo Stock of Coffee. The following is a translation of the reply that Messrs. Prado Chaves & Co., S. Paulo gave to enquiries of the *Brazilian Review* about the coffee stock in that city: "With regard to your enquiries about the actually existing stock of coffee in this city, we can assure you that there is none. In our depôts here the only coffee is that which, as soon as it arrives, is put into bags and remitted daily to Santos. Besides the coffee which remains in our deposits at the most for 3 days the only coffee stored here is that to be roasted for local consumption. The reason of the difference existing between the coffee that passes Jundiahy and S. Paulo and that which enters Santos is easily explained. The bags we receive are counted twice in the Railway despatches (boletims) that is to say, they are counted, for the most part, in Jundiahy, and this same coffee after it has been put into proper bags and is ready for export, is again counted as coffee sent from S. Paulo! Here is the reason why it is generally believed that there is a stock in S. Paulo, a stock that absolutely does not exist, the difference simply arising from the erroneous method that the Railways employ in furnishing the statistics of entries."

The Adulteration of Coffee. In the House of Commons on 23rd ultimo, Mr. W. Long, President of the Board of Agriculture, asked leave to bring in a Bill to amend the law relating to the sale of food and drugs. The Bill differed from the measure previously introduced by the President of the Local Government Board in this respect—that, whereas two Bills were introduced last year, he proposed to deal with both subjects in one Bill. The Bill was divided into two parts, the first dealing with certain dairy products. In respect of food and drugs, the Bill imposed cumulative penalties for second and third offences, and also made it obligatory that foreign warranty should not be admitted as an excuse unless all reasonable steps had been taken to ascertain that the facts were as stated. The measure was read a first time.

Wild Coffee. Specimens of a wild coffee plant recently found on the top of Soche (British Central Africa) are described as consisting of dry twig with leaves and flowers in full bloom and a few of the dried seeds in parchment. The *C. A. Times* remarks:—"The whole appearance of the plant seems identical with the ordinary coffee, only smaller both in leaves and seeds. The seeds are exactly the same shape and have the same appearance as the ordinary Arabica but are very white. This seems much more near the wild coffee of the East Coast of Africa than any other of the specimens which have as yet come under our notice." Many of the seeds have been planted and they are now growing at the Makungwa (now the Hollandia) Estate at Soche. It is worth noticing again that this plant was found growing under dense shade and that the ripe berries were gathered in October.

THE PREVENTION OF LEAF-DISEASE IN COFFEE.

REPORT OF A VISIT TO COORG

By John Cameron, F. L. S.,
Superintendent of Government Gardens in Mysore.

PRELIMINARY CORRESPONDENCE.

Letter dated 15th August 1898 from the United Planters' Association of Southern India, Madras, to the Resident in Mysore, Bangalore.

I have the honor to inform you that it was resolved at the Annual Meeting of this Association, on 10th instant, that you should be requested to kindly apply to the Mysore Government on our behalf for the loan of the services of Mr. Cameron for the purpose of visiting Coorg and there conducting certain experiments and making investigations with a view to the improvement of coffee cultivation and the prevention of leaf-disease.

The Association has voted a sum of rupees five hundred to be appropriated as far as need be in paying Mr. Cameron's travelling expenses, and it is hoped that when application is made the Mysore Government will kindly depute him on special duty, to do what is desired.

It may be well for me to point out that the results of Mr. Cameron's experiments and investigations would be available for use in the Mysore Province. Coorg has been selected as the scene of operations because it offers particular facilities for the kind of work that is to be undertaken.

Requesting that you will kindly make the necessary application to the Mysore Government and support it with your influence,

"Copy."

(Sd.) HENRY CLARKE,
Registrar.

No. 1867 / Ft. F. 26-96.

Office of the Dewan of Mysore,
Dated Bangalore, *7th September* 1898.

From

The Secretary to the Govt. of Mysore,
General and Revenue Departments,

To

The First Assistant to the Resident in Mysore.

Sir,

In reply to your letter No. 4283, dated the 26th August 1898, forwarding copy of a letter from the Secretary, United Planters' Association of Southern India, applying for the temporary loan of Mr. Cameron's services for conducting certain experiments and making investigations in Coorg with a view to the improvement of coffee cultivation and the prevention of leaf-disease, I am directed to state that the Durbar have much pleasure in directing Mr. Cameron to include Coorg in his tour of inspection during the next cold weather and to conduct the investigation suggested by the United Planters' Association. Mr. Cameron will be requested to arrange details in direct communication with the Secretary to the Association. The Durbar hope that Mr. Cameron's absence in Coorg will not be for more than 2 or 3 weeks.

I have, etc.,
(Sd.) C. SREENIVASAIENGAR,
Secretary.

No. 1868. / Ft. F. 26-96. Dated 7th September 1898, En. 1.

Memo.

Copy of the foregoing, together with copy of the letter from the Secretary to the Planters' Association, is forwarded to Mr. Cameron, Superintendent, Government Gardens, Bangalore, for information and guidance. Mr. Cameron may make suitable arrangements for the discharge during his absence of his duties in Bangalore.

"By order,"
(Sd.) C. SREENIVASAIENGAR,
Secretary.

No. 5117 / 297-98.

From

The First Assistant to the Resident in Mysore,

To

The Dewan of Mysore.

Dated Bangalore, *29th September* 1898.

Sir,

I am directed to acknowledge the receipt of your letter No. 1867 / Ft. F. 26-96 dated the 7th instant, stating that Mr. Cameron has been directed to include Coorg in his tour of inspection during the next cold weather and to conduct the investigations suggested by the United Planters' Association of Southern India. I am to forward a copy of a letter dated the 19th idem from the Secretary of that Association on the subject.

I have, etc.,
(Sd.) K. D. ERSKINE, Captain,
First Assistant Resident.

Letter dated Madras 19th September 1898, from the Secretary, United Planters' Association of Southern India, to the First Assistant Resident in Mysore.

I have the honor to acknowledge the receipt of your No. 4802 of 17th instant, forwarding copy of letter No. 1867 / Ft. F. 26-96 dated the 7th idem from the Secretary to the Government of Mysore, General and Revenue Departments, in reply to my letter of 26th ultimo, applying for the temporary loan of Mr. Cameron's services for conducting certain experiments and making investigations in Coorg with a view to the improvement of coffee cultivation and the prevention of leaf-diseases.

The ready compliance of the Mysore Durbar will be a source of great gratification to the members of the Association; and I venture to request you to convey its cordial thanks to the Durbar, together with an assurance that every effort shall be made to avoid trespassing unnecessarily upon Mr. Cameron's time.

"Copy."
(Sd.) HENRY CLARKE,
Registrar.

No. 2808 / Ft. F. 26-96.

Office of the Dewan of Mysore,
Dated Bangalore, *5th October*, 1898.

Copies of the foregoing are forwarded to Mr. J. Cameron, Superintendent, Government Botanical Gardens, Bangalore, for information, in continuation of this office No. 1868 / Ft. F. 26-96 dated 7th September.

"By order,"
(Sd.) L. ANANTASAMI RAO,
For Secretary.

No. 120.

Dated Bangalore, 27*th October*, 1898.

From

The Superintendent, Government Gardens,
Bangalore.

To

H. G. Parsons, Esq.,
Honorary Secretary,
Coorg Planters' Association.

Sir,

With reference to the enclosed copy of instructions received from this Government, I have the honor to inform you that I hope to arrive at Hunsur, *en route* to Coorg, on the 14th proximo and would be ready to start from the former place on the morning of the 15th.

From the latter date my services shall be placed at the disposal of your Association for a period of at least a fortnight. Trusting that this arrangement will meet your convenience,

I have, etc.,
(Sd.) J. CAMERON, Supt.,
Government Gardens,
Bangalore.

REPORT.

ARRIVAL IN COORG.

My arrival in the province on the 15th November was happily timed, as the N. E. monsoon had just subsided, and the country was, therefore, seen to the best advantage.

Coffee was also in its prime, crop beginning to ripen in the drier and more exposed parts of the planting zone.

Mr. Parsons, Honorary Secretary of the Coorg Planters' Association, who had kindly made all arrangements for my tour, met me at the Pollibetta Club, and accompanied me to his fine residence at "Beechlands," which subsequently became the base of operations in South Coorg, or what is locally known as the "Bamboo" district.

During the following fifteen days of inspection and touring, I must have passed through 50 miles of fine coffee in full bearing, most of it in the "Bamboo" being in one continuous stretch.

The crop this season is also considered well above the average. It is needless to say that this was an unique and impressive sight such as one does not forget. A sight such as the former rulers of Coorg had never dreamed of!

It is also my first experience of the kind, as on former occasions when visiting planting districts in Manjarabad, South Wynaad and the Niligiri Hills, the coffee was not in crop.

PHYSICAL ASPECT OF THE COUNTRY.

Coorg is a hilly plateau girt on the west and south by the western ghats, the highest boundary peaks being Subrahmanya in the north (5,548 feet), Tadiandamol in the west (5,68″2 feet), and the Brahmagiris in the south (4,500 feet). It is situated between north latitude 11° 55′ and 12° 50,′ and east longitude 75° 25′ and 76° 14,′ covering an area of 1,585 square miles. Mercara, the capital of the province, occupies a commanding site at an elevation of 3,800 feet. The view from the spot called "Rajah's Seat" is one of the finest I have ever seen. The average elevation of the upper plateau is 3,500, but gently sloping towards the eastern frontier, where the elevation in some places does not exceed 2,700 feet. Minor mountains and hills intersect the whole country beautifully, and are mostly clothed with interesting trees of varying tint. In most parts of the "Bamboo" one feels rather over-shadowed by trees; but commanding situations, as at the Pollibetta Club, Mr. James Gerard's Bungalow, and Elk Hill, afford fine views of this part of the country.

In North Coorg, the finest views observed are at Peremboo Colly, Mr. Salisbury Trelawney's charming place, Mercara, and Hallery, where I was the guest of Mr. and Mrs. Sprott, and had the pleasure of meeting Mr. Frank Mangles, one of the most successful pioneers of planting in North Coorg.

The principal rivers and streams have an easterly course and flow right across the peninsular into the Bay of Bengal. These are the Kaveri,—rising on the Brahmagiri Range at a sacred spot called Tala-Kaveri, or head of the river,—Hemavate and Lakshamanatertha. The Barapole is the principal river flowing to the western coast. Mountain streams are abundant and rapid during the monsoon season, but at other times they are not so apparent, and the planters mostly complain of the difficulty they experience in watering flower gardens around their bungalows during the dry season.

But this is of course due to the bungalows being mostly situated on high ground, where there is less malaria to contend with. The little alpine province of Coorg is justly described as one of the prettiest spots in India.

GEOLOGICAL FORMATION.

The geological formation is eminently favourable to the creation of good soils. This is due both to the mineral constitution of the indigenous rocks and to their age and mechanism. In nearly every part of the country one sees an abundant outcrop of disintegrated rock in all stages of decay, and in coffee lands this valuable material is intimately incorporated with the tilth. It is, in my humble opinion, the backbone of both the soil and the planting industry. Would the latter have progressed for 40 years without this wealth of nutrient matter to support it?

The prevailing rocks consist of gneiss, syenite, and limestone; and a reddish-coloured laterite is plentiful in many localities. The minerals from which a fertile soil is usually formed are strongly in evidence, *e.g.*, felspar (in several forms), mica, hornblende, and possibly augite. Such being the case, I conclude that the inorganic portion of the soil is mostly made up of varying proportions of these mineral ingredients. Of organic constituents, humus is the largest natural deposit. But in the planting districts the general use of special manures has tended to greatly alter the nature of the soil. It will thus be seen that the planter possesses all the crude elements for forming fertile soil of an enduring character, and, judging from the successful cultivation of one exhaustive crop for periods of 30 to 40 years, the nutrient ingredients of this natural soil must be available in proper proportion, although, in all probability they have not been expended lavishly. In his soil, I therefore think, the Coorg planter possesses a very sound investment. Those crumbling rocks will go on liberating (in some proportion to the pressure put upon them) nutrient material for thousands of years.

FLORA AND FAUNA.

Botanically, the whole country is most interesting. But to do justice to this section of natural history required time and equipment for which I was not prepared on this occasion. A list of such known plants as were observed *en route* is appended* to this paper, as also of specimens collected when there was an opportunity. Most attention was given to the arborescent flora, as bearing more directly on the special work in hand. Except in a few isolated instances, the trees in Coorg do not equal the splendid arborescent growth one sees in Manjarabad and other parts of the Mysore Malnad. But this is partly explained when it is remembered that extensive jungles of bamboo (hence the local designation) have been to a great extent replaced by secondary growth. Colonel Welch refers to the extensive and almost impenetrable growth of bamboo in his "Military Reminiscences," 1790—1829. The virgin forest has also been felled to a great extent to make room for special and exotic trees (secondary planting) now favoured for shading and otherwise promoting the growth of coffee. But except for the arborescent growth, with a few orchids and parasites found upon it, the strictly industrial tract is not of great interest to the botanist. For profitable field work he prefers the primeval forest, the Devarakad, riverside and Cadanga, where the indigenous flora is more rampant. The latter position consists of primitive embankments or ancient lines of defence which are found at short intervals all over the country. Weeds of an exclusive kind were observed on several of these mounds, and are possibly due to a difference in the physical or mechanical condition of the soil. A wild or indigenous species of coffee is found in North Coorg. It was first brought to my notice by Mr. Wood, of "Ahtur" estate, who kindly procured me several specimens of the plant in fruit. The only indigenous species hitherto found in the south are *Coffea travancorensis*, W. & A., and *C. Wightiana*, W. & A., the latter being perhaps only a variety of the former. I consider this the most important find during the tour. But the most

* [Will be published later.]

attractive plant seen in quantity, in North Coorg, is the beautiful *Barleria Gibsoni*. The flora of the Sampagi ghat is of a ravishing description, and it is difficult to decide whether wealth of vegetation or beauty of scenery is the most attractive in this glorious spot. Of the fauna I practically saw nothing during my tour. Some of the birds of plumage are exceedingly attractive, and some are very destructive to the coffee. Of the latter class the green barbet, *Thereiceryx viridis*, is one of the worst. Bees are plentiful, and a giant tree having many tiers of honeycombs suspended from its upper limbs is indeed a novel sight. I am told that it is difficult to induce jungle experts (Kurumbers or Kaders) to collect honey from isolated trees owing to the limited means for beating a hasty retreat, if necessity should require it.

SOUTH COORG.

Formerly this region was the home of the bamboo, where it was the admiration of every traveller. But it is now the home of coffee, extending over a continuous area of many square miles. In no other part of India does one find so much coffee cultivated within a limited area. With the exception of a few intervening Devarakads (temple lands) the bulk of the cultivation may be described as an unbroken tract. Wherever one looks, hillside and valley is an unbroken sheet of shining green with thickly clustered berry, the whole being shaded by stately trees. Throughout the tract there is a close similarity in the nature of the shade, or over-growth, as also in the estate roads and boundaries ; so that a stranger has difficulty in finding his way about. The "Bamboo" is much the largest planting district in the province, and possesses about 70 estates belonging to Europeans. In extent these gardens vary from 80 to nearly 500 acres, but in some cases they are not fully planted in coffee. The fact of their being joined on to each other, as already stated, offers facilities for the easy spread of leaf disease and similar pests. The district differs from North Coorg in being 500 feet lower, with mostly an eastern or southern aspect. It is also warmer, somewhat drier, and more uniformly shaded throughout. The soil is rocky near the surface in some parts, while in others there are deep deposits of clay. As a rule the estates are very neatly kept, some of them being demarcated by thriving hedges of the shoe-flower, *Hibiscusrosa sinensis*. Pretty bungalows crest the lower hills, with flowers and other signs of social life about them.

NORTH COORG.

Here the country is of a bolder and wilder type, with mostly evergreen forest at intervals. Coffee estates are fewer in number and more isolated; not in one continuous stretch as in the "Bamboo." It is a more exposed region and the rainfall is comparatively heavy. The natural soil appears to be excellent, and old coffee looks well upon it. I was astonished at the steepness of the land in some parts, but withal in good growth and bearing. The scenery in North Coorg is delightful. Owing to the heavier rainfall and colder aspect, estates are not so heavily shaded as in the south. Taking them all round, the crops were heavier here than in the "Bamboo." There were also fewer complaints of the ravages of the borer, an insect which prefers to bask in the southern sun. The mean annual rainfall for the whole province is 123 inches : but the distribution is unequal, being always heaviest on the west side of the country. In some parts of the "Bamboo" it does not exceed 50 inches.

With the foregoing attempt to show how the Coorg planter is situated in regard to climate, soil, and environment, I shall now proceed to discuss more in detail, some of the vital questions bearing on the future prosperity of the planting industry.

SHADING.

What constitutes the best shade to coffee is still a keenly contested point among planters, and while one warmly recommends the indigenous "Biti"—*Dalbergia latifolia*, another rejects this tree, and, for example, wholly places his trust in the exotic "Silver-Oak," *Grevillea robusta*. But for reasons which shall be explained further on, it is preferable, in my opinion, to employ a selection of trees to shade an estate ; and most planters have adopted this plan either from necessity or choice. The trees mostly favoured for shading coffee are of two classes, *e.g.*, the indigenous and exotic. Their names are as follows :—

Indigenous.

Ficus Glomerata	*Atti.*
Dalbergia latifolia	*Biti.*
Erythrina indica	*Palwan.*
Pterocarpus marsupium	*Honne.*
Lagerstrœmia lanceolata	*Nandi.*
Terminalia belerica...	*Tare.*
Acrocarpus fraxinifolius	*Howlige.*
Cedrela toona...	*Noge.*
Ficus bengalensis	*Alada.*
,, tuberculata	
,, Mysorensis	*Goni.*
,, Tjakela	*Cap basuri.*
,, Tsiela	*Bili basuri.*
,, Asperrima. (Inferior)	*Gargatti.*
Albizzia odoratissima	*Bilvara.*
Artocarpus integrifolia	*Halasu.*
,, hirsuta	*Kad halasu.*
Antiaris toxicaria	

Also some undetermined species.

Exotic.

Erythrina lithosperma	*Mostly young.*
Albizzia moluccana	
Grevillea robusta	
Cinchona succirubra.	*Not classed as shade.*
Pithecolobium saman.	

The correct amount of shade to be maintained on an estate is another matter for which a fixed rule cannot be laid down, as it must of necessity vary according to circumstances. In situations where the rainfall is heavy or regular, soil good, and aspect cool, the shading should be comparatively light. But in the greater part of the "Bamboo" these conditions are somewhat reversed, and particularly in those parts where the soil is light, stony, and sunburnt, it is essential to have heavier shade. In furnishing this protection, however, care has to be taken not to remove an undue proportion of plant food from the staple cultivation, and in places where young shade trees are thickly planted there is the danger of doing this. During the early years of growth, trees of this class draw nearly their whole nourishment from the surface soil, and at all ages the surface roots of trees will contend for a share of its abundant food.

It is true that most saplings will soon establish their leading roots in the subsoil at depths far beyond the reach of the coffee bush, and as they increase in size, this tendency to draw nourishment from the substratum increases until in many fully developed forest trees surface rooting is reduced to a minimum. All other conditions being favourable, it is deep-rooting trees of this class that should be preferred to shade coffee. The only exceptions would be in the case of fig trees, which (probably from their quasi-parasitic nature) do not appear to exhaust the soil to the same extent as other shaders, and leguminous trees, which assist nitrification in the surface soil. On some of the estates visited, sapling trees ranging in age from five to fifteen years were so closely cultivated that the growth of timber almost appeared to be the primary object. On others, having a more advanced growth, the trees had been considerably thinned.

while the remainder had been "lopped up," *e.g.*, pruned from the base upwards, so that the actual shade was far above the coffee. This, again, conveyed an idea of arboriculture, the trunks being so numerous and bare. Of course, the object aimed at of admitting air and light in this way is perfectly sound, but the fact remains that a plantation of young trees is rapidly consuming food which by right belongs to the coffee.

Where the initial mistake has been made of removing the indigenous deep-rooted shade—and it is pretty universal—replanting has been compulsory, as no one now thinks of growing coffee successfully without shade.

But in addition to losing much valuable time in secondary planting, it will be felt that the land is called upon to do double service. This, however, is not the only disadvantage arising from the sudden exposure of forest soil long nurtured under shade. Such treatment causes a revulsion in the chemical action of the soil, and under strong sun-light the valuable process of nitrification is arrested. Possibly this may account for the infertility of long-abandoned coffee lands. It is, therefore, clearly to the planter's interest not to bare the land entirely, but rather by careful selection to retain and make use of the forest trees already in possession. The finest shade, with the least exhaustion to the soil, is provided by deep-rooted umbrageous trees growing at 60, 80, and even 100 feet apart. Specimens of this description are sufficiently abundant in the virgin forest, and planters should always utilise them when making new clearings. It is under shade of this sort, with perhaps a little secondary planting here and there to fill up gaps, where one sees the finest coffee. "Devaracadoo" in the south and "Hallery" in the north, may be quoted as good examples of mixed shade. These fine trees not only indicate the fertile nature of the soil but they also protect and manure it, while reserving the upper stratum for the growth of coffee.

They also drain the subsoil, and extract mineral solutions from the latter, which are indirectly conveyed to the surface soil in the fallen leaf and decayed roots. It is in this reciprocation of mineral food constituents that the use of a variety of good shade trees, in preference to a few, is chiefly commendable. But variety is also needed to produce the light and shade which is so necessary to effect the best results in growing coffee. When in the months of June and July the sun is often obscured for weeks together and the trees are dripping with superabundant water, it stands to reason that dense shade would do harm. Then, again, when tender growth is progressing during the hottest months of the year more shade would be necessary. In other words, conditions vary, as should also the amount of shade on a coffee estate. Different trees cast their leaves at different times of the year, hence the admission of light in a somewhat varying quantity. The greatest amount of exposure should extend from November, when the berry is ripening, until the flowering period, when the young fruit is set; the object being to insure the thorough ripening of the young wood. Naturally this is what happens, as with the cessation of rain the fall of the leaf is hastened and the coffee bush becomes more exposed to the ripening influence of sun-light. I observed that the "Palwan"—*Erythrina indica*—is a favourite shade-tree with many planters, and is looked upon as a fertiliser of the soil. The evergreen species, *Erythrina lithosperma*, is also under trial, although in some cases it is not true to name, being thorny and a doubtful evergreen. *Dalbergia sissoo*, Roxb., is a new shade tree which I have recommended for planting in stony land. Seed can be supplied in quantity from Bangalore, where the tree flourishes.

CULTIVATION OF COFFEE.

It is not my intention to write a treatise on the cultivation of coffee, as every planter is sufficiently skilled in the routine of his particular work, while many are clever experts in the whole industry. But there are certain details of an important nature, bearing on the results of cultivation, on which the opinion of an outsider might be of some value.

Lands selected for the cultivation of coffee are usually of three classes, *e.g.*, virgin forest, *Kumri* and *kanave;* and they are always the best of their kind, due allowance being made for other necessary conditions, such as rainfall, aspect, and shelter from prevailing winds. But forest soil is the best, as also the most enduring under shade. When fully exposed by the entire removal of shade, land of the latter class exhibits extraordinary fertility for a time, but under the influence of full sun-light it gradually becomes less fertile, and coffee eventually dies out. This is due to what might be called adverse circumstances, as, for ages, the soil had been accustomed to a wholly different course of treatment for which it was specially adapted. By its absorptive and retentive nature, a deep vegetable mould is peculiarly fitted for the dual support of forest trees and coffee, from which products there is an unceasing demand for moisture. But with the removal of this natural drainage (absorption by growth) the soil becomes wet, cold, and unfertile; while the influence of intense light induces denitrification and hence a state of at least partial sterility. It will thus be seen that shaded and exposed lands are differently constituted and that the one cannot be merged into the other without causing intermediate disadvantages to the cultivator. The planter now realises that entire felling is the biggest mistake he has made; but he attributes the cause, and perhaps rightly, more to the absence of shade than to a depreciation of the soil. In planting up abandoned coffee-land the growth is often slow and unsatisfactory, even when supported by liberal tillage and manuring; also in putting in "supplies" the reaction caused by undue exposure is sometimes felt. These difficulties I mostly attribute to a want of tone in the soil, caused by the absence of sufficient shade. Secondary plantings of coffee seldom do much until the shade is well up, when, it will be observed, the natural condition of the soil becomes re-established.

When an estate is planted, and during the first few years of its existence, the tillage of the whole land should be deep and thorough. The more the land is opened and aerated at this period the better, as at a later stage of growth when the bushes nearly meet there is both less opportunity and less necessity for deep tillage, should the land be well drained. To recommend draining the side of a steep hill may sound paradoxical, but during my travels I observed such land evidently in need of drainage. Then, where it is not very steep, especially in low-lying ground, a proper system of drainage is a most important factor in the sweetening of the soil.

Humus is not only very absorbent of water but it also retains it like a sponge.

Wherever there is sufficient foothold for soil of this description, plants will obtain moisture and grow readily, a fact which is strikingly exemplified by the steep cultivation at "Abiall" and other estates in North Coorg. But while the drainage system is intended to remove surplus moisture, care must be taken not to increase "wash" on the upper slopes. On a few estates I observed that open drains, a foot or more in depth and only a few feet apart (sufficient to accommodate one row of coffee bushes), were perpendicularly aligned from top to bottom of the slope. Unless the land is very heavy—a stiff clay—I should consider this practice open to question. Drains eighteen inches deep, following a gently sloping contour across the face of the slope, would be better, and would to a great extent intercept wash. The proper distance apart would wholly depend on the nature of the soil.

But as far as can be judged, twelve and eighteen feet are reasonable distances for heavy and intermediate soils. Stagnant water in the soil is a most hurtful thing, and should be removed at any cost.

"Renovation pits," or holes made at intervals for the deposit of weeds, are supposed by some to facilitate drainage. But this is a doubtful function, as the pits have no collateral outlet and soon become clogged with weeds and forest refuse. I should be inclined to call them *brood-beds* for the propagation of fungoid diseases. At anyrate they should not be allowed to supersede a proper drainage system when it is required. Many fig trees possess the advantage of being openers of the soil, a fact which would easily account for the luxuriant growth of coffee under them. The woody, lateral roots of these trees form vacuities and tunnels which readily admit liberal currents of oxygen for many yards around each trunk. This, now, brings me to the all-important question of digging in a plantation. Thorough tillage up to a given limit has already been advocated, and it is also admitted unconditionally that a moderately open tilth is beneficial at all times. But there are other conditions to be taken into account, and I hope to show presently that in the matter of digging, the planter has to decide between two evils. These are (1) the destruction of coffee roots and (2) the closing up of the soil to some extent. The coffee bush is naturally a surface feeder, a position of root-growth which is further strengthened by subdued light and the prevailing practice of manuring on the surface, or very near to it. On productive estates I observed that fine meshes of young roots pervaded the upper soil everywhere, and I contend that the periodical removal of these feeders by injudicious *mamati*-digging would do the estate an incalculable amount of harm. Certainly much more than would be done by leaving the land undisturbed for a season. For routine tillage on an established tote, the *mamati* should be entirely discarded in favour of the fork; which opens the soil lightly without cutting many surface roots. A good argument advanced in support of *mamati*-digging is its efficiency in removing the encroaching roots of trees, which would otherwise take possession of the land. In reply to this, I must refer the reader to what has been written about deep-rooting trees being preferred to all others where coffee is largely grown. When surface-rooting trees are retained for shade (unless they possess special merits, as it has been shewn may be the case) the evil cannot be remedied by surface digging without injuring the coffee, as it is unlikely that in using a *mamati* the ordinary cooly would take the trouble, even if he possessed the skill, to discriminate between the young roots of trees and the roots of coffee. It is rather by the thoroughness of preliminary operations, effectual drainage, and occasional surface forking that the planter can hope to oxygenise his land and thereby maintain its fertility and sweetness. But I can fully sympathise with those who are pestered by the surface roots of voracious trees, and if some implement could be invented to draw these out without doing much damage to the coffee roots it would be a good thing. Lopping off the principal root-limbs and leaving them with their ramifications to rot in the land is not a bad practice. Care must be taken, however, not to kill the tree or needful shade would be lost.

It may here be asked why so much importance is attached to coffee roots being near the surface. The answer is, that all fruit-bearing plants should have their roots well under the influence of light and heat to insure the best results in the production of fruit. This is all the more necessary in the case of coffee, where the soil is thickly covered by a mantle of vegetation. The food-stuffs required for the formation of fruit are not usually procurable in the subsoil, hence the advantage of shallow cultivation. Surface rooting is therefore desirable, although, to support vegetative growth during periods of drought, it is necessary to encourage fairly deep-rooting development also. But in this connection the admission of light, and regulation of growth, is controlled to some extent by careful pruning. I say "careful" advisedly, as the system of pruning which I have seen on some estates (not on the occasion of this tour) leaves much to be desired. It is a truism that bad pruning is worse than none, while hacking and reckless mutilation is often followed by troublesome diseases, such as rotting and canker. The object in pruning coffee is to equalise and encourage the growth of healthy bearing-wood. Anything not capable of giving crop, unless indirectly leading to the formation of crop-bearing shoots, should be removed by clean cutting. If this is done with care, shortly after picking, the soil, bush, and planter will each benefit by the operation. The organic and inorganic substances which combine to form plant food are well known to the intelligent cultivator. What he is more concerned about is whether these substances are present in proportionate quantity and soluble form, as if they are not, the soil will be unproductive. The mere fact that certain constituents are found in a soil is no criterion of its fertility. And when it is remembered that mechanically, chemically, and biologically, soils are subject to ever varying conditions, this is not to be wondered at. Uncertainty as to the natural capabilities of the soil has led to much investigation, and the truths revealed by agricultural research in recent years are not only very encouraging but of the highest importance to the cultivator. He now understands how the defects in a soil can be remedied at the least cost. Indeed a bad soil can soon be converted into a good one.

It has already been stated that the Coorg soils are naturally good, therefore the planting industry was commenced on favourable terms; and bumper crops, obtained without much cultivation, were the order of the day for many years. But as time went on the shrub became less productive, and coffee pests of sorts commenced to attack the cultivation. It was then realised that the natural soil was becoming deficient in something which only heavy manuring could restore, and henceforward, manuring estates became a necessity. What the planter is chiefly interested in at the present day is how to restore to the land, in the cheapest and most efficient form, what his crops remove from it.

Agricultural chemists tell us that only *three* principal substances need be applied in the form of artificial manures. These are *nitrogen*, *phosphoric acid* and *potash*.

WEEDING.

The incursion of weeds on cultivated land has always been looked upon as thriftless husbandry, and generally speaking, we should take that view of it in coffee cultivation also, as the demand made upon the land by tree and coffee roots is already more than it can bear. But the primness of a flower-garden is not required on the estate, and in some exposed soils of a stony nature I instinctively felt that a light covering of weeds would have done good, by cooling the over-heated surface. The prevailing weed in the plantations is *Blumea Wightiana*, DC. (Kan "Gabbu Soppu"). It is an annual herb of rapid growth, and abounds everywhere in two varieties, determined by white and purple flowers respectively. Considerable expense is incurred annually in the destruction of weeds, but the outlay is compensated to some extent by the green manure which is thus secured to the soil.

If weeds of annual duration, such as *Blumea*, have their tops cut off before flowering, they will do no harm to the coffee and comparatively little to the soil. I was favourably impressed by the clean cultivation which mostly prevails all over Coorg.

MANURES.

Valuation of Manures.

The manurial substances at the planter's disposal are of several kinds and may be roughly classed as follows:—

(*a*) Manures having both a direct and indirect action on the soil.

Cattle manure of all sorts.
Green manure of all sorts.
Sewage.
Composts.
Humus top-dressing.
Bones, when largely applied.
Guano do.

(*b*) Such as act indirectly.

Lime.
Marl.
Chalk.
Gypsum.
Salt.

Lime is of the highest importance to coffee land, as in addition to acting beneficially on humus, it is the salifiable base for the process of nitrification.

(*c*) Manures having a direct and comparatively quick action.

Bone-meal, dissolved, and in sulphuric acid, Guano, including fish guano, and flesh guano such as Mr. Petrie Hay prepares at Hunsur.
Oilcake—Poonac, castor, honge, etc.
Nitrate of Soda.
Superphosphates.
Sulphate of Ammonia.
Sulphate of Potash.
Muriate of Potash.
Mineral Phosphates.
Kainit.

A most valuable fertiliser of this class, recently discovered in the *débris* of steel factories in Europe, is *basic slag*.

Of the above named manures I shall now attempt, briefly, to show which are most valuable in providing *nitrogen*, *phosphoric acid*, and *potash;* leaving the cultivator to use his own discretion in a final selection. But manure in name and the substance in reality are often quite different things, and in the case of portable manures at least, I would strongly advise careful analysis.

Nitrogenous Manures.

Nitrogen in its different forms may be said to be present in everything. But for purposes of cultivation we mostly require it in the forms of *nitric acid* and *ammonia*, of which there is often a deficiency in impoverished or over-cultivated soils. It is, therefore, in the application of substances rich in nitrates and nitrites that we are likely to maintain this indispensable constituent in a form suitable to the growth of plants. The fixation of free nitrogen from the air through the combined action of leguminous plants and bacteria is a recent discovery of great value to the agriculturist. Nitrogen abounds in humus, and is found in varying quantity in all decaying organic substances.

The artificial manures which contain it in the largest proportion are nitrate of soda, sulphate of ammonia, Peruvian guano, bones, fish and flesh guanos and oilcakes.

All these are now used on coffee estates.

Phosphate Manures.

Next in importance to nitrogen, as a soil constituent, comes phosphoric acid. But as the latter enters largely into the composition of the coffee bean it is really of almost first importance to the planter. It is fortunate, therefore, that the crumbling rocks of Coorg are well charged with this useful acid, apatite, carbonate of lime, and the decaying felspars being the usual basis for it. Bare, arid tracts with occasional stunted vegetation indicate its scarcity, as plants are unable to grow without it. Coprolites abound in it. In nature, Phosphoric acid is mostly insoluble, occurring as phosphates of lime, alumina, and iron, etc. For convenient restoration to the land we have numerous artificial manures, such as guano, bones, basic slag and all the mineral phosphates. But for quick effect on growth, the soluble superphosphates are the best, especially the double superphosphates manufactured at Wetzlar in Germany.

Potash Manures.

Although not so important to growth and reproduction as the preceding constituents, still, potash is an indispensable factor in the raising of crops. It is naturally abundant in old rocks—especially felspar—in decaying vegetable matter and in the salt-water of the ocean. It is the principal ingredient of the ash when a plant is burnt. Mr. Sprott, of Hallery, burns the noxious *Lantana Camara*, to utilise its potash on the estate. In a country situated as Coorg is, one would think that Potash would never be wanting: dense vegetation, sea influence, and crumbling felspar rocks being natural conditions. Still, the application of this mineral by artificial means has proved highly beneficial, and it can only be surmised that the natural product is in some way slow or defective in action. Sulphate and muriate (chloride) of potash are the two artificial forms in which this mineral is quickly restored to the soil. Dried blood is also good for the same purpose.

Application of Manures.

Having now classified the important manures under their respective headings, it is necessary to say a few words regarding their application to different kinds of land. Soils poor in organic matter are usually the most benefited by the application of nitrogenous manures. But some of the latter, such as nitrates, ammonia salts, and a few organic forms of nitrogen act so quickly on the soil that they should only be applied as top-dressings at the time the crop most requires them. Of this class, nitrate of soda is the most volatile. But bones, guanos of sorts, and oilcake are of slow action, and should be applied some months before they are actually required as food to the plant. Powerful fertilisers, as nitrate of soda and sulphate of ammonia, should always be applied in limited quantity, and, if possible, on two occasions during the growing season. Nitrate of soda is of most value in a comparatively dry season, heavy rain having the tendency to wash it down into the subsoil.

Sandy soils are usually improved by the application of potash. Damp heavy soils, as also such as are rich in organic matter (humus), should have phosphatic manures in preference to all others.

Manures of a quickly soluble nature are best suited to a dry climate, while those of slow decomposition are just the reverse. Mineral phosphates and basic slag require time to ferment in the soil, and should, therefore, be applied several months before they require to be in action.

Superphosphate on the other hand acts speedily, and should be applied as a light top-dressing at two or three intervals during the period of active growth. It will thus be seen that special fertilisers can only benefit crops while active growth is progressing, and when the soil is sufficiently moist to induce chemical action. In the case of nitrate manures the same conditions are necessary to enable the micro-organisms in the soil and roots to work satisfactorily in the production of nitric acid, through the wonderful process called nitrification. It is now known that a fertile soil teems with bacteria, as also the roots of many trees, shrubs, and herbs of the natural order *Leguminosæ*.

Indigenous Manures.

It was pleasing to hear that a few manurial products of the country are growing in favour. These are, in addition to oil-cake, which is universally and deservedly popular, *lime*, *fish guano* from the Malabar coast, and a substance which I shall call *flesh guano*, prepared by Mr. Petrie Hay at the Hunsur works. It consists of the dried fleshy material which is separated from greenish bones in going through the mill, and as

now prepared by Mr. Hay forms a rich compost. If this manure could be prepared on a large scale, and in a somewhat different manner, it would be in great demand as an organic fertiliser. In this connection it may be asked if the millions of carcases (cattle and horses, etc.), annually put away in obscure places could not be applied to a more useful purpose? Being rich in nitrogen and phosphorus, the fish guano of the western coast should be liberally used on estates.

The lime procurable about Hunsur, and in some parts of Coorg itself, is supposed to be of questionable quality for manurial purposes. But this is a matter which chemical analysis would easily decide. In all probability it is better in some quarries than in others. There are two classes of land in Coorg which could be vastly improved by a liberal use of lime. These are the inert forest tracts and clay deposits. The mechanical and chemical action of lime on these rich soils would, in my opinion, be of the greatest value to the planter. Of course, phosphates in the shape of bone meal or otherwise, would, to some extent, have the same effect, but they are more expensive and have practically no mechanical action on the soil. Although not a direct food giver, it must be remembered that good lime is a great manufacturer of plant food.

The free admixture of decaying rocky material, containing felspars, etc., is another means of improving the mechanical condition of heavy soils. Indian cattle manure is much poorer in quality than the farmyard dung of western countries, where much pains are taken to make and preserve the latter. But where cattle are folded and littered on the estate, the manure is of better quality. The bracken fern, *Pteris aquilina*, which contains a good percentage of alkaline matter in its constitution, is an excellent material for littering cattle. The location of this herb is said to indicate the presence of a calcareous soil. It is strange that soils of this class are often improved by light topdressing of chalk and gypsum. In dealing with soils of different sorts, it is necessary to apply such manures as are best adapted to each condition, and the quantity to be applied has to be regulated on the same principle.

Practical experience is much the safest guide, and it is not difficult to conduct such experiments on a small scale in different classes of land.

NURSERIES AND SEED SELECTION.

Preliminary operations on the estate require much care, forethought, and energy; none more so than the selection of sites and formation of nurseries where the young coffee is to be successfully reared. It goes without saying that nursery land should be of the best quality, while specially prepared composts are necessary to provide soluble food for the little seedlings. But this in itself can only maintain and nourish young life. Mere culturable operations cannot prevent or remedy constitutional defects arising from external causes. Thus, although the situation, aspect, and soil of a nursery may be everything that can be desired, it does not follow that the seedlings raised in it are always the best of their kind. For constitutional vigour we have to study race, pedigree, and the quality of individual seeds. This constitutes what is called "selection" of the latter, and when carefully practised is usually the means of improving races or strains of cultivated plants. It is true, purity of strain is sustained by isolation so long as a plant retains its pristine vigour, but it has been observed in the case of many industrial plants that isolation accompanied by much seed-bearing has gradually led to degeneracy and loss of constitutional vigour. To prevent this the seed-bearer should not be allowed to produce more than a limited number of seeds, while the nourishment given should be in proportion to the important work such a plant has to perform. In coffee, seed-bearing can easily be regulated by removing 50 to 80 per cent. of the flower buds, leaving such as are favourably situated on the lower half of the primary.

But without taking special measures, a first picking of the finest beans from all over the estate will also be found useful for the propagation of nursery stock. And if such pickings are exchanged with planters situated in different localities, the results are likely to be better still. In nurseries and seed-farms in Europe, the raising and selection of seed forms a special department of work to which the greatest attention is paid. Small seeds are carefully examined under the microscope, so that only the very best may be chosen for sowing. Thus by eliminating the inferior and encouraging the cultivation of the best at one's disposal, an improved strain of plants will be gradually formed.

VARIETIES OF COFFEE SEEN IN COORG.

The species observed were only three in number, *e.g.*

1. *Coffea Wightiana*, W. & A.; Indigenous.
2. ,, *Liberica*, Hiern., West Africa
3. ,, *arabica*, Linn, Abyssinia.

No. 1 is somewhat sparsely found in North Coorg, and is never admitted into cultivation, I believe. It is a whippy-looking shrub 3—5 feet, leaves thinner, smaller, and more pointed than in *C. arabica*. The reddish-purple berry is also small, but contains two miniature beans of perfect form. There were very few berries on the specimens kindly gathered for me by Mr. Wood. The flower was not seen, but I am told it is much smaller than the flower of *C. arabica*. Of No. 2 Mr. Parsons possesses two, if not three, varieties at Beechlands, the most important being the one known as "Johore-Liberian." On this estate the cultivation of Liberians has been pursued for many years, and I had the pleasure of seeing a large number of fine specimens both in flower and fruit. There are also some seedlings in the nurseries with a distinctly hybrid look about them. Indeed it will be a wonder if natural hybrids are not freely produced on this estate before long. Mr. Parsons also deserves credit for the experiments he has made with grafted coffee. Although results in the latter are not great, the persistence in experiment shows the proper spirit of enterprise.

No. 3 affords the staple coffee of the province, as it does of South India generally. There are several well-marked varieties in cultivation known by the local names of "Coorg," "Chick," "Nalknad" and "Golden drop." Another variety, intermediate between "Chick" and "Coorg," evidently a natural cross, is abundant on the Hallery estate, where it was pointed out to me by Messrs. Mangles and Sprott.

Specimens of the "Golden drop" coffee, were seen at Mr. John Logan's place in South Coorg and also at Santagherry in North Coorg, where Mr. H. F. Davy is Superintendent. Instead of being red when ripe, the cherry in this variety is of a bright golden colour. But the most important variation in coffee is that which improves the size, colour, weight, and quality of the bean, conditions which the planter is no doubt on the alert to discover. It is not likely, however, that much improvement in this direction will occur without greatly enhanced vigour in the plant. In other words, the present strain of coffee should be improved by artificial fertilisation.

CROSSING AND HYBRIDISING.

In my last report on the Lal Bagh, at Bangalore, I have written as follows on the subject of hybrid coffee.

"The possession of hybrid plants on several estates in Southern India now appears to be an undisputed fact. These new forms are reported to combine, more or less, the characteristics of *Coffea Liberica* and *Coffea arabica*, and are only found in localities where the two species have been cultivated and propagated together. They have not been introduced by the planters as new varieties, and were unknown prior to the introduction of the west African species, *Coffea Liberica*. "It is therefore reasonably inferred that these intermediate plants

are true hybrids. The most remarkable thing about them is their immunity from coffee-leaf disease, a condition which can only be attributed to enhanced vitality in the constitution of the hybrid. This is a discovery of much importance to the planter, and will encourage him to pursue the operation of crossing on methodical lines, with a view to raising improved strains of seed, as has already been done in most of the chief products of agriculture and horticulture in Europe. What should be aimed at now is the systematic crossing and re-crossing of different species and well marked varieties until a really good hybrid or cross is produced. With this object, a small coffee-plot has been planted in the Lal Bagh. It consists of 135 bushes in two species and one variety as named in the margin. Most of the plants were of a good size when put down, and it is almost certain that a few of the Liberian and Maragogipe specimens will flower early next year, when crossing operations will be commenced.

Coffea Liberica (Liberian)
" *Arabica* (Arabian)
" *Arabica* (*var.* Maragogipe).

On the occasion of the Planters' Conference at Bangalore last August, the writer had the honor of being invited to attend the discussion on "Scientific Investigation," when the opportunity was taken before the representative planters of Southern India to advocate the advantages of crossing and hybridising coffee with a view to invigorating growth and increasing productiveness.

The same advice has been given in official correspondence with planters, and the institution is generally doing what it can to promote the welfare of the planting industry. Hybrids, or supposed hybrids, have been reported from the marginally noted estates."

Oosoor Estate,	Manjarabad.
Ubban "	"
Koppa "	Kadur Dist.
Panora Peak	S. Wynaad
Kalpatti	do.
Beechlands	S. Coorg.

It is now some years since the operations of crossing and hybridising were first advocated by me, and as time advances, I feel more convinced that in these operations, carefully conducted, we possess a potent means of resuscitating worn-out estates. Without a rotation of crop it stands to reason that coffee will become less productive, unless some radical change is brought about to modify or alter its condition. Change of constitution in a plant really means change of action on the soil as well, and where the effete plant must eventually languish, even under the best of treatment, the newly born one will flourish. Coffee-planting is a special industry which cannot conveniently or profitably be rotated with other cultures; therefore, to keep the plant going for an indefinite period we must change its nature a little, so as to be in harmony with its environment. Judging from the foregoing remarks, and from what has actually taken place on estates where *Coffea Liberica* is established with the older species, there is no doubt but the shrubs, in both cases, are predisposed to cross fertilisation. That important point being settled, it now remains to discuss how a good hybrid or cross is most likely to be produced. This I have already done when lecturing at Mercara and Pollibetta, but it will refresh the planters' memory to reproduce the more salient points here, while the information given under Appendix 1 affords the *modus operandi* of the work in some detail. A definition of the terms "cross" and "hybrid" will be found in the same place. As far as I am aware (but this is open to correction), no artificial cross or hybrid has yet been produced in the genus *Coffea*. At any rate not in this country, and the new or varying forms referred to above are all nature-crosses.

But artificial crossing, done with a definite object, has been productive of many useful and beautiful plants in Europe. Indeed it may be said that horticulture (and agriculture) is to a great extent revolutionised by this means. It is therefore not a fad but a potent reality in the improvement of both economic and ornamental plants. In crossing, the object chiefly aimed at is to reproduce the desirable qualities of two distinct individuals, of different kinds, in the body of one individual. It is not always easy to do this, but it can be and has been done extensively; and is well worth trying as a perfectly feasible means of improving an important and growing industry such as coffee-planting. A hybrid produced from two distinct species is called a "primary hybrid," and succeeding generations, if intercrossed, may become secondary and tertiary hybrids, etc.

When the characters of both parents are pretty evenly blended in the hybrid, the latter may be called the "mean" of the former. But it often happens that the prevailing characters are more approximate to one parent than to the other, in which case we have what is known as a "goneoclinic hybrid." Another way of producing the latter is to cross a hybrid with one of the parent stocks. Ternary hybrids are the indirect offspring of three different species.

It is in the production of the two latter forms (goneoclinic and ternary) that the greatest achievements in hybridisation have been made.

The hybrids naturally produced at Oossoor seem to possess the vegetative vigour of the maternal parent, *Coffea Liberica*, but are deficient in the productive quality of the paternal plant, *Coffea arabica*. To remedy this defect, a cross should now be tried between the latter and the hybrid, as the pollen of *C. arabica* would possibly be more potent in the second degree. In nature there are numerous and beautiful inventions to facilitate the crossing of flowers, but in a paper of this scope it is nexpedient to attempt more than a brief reference to what transpires in the short-lived coffee flower. The latter is structurally hermaphrodite, but not functionally so in every case, as I have observed small insects crawling over the mature stigma before the anthers had dehisced, having pollen from other flowers attached to their legs. I cannot say to what extent this provision is made for cross-fertilisation, but as the flowers open progressively for 24 hours and are visited by swarms of insects at the time of opening and during the receptive period, it is probable that a large percentage of the whole are cross-fertilised.

The active life of the individual flower is of short duration, and possibly within the first hour of its existence it has been fertilised, cross-fertilised, or sterilised. It belongs to the entomophilous class of flowers which are pollinated through the agency of insects, such as small bees, midges, beetles, small moths, and weevils, etc. Dull cloudy days with a lowering of temperature are unfavourable to fertilisation, hence a bright warm day is desirable when the blossom is out.

REVERSION OF HYBRIDS.

This is a matter which troubles the planter a good deal, and possibly causes him to pause before undertaking a series of precarious experiments which involve much time and may lead to nothing in the end. It may, therefore, be said at once that established hybrids of similar strain (slight variations being of little account) do not revert to the parental stock if they are not pollinated by the latter. To maintain purity of strain in a hybrid is simply a matter of protection. Trivial crossing between members of a select group of hybrids—all being very nearly related—is perhaps beneficial on the whole and cannot easily be prevented.

Then, when a really suitable hybrid has been produced, the proper course is isolation from all other varieties of coffee, with a view to inbreeding and seed production. I hope I have made this sufficiently clear, as on these final precautions must rest the success of the whole operation of crossing.

INARCHING.

This form of grafting, like the other, retards vegetative growth and promotes the development of fruit.

The coffee-grafts at Bangalore behave in exactly the same way as mango-grafts; *e.g.*, plant stunted and spreading, fruit

large, and not so plentiful as in the seedling. *C. arabica* on *C. Liberica* is the only combination of any value at head-quarters. Seedlings from the latter have been distributed for trial, and are being cultivated under my own observation. It is possible that some constitutional vigour may be gained from a mechanical connection of this kind, especially where the grafts are interbred. In other respects I do not think that grafted coffee is of much practical value. Some beans exhibited from the inarched bushes here were admired for their size and colour. The operation is chiefly useful in dwarfing vegetative growth, causing early fruiting, and reproducing the true qualities of particular kinds of plants.

COFFEE PESTS.

"We should be happy that it is an industry that involves a certain amount of trouble. Otherwise it would be taken out of our hands altogether.". Such is the pithy and hopeful remark made by an able and experienced planter on the occasion of the last Conference of the United Planter's Association at Bangalore. A statement of this sort indicates the true energy which underlies all the actions of British enterprise.

In the latter case obstacles are of little moment, and may be of real advantage in keeping out the faint-hearted. The same spirit prevails in Coorg, although borer, leaf-rot, leaf-disease, bug and other pests, have each done their best to diminish the planters profits—uncertain crops and foreign competition being a further tax on his patience. Leaf-disease, which is most dreaded, was not very prevalent on any of the estates visited. *Hemileia Vastatrix*, the fungoid parasite which causes leaf disease, by partially or wholly disorganising the functions of the leaf, made its appearances in Coorg in the early seventies, after committing great havoc in the planting districts of Ceylon. The peculiarity of the fungus is that it persistently follows the coffee bush all over the country and is more or less prevalent wherever coffee is grown. A virulent attack on the experimental plot in the Gardens (Lal Bagh), has just been temporarily checked by burning every infected leaf and coating the ground with a thick layer of quicklime.

Combustion, whether active or passive, is the natural enemy of fungoid organisms; and when Mr. Marshall Ward recommended burning everything that could be burnt with safety on the estate, he gave good advice. During the pruning and wood-ripening season, tons of leaves and twigs could be disposed of in this way, although it is admitted that a coffee zone such as the "Bamboo" provides but little space for kindling fires. It is the annual recurrence of the scourge which makes it so disastrous, and anything that would harass it or deprive it of nourishment at critical periods would have the effect of saving the host to a large extent.

Spraying operations were observed at Hallery, where Mr. Sprott thinks he has gained some advantage over the fungus. The mixture in use is 3 lbs. sulphate of copper and the same quantity of lime dissolved in 25 gallons of water.

The Californian remedies for fungoid and other pests are given at the close of this paragraph.

The Life-history of

Hemileia Vastatrix was thoroughly worked out by Mr. Marshall Ward in 1881, and readers cannot do better than refer to his scientific reports, written for the Ceylon Government on the subject about that time.

The Director of Kew Gardens gave it as his opinion, in 1892, that *Hemileia Vastatrix* is a species endemic to the Island of Ceylon. This great authority further adds,—"Like thousands of other microscopic leaf fungi, it probably maintained its existence in an unconspicuous manner in some native Rubiaceous plant (*i.e.*, belonging to the same family as the coffee). It was probably only by a kind of accident that about 1869 it found a suitable host in cultivated coffee, and thus was enabled to develop itself on a scale which speedily made it a scourge." Since the latter date; when first observed, the parasite has followed its host unremittingly to every coffee region of the old world. Change of food would possibly arrest its progress sooner than anything. Slight constitutional change in the host might bring this about, and the process of hybridising would be of much value if it secured even partial immunity to the coffee plant from the attack of *Hemileia*. That such a thing is possible has already been proved by the raising of certain varieties of potato which are wholly immune from *Phytophthora infestans*, the most hurtful fungoid parasite of that esculent.

THE BORER.

The next pest to be briefly considered is the borer (*Xylotrechus quadrupes*), which is indigenous to the country. In fact, there are several borers, and the remedies here recommended will apply to them all. It is only in the more exposed parts of South Coorg that the ravages of these insects are much felt, and even there the conditions are far more hopeful than they were thirty years ago. At that time the wholesale destruction of forest trees, accompanied by undue exposure and indifferent cultivation, aggravated the attack and was the indirect cause of enormous loss to the planter. But it is now understood that sufficient shade and moisture, supplemented by good tillage, are conditions inimical to the spread of borer. The rush for extension which prevailed a few years ago, when prices went up, must be held responsible to a large extent for the maintenance, if not increase, of coffee pests. A large area (in fragments here and there) of unsuitable land was placed under cultivation, and by a process of forcing in some cases and comparative neglect in others it was hoped to increase the average outturn of bean. But a cycle of dry seasons shortly followed, and the new openings were mostly found to be infested with leaf-disease and borer, which rapidly spread to healthy tracts that had not suffered before to the same extent. The occupation of such lands by coffee is therefore a standing danger to the whole local industry. I can imagine nothing more disheartening to a really good planter than to have neighbours who will act recklessly in the selection and treatment of land, to the jeopardy of the whole community. In addition to depth of soil, moisture, and shade, the presence of numbers of insectivorous birds is recommended for the extinction of borer. Of these, woodpeckers, jays, thrushes, mynas, hoopoos, sparrows, larks, jungle fowl, the crow pheasant and many others are insect eaters. When the larvæ can be got at, which is not very frequently, the direct application of neem oil is the surest remedy. If poured into the holes and tunnels caused by the insect, it will either bring out the latter quickly or cause its death inside. In this connection I may mention that neem oilcake, which is manufactured at Hunsur, might have a remedial effect if applied to land affected by borer. Rubbing the coffee stems at intervals with the oil would be a good practice.

LEAF-ROT.

Pellicularia Koleroga, or "leaf-rot," is an epiphytal fungus which envelopes the coffee leaf during the monsoon and subsequently kills it. Continuous or heavy rainfall, density of shade, drip, and stagnation of drainage, are the causes of this fungoid growth. A modification of the above conditions with the use of fire to destroy all affected leaves, and the application of flowers of sulphur in the early stages of attack are the best known remedies. Bordeaux mixture and other fungicides should also be tried. For the eradication of bug and scale insects, the importation of a useful species of lady-bird is under trial. The brown scale-insect, *Dactylopius adonidum*, is prevalent on many of the jungle trees, where it is farmed by ants for the secretion known as "honey dew." It is usually accompanied

by the black fungus *Trisporium Gardneri*, Berk. Kerosine emulsion is a good remedy for these pests.

REMEDIES FOR PLANT DISEASES.

Extract from spraying calendar, Central Experimental Farm, Ottawa.

FUNGICIDES.

Diluted Bordeaux Mixture.

Copper Sulphate	4 lbs.
Quick lime	4 ,,
Paris Green (for leaf-eating insects)	4 oz.
Water (1 barrel)	40—50 gallons.

Dissolve the copper sulphate (bluestone) by suspending it in a wooden or earthen vessel containing 4 or 5 or more gallons of water. Slake the lime in another vessel. If the lime, when slaked, is lumpy or granular, it should be strained through coarse sacking or a fine sieve. Pour the copper sulphate solution into a barrel, or it may be dissolved in this in the first place, half fill the barrel with water, add the slaked lime, fill the barrel with water and stir thoroughly. It is then ready for use.

Stock solutions of dissolved copper sulphate and of lime may be prepared and kept in separate covered barrels thrughout the spraying season. The quanties of bluestone, lime and water should be carefully noted.

Copper Sulphate Solution.

Copper Sulphate (bluestone)	1 lb.
Water	25 gallons.

As soon as dissolved it is ready for use. For use before the buds open only.

Ammoniacal Copper Carbonate.

Copper Carbonate	5 oz.
Ammonia	2 qts.
Water (1 barrel)	40—50 gallons.

Dissolve the copper carbonate in the ammonia. The ammonia and concentrated solution should be kept in glass or stone jars, tightly corked. It is ready for use as soon as diluted with the 50 gallons of water. To be used when Bordeaux cannot be applied on account of staining the fruit. Full particulars given in Experimental Farm Bulletin No. 23.

Corrosive Sublimate.

For potato scab soak the tubers for 1½ hours in a solution of 2 oz. in 16 gallons of water. When dry cut up for planting. Corrosive sublimate is a fatal poison if taken internally. It also corrodes metals. The solution should therefore be made in wooden vessels.

All treated seed should be planted, and any solution left over should be poured into a hole in the ground.

INSECTICIDES.

Kerosine Emulsion.

Kerosine (coal oil)	2 gallons.
Rain water	1 ,,
Soap	½ lb.

Dissolve soap in water by boiling; take from fire, and while hot, turn in kerosine and churn briskly for 5 minutes. To be diluted before use with 9 parts of water.

For bark lice and other sucking insects.

Paris Green.

Paris green	1 lb.
Lime (fresh)	1 ,,
Water	200 gallons

For dry application—1 lb. Paris green with 50 lbs. land plaster, slaked lime or any other perfectly dry powder.

For insects which eat foliage.

Hellebore.

White Hellebore	1 oz.
Water	2 gallons.

Or to be dusted undiluted over attacked plants.

Pyrethrum (or Insect Powder.)

Pyrethrum powder	1 oz.
Water	3 gallons.

For dry application—mix thoroughly 1 part by weight of insect powder with 4 of cheap flour, and keep in a close vessel for 24 hours before dusting over plants attacked.

Extract from the "Mysore Gazette," June 25, 1896.

[The following are some reliable formulæ for the treatment of fungi and insect pests. They have been taken from the Report of the Agricultural Experiment Station of the University of California, and are reprinted here for the benefit of the many inquirers in this country to whom the original reports are not, perhaps, accessible. It should be very constantly borne in mind that "Paris Green" and "London Purple" contain the powerful poison arsenic, and should therefore be used with the greatest caution, especially in the case of plants any part of which is used in the preparation of food or drink.

The same caution applies, though with less emphasis, to "Bordeaux mixture," which contains an irritant copper salt.]

For Powdery Mildews use sulphur, dusting it on the plants.

For Fungi in general use Bordeaux mixture, made as follows: For every 10 gallons take 1 lb. of lime and 1 lb. of bluestone. Dissolve these separately in hotwater and mix when cool adding the rest of the water. Spray on the plants. Or spray with Ammoniacal copper carbonate solution, made as follows: Dissolve 1 oz. of copper carbonate in 6 oz. of ammonia and add 10 gallons of water.

For Fungi and scale insects use lime, salt and sulphur mixture, a winter wash composed of lime 8 lbs., salt 3 lbs. and sulphur 4 lbs. for each 12 gallons of water. mix ¼ of the water, ¼ of lime, and all the sulphur, and boil for 1½ hours; put the salt with the rest of the lime and slake with hot water; add to the above and boil ½ hour longer; add the remainder of the water and apply as a spray.

For scale insects use resin soap as follows: For 100 gallons for summer use take resin 18 lbs., caustic soda (98 percent.) 3½ lbs., and fish oil 2½ pints; for winter use, resin 30 lbs., the caustic soda 6¼ lbs. and fish oil 4½ pints.

The material is put in a kettle and covered with 4 or 5 inches of water. The lid is put on and the mixture boiled two hours or more, and then the rest of the water is added, a little at a time. Spray on the plants. Or use the gas treatment: cover the plant with an oiled tent, and for each 100 cubic feet of contents place in a bowl beneath the tent ⅔ oz. of water, ⅓ oz. of suphuric acid (oil of vitriol), and ⅓ oz. of potassium cyanide (58 per cent.). Be careful not to inhale the poisonous gas, not to allow it to escape from the tent for ½ hour. The leaves may be injured if used during the middle of the day. For insects in general use kerosine emulsion, as follows: Make a soap solution of ½ lb. of soap to a gallon of water. Heat it to boiling and add 2 gallons of kerosine. Pump it through the spray pump, with good pressure, for 5 or 10 minutes. For use add 10 times as much water as you have of emulsion. Apply as a spray. Sour milk may be used instead of the soap solution. The emulsion is made more effective by the addition of a very small amount of arsenic to the soap solution, or of buhach to the kerosine.

For fruit or leaf-eating insects use Paris Green or London Purple as a powder at the rate of 1 to 5 lbs. to the acre, distributed by walking or riding over the field, carrying a pole, at both ends of which are hung muslin bags containing the poison. As a spray use 1 lb. to 200 gallons of water. In spraying these arsenites the nozzle should be held at some distance from the plant and no more should be applied after

the leaves begin to drip. Do not use these on crops where the poison would be injurious to health.

CATCH-CROPPING.

In advanced agriculture much stress is now laid on the desirability of keeping land clothed with crops, direct exposure to sunlight being considered more exhaustive than when the surface is protected. In this connection, I am of opinion that all inferior land attached to estates should be utilised for raising green crops either for its own improvement or to provide green manure to the coffee land. And of the latter, much which is practically unsuitable for coffee might be usefully employed in the cultivation of accessory products. Green manures are so beneficial to poor land that no favourable opportunity of growing them should be lost. The leguminous plants best suited for this purpose are *Mucuna pruriens* var. *utilis;* the Florida velvet bean; *Trigonella Fœnum-Grœcum*—Fenugreek; *Medicago Sativa*—Lucerne; *Indigophera enneaphylla, I. pentaphylla*, and other forms of wild indigo; *Cicer arietinum*—Bengal gram; *Phaseolus Mungo*—green gram; *Dolichos Lablab*—cow gram, and others. The first named is a new plant of which I have distributed some seed in Coorg and elsewhere. In the early operations of planting, especially if the shade is light, the addition of a green crop occasionally would be of benefit to the soil. Catch-cropping in the proper sense, means the sowing of a quickly-growing crop directly after the staple one has been removed, with the principal object of conserving nitrates and other plant constituents which would otherwise be lost from exposure. But coffee is a permanent crop which soon protects the surface soil from undue radiation, so that after the first few years the conditions are very different to what prevails in the cultivation of arable land at home.

OTHER PRODUCTS.

It is beyond the scope of this paper to offer hints for cultivation or to enter into detail on the commercial value of secondary products. Moreover, it cannot be said absolutely that any new culture will succeed until it has been sufficiently tried in various ways. In the "Bamboo" there is no room for other cultures, unless, as has been suggested, the inferior parts of the coffee zone are surrendered for experimental and fertilising purposes. So long as coffee is profitably worked the planter is wise in giving it exclusive attention. Pepper seems to do admirably in some parts, and it seems a pity that more is not grown. But in North Coorg there are facilities for starting new industries such as tea, fibre, and paper factories.

Mr. Parsons showed me a new tea opening in the Sampaghi Ghat which looks promising in the initial stage. The nurseries are in splendid condition and do great credit to the management. Cardamons should do well in the evergreen forest, although very little is produced. Other likely products are Camphor, Vanilla, China grass, Nutmeg, Rubbers (Pará, Indian, Central American,) Castilloa, and Ceará. The demand for *Cinchona succirubra* has gone up considerably and may be worth noting. Indian paper-grass, *Ischæmum augustifolium*—better known in the North as "Bhabar grass,"—would possibly do well on the grassy slopes of North Coorg. The consumption of paper is so great that the Indian supply is quite unequal to it.

In a cool station like Mercara, the Australian *Coniferæ* would succeed, as also the Moreton Bay Chestnut, *Schinus molle*, *Salix Babylonica*, and numerous other ornamental trees which would add to the interest and beauty of the place. I am of opinion that mahogany would also grow well.

SUMMARY.

In conclusion, I shall briefly emphasise what has gone before thus endeavouring to show in the fewest possible words what is best for the planting industry. To attain success, it must be admitted candidly that the industry has entered the forcing stage, a condition which has been hastened, in most cases, by indiscretionary treatment of the land in the beginning. What was wasted and taken from nature as a free gift, has now to be returned with more than compound interest, and it will take a long time, if ever accomplished, to readjust the debt. The planter who can return to the land a liberal percentage of his profits, will sustain the forcing system for many years to come, even if no other factor arises to infuse new life into the industry. But I am strongly sanguine that in hybridisation a factor will arise, and that the renovation of coffee is not wholly a matter of soil enrichment. In any case, good cultivation is a *sine qua non* of future management.

The application of proper manure in correct quantity and at the most serviceable time, are things which should be assiduously learned from practical experience.

A table showing quantities of different manures to be applied per acre for different crops is not of the slightest use to the planter, who possesses but one product on many different kinds of soil.

Next in importance to hybridisation and proper culture, the interchange and special selection of seed must take a high place. The coffee fields of the whole planet must be studied with a view to improvement being made by selection, a work which, I am glad to observe, is already being promoted by the Editor of *Planting Opinion*.

There are no magic remedies either for the prevention of pests or the improvement of coffee, but if the methods recommended in this report are correctly and patiently practised, the results, in the long run, should be satisfactory.

It now only remains for me to thank the planters of Coorg, especially the Honorary Secretary of the Association, for the help and courtesy which was everywhere accorded to me.

I have the honor to remain,
Sir,
Your most obedient servant,
J. CAMERON,
Superintendent,
Mysore Govt. Botanical Gardens,
Bangalore.

APPENDIX I.

Extract from "Planting Opinion."

Fertilization of the Coffee flower.

(By J. C.)

A good many planters who will recognise the above initials know that I am keen on the crossing of coffee. Wishing them and others to be equally keen in a work which may eventually lead to the advantage of the whole planting community, I venture to offer a few hints as to how the details of the crossing may be put in motion. The process of fertilization, if confined to individuals of the same species, will only result in producing "varieties" of the individuals concerned. But when it is extended to different species of the same genus, then an intermediate class of plants called "hybrids" are produced.

As this may not be quite clear to all, I shall give a practical illustration. When two bushes of *C. arabica* are growing near to each other and flowering simultaneously, they will be observed to attract many insects of the winged class. It is a marvel where these insects come from in such numbers and at such short notice. But there they are, the whole day, hurrying to and fro from one bush to the other, until, perhaps every newly-opened flower has been visited.

Now, although these insects have been most industrious in their own interests, collecting food and building material, they

chances are that they have unconsciously rendered a signal service to the coffee also, by carrying pollen from the flowers of one bush to that of the other. If they have done this inadvertently or otherwise, the insects have effected cross-fertilization to the extent of producing varieties, or new forms of the two bushes concerned. By excluding the services of the insects altogether, the same results, and even more effectual ones, can be secured by delicate manual operations. But of this further on. The difference between the fertilizing work of insects and that of man consists in its being promiscuous and haphazard in the one case and systematic in the other.

Now if individuals of two distinct species, such as *C. arabica* and *C. liberica*, were to blossom together in the manner described above, exactly the same activity of insect life would be observed, with, perhaps similar results, only that in this case the progeny would be more than a "variety," it would be a "hybrid." Planters know that year after year their nurseries are stocked with seedlings raised from local seed of which a small percentage appear to be new varieties, or at least different from their fellows. They know also that nature is herself responsible for such variation. If the life-history of a number of seedlings was carefully traced, it would be found that while a few differed in the form, size, and texture of the leaf, others in the size and quality of the fruit or habit of growth, the major part would be nearly identical with the prevailing variety on the estate. This is all right where the prevailing strain is good. But where the product for which a plant is cultivated shows signs of exhaustion, or has become deficient in quality or quantity, the strain is said to have "run-down," and in all such cases too much individualism in reproduction is undesirable. It is in all probability to prevent this running down of strain or breed that nature insists on cross-fertilization.

Coffea arabica, or Arabian coffee, of which there are several well-defined local varieties known by such names as "Chick," Coorg and "Nalknad," has been almost exclusively cultivated in this country from the time the industry was started, and it is only within recent years that one or two new varieties and species have been introduced and cultivated on the estates. This fact will explain the absence of hybrids over such an extensive area, there being no material to make hybrids from. Yet, within the past few years, some hybrids have made their appearance, shortly following the introduction of Liberian coffee, a distinctly new species. And, barring the fact that two distinct species have been placed in juxtaposition to each other, the hybrids are the work of nature. But in the instances referred to, man must get the credit of having materially helped nature by providing a new species for the latter to work upon.

If he would, therefore, do more in this direction, the chances are that worn-out strains of coffee would soon be replaced by better kinds.

This leads me on to the suggestion that approved varieties and new species of coffee should be freely introduced from other countries. The field for experiment would then be much widened, as planters would have sufficient material to work upon.

The cultivated forms of coffee in different parts of the world are already so far advanced of the indigenous or wild bush that it would probably be mere waste of effort to bring the latter into experiments, the object of which is to secure further improvement in productiveness and quality. Collections of species and varieties should, therefore, be confined, in the first instance at least, to well known jâts already in cultivation. These I shall leave the planter, being the best judge, to select for himself. Now supposing that some enterprising planter has already secured such a collection of coffee-bearing plants, how is he to dispose of them to the best advantage?

This is a question that I shall endeavour to answer in my next.

With one or two new species of coffee at one's disposal, and a like number of distinctly marked varieties, such as the "Maragogipe," which is an introduced variety (from Brazil) of *Coffea arabica*, an experimental plot could be started on the following lines :—

(*a*) Situation, as regards aspect, soil, water and shade, to be the best the estate can afford. Occasional irrigation will possibly be required to induce the different bushes to blossom together, so that the possession of a perennial water-supply would be a convenience.

(*b*) The crossing-plot need not exceed one-eighth or at greatest one-fourth of an acre in extent, while it is possible that equal results may be obtained by working systematically on a few bushes.

(*c*) In planting up the crossing-plot, an equal number of healthy seedlings of the estate coffee should be thoroughly mixed with the new kinds, so that winged insects may have full play on the whole. But in addition to the general and haphazard operations performed by the insects, a few bushes should be carefully isolated for hand-fertilization. For the latter purpose a few skeleton frames covered with fine muslin would be a sufficient protection, if placed over the bushes before the flowers opened. Plant in a square plot at 6 × 6 feet, so that air may circulate around the bushes freely. The preliminary details which I have emphasised under the sub-headings *a*, *b* and *c* will keep the planter employed for at least two years, or, to be strictly accurate, until a maiden crop of flowers is produced in the crossing-plot.

Then, at this latter stage, the work of fertilization will actually begin, should several distinct kinds of coffee flower simultaneously. Unprotected bushes will be pollinated through the agency of insects chiefly, while the protected ones will be self-pollinated, should no precautions be taken to prevent it. Where bushes are intended for hand-fertilization, it will be necessary in the early stages of reproductive growth to rub off a great many of the young flower buds, so that the inflorescence of an individual may be reduced to a manageable number of flowers. For that matter, the flowers could be reduced to what is borne on a single primary, or to a few clusters of the same. The necessity for this apparently ruthless treatment is contained in the fact that, during the short time the stigma is receptive of foreign pollen, the fertilizer could only pollinate a limited number of flowers with any degree of certainty. It is, therefore, wiser to make sure of getting a few good crosses than to attempt a larger number indiscriminately. Let us now suppose that the operation is about to take place. Having provided himself with the marginally noted requisites, and selected a protected bush to become the seed-bearer, the fertiliser places himself under the protective frame and eagerly watches for the opening of the first flower. Directly the flower opens (usually early in the morning), there will be seen, slightly projecting from its delicate-white throat (tube of the corolla) a bifid or two horned stigma supported by 5—7 arrow-headed anthers on short stalks. At the time of opening, the stigma, which is seen well in advance of the anthers, glistens with a sticky substance which holds fast any powdery matter, such as pollen, that may fall on to it. What the fertilizer has to do at this stage is to dust a little foreign pollen on to it by means of his camel's-hair brush. This done, he instantly, and as deftly as possible, cuts away the 5—7 anthers behind the stigma. But as the anthers are usually closed at this early period, they could perhaps do no harm if they were left. Everything would depend on the behaviour, so to speak, of the stigma towards the new pollen by which it has been fertilized.

A fine camel's-hair brush; small, sharp penknife; small sharp pair of scissors; pocket lens; flowering branch from male parent, with pollen.

The process as described above has to be done with every flower until the primary or clusters of flowers reserved for crossing have been exhausted. A register is then made of the parentage on both sides, and after a day or two the bush is liberated from its protecting covering.

I have examined many coffee flowers at the moment of opening, in most cases the stigma projects in advance of the anthers and the style lengthens rapidly. By this means the spreading horns of the stigma afford a good platform for small bees and other insects to rest upon when searching for honey. Then flitting from one stigma to another they deposit quantities of pollen, which readily adheres to their hairy limbs. Crossing operations being completed, the next step would be to select a suitable piece of land for the cultivation and trial of seedlings raised from the crossing-plot. It is in this final stage of the experiment that the exact result of cross-fertilization would become apparent, and not before.

But the operator needs to possess patience, for among 10,000 seedlings cultivated there may not be one showing real improvement in every respect.

With our limited experience in crossing, it is uncertain what would happen, although there is reason to believe that cross-fertilization would induce beneficial variation in the growth and production of coffee.

The land required for testing seedlings of mixed parentage should be of the best quality, and the cultivation should be on a liberal scale also. Area is a matter for the planter himself to decide, as it depends wholly on the extent of his operations. I do not, however, advocate large areas for mere experimental work. When the seedlings give their maiden crop, it will be seen approximately what merits they possess from a productive point of view. But other merits, which may be roughly termed constitutional, will only become apparent after a lapse of time and under different modes of treatment.

I can readily imagine that a judicious selection of the fittest would prove a most difficult task, even to an expert.

The operations discussed from the beginning until now, when the second generation has borne its first crop of fruit, covers a period of about six years. This is a long time, and some men would doubtless say "is the trouble worth the candle? especially as there is nothing to prove that much good would come out of it." In answer to such a remark, I am pretty firmly convinced that good would come out of it and have already planted up a small crossing-plot with the view of raising hybrids. The plot consists " of 130 bushes, and includes *C. arabica, C. liberica* and the variety—Maragogipe." A few of the bushes are already well advanced in growth, so that the first batch of crossed seedlings may fruit within five years from date. But when matured bushes can be cross-fertilized this season, the results might be known within four years, which is not very long for a young planter to wait. My object, so far, has been to explain the *modus operandi* of fertilization rather than to discuss side-issues bearing on its application to the genus *Coffeæ*. But now, I may refer briefly to argumentative views on the latter question. As the coffee bush possesses a hermaphrodite flower, it may be held by some that crossing is neither possible nor desirable. But it does not follow that a flower is self-pollinated because it contains both sexes. In numerous hermaphrodite flowers the sexes attain maturity at different periods, and in all such cases self-pollination is effectually prevented. That dichogamy prevails to some extent in the coffee-flower is certain, as I have often observed stigmas in the receptive stage when the anthers had not dehisced. I am unable to say, however, if this is a general condition, or if it only happens in occasional flowers. A flower may thus be structurally hermaphrodite and functionally unisexual. Then, the sweet-scented coffee-flower offers great attraction to insects, which is a pretty sure sign that the dispersion of pollen is favoured by Nature. Indeed, the condition of the pollen is such as would adhere readily to the hairy limbs of insects. It is not of the fine powdery kind (so-called dust of flowers) that would be suspended in the air or lightly carried by the wind.

Considered, therefore, from a morphological standpoint there is little doubt but the genus *Coffeæ* is subject to cross-fertilization and that its flowers are entomophilous. Lastly, I wish to dispel the idea that established coffee can be influenced one way or the other by operations of crossing, the results of which are only discovered in a subsequent generation.

But it is highly necessary that the planter should strictly conserve his testing-ground, and not allow any unknown seed to be utilised for estate purposes. The golden rule in the testing or experimental ground is to destroy all inferior forms as quickly as possible.

New strains of seeds reserved for trial could be treated separately until such time as their merits are fully established. This is all I have to say on the fertilization of the coffee flower at present.

LETTERS TO THE EDITOR.

E. LITHOSPERMA NURSERIES.

Dear Sir,—May I be allowed to point out in your columns that the best way of insuring successful *E. lithosperma* Nurseries is to shade lightly and water freely. The beds should never be allowed to dry. The seeds seem very susceptible to driage in the nursery. The seedlings should be grown as quickly as possible as until they have attained a height of a few inches they are very liable to insect ravages.

Arienkow, Shencottah,
8th March 1898. B. Nelson.

GENERAL ARTICLES.

MANICOBA RUBBER IN BRAZIL.

The official report of Consul Benjamin F. Clark of Pernambuco to the United States government has just reached us:

He says: The manicoba plant is grown in the north of Brazil especially in Ceara and Rio Grande de Norte and Parahyba. In price the rubber from those states is second to the seringueira or Pará rubber, and for certain classes of work is preferred to the latter.

The interest in the growth of the plant is steadily increasing through the three states mentioned above, and is also extending rapidly throughout Pernambuco, Alagoas, and Bahia, giving better results with less labour than almost any other agricultural pursuit.

The seed should be planted at the beginning of winter, red or brown soil giving the best results. At the time of planting the soil should be neither excessively dry or wet; once the tree has reached the age of two years it can resist any weather, but, of course, the amount of milk will always more or less depend on the climatic influence

At six years the plant will have reached its maturity, which, is the time best suited for tapping, though this may be begun at the age of two years. After six years the tree will produce annually, until the age of thirty years from 2 to 5 kilograms (4·4 to 11 pounds) of rubber, if in good condition. After thirty years the yield will slightly decrease, the life being at least a century, under fair conditions

The sap is prepared in exactly the same manner as the seringueira of Para, but is of a deeper brown color after smoking.

The way the greater part of the manicoba rubber is produced in the states above mentioned is to simply cut the bark of the tree, letting the sap run in drops to the base, where by the action of the sun's rays it coagulates and forms an irregular solid mass, which is gathered by the natives and sold to the middlemen, by whom it is shipped to America and Europe.

The prices per kilogram range, in the states from 2 to 5 milreis (28 to 70 cents. per 2·2046 pounds), according to quality.

Besides the manicoba, these states produce a great quantity of mangabeira rubber, which is of an inferior grade to the manicoba and is used for covering cables, &c.

Below is given a table of the rubber export from Ceara for the years 1893 to 1897, inclusive :—

	Quantity. * Kilos	Value. † Milreis	Value.
1893 ...	135,569	1,129,742	359 840·66
1894 ...	146,627	1,221,892	$ 242,378-30
1895 ...	146,627	1,592,567	302,587-73
1896 ...	324,327	2,702,725	486,490-50
1897 ...	475,663	3,964,108	594,616-20

—*The Rio News.*

EXPERIMENT WITH COFFEE SEED.

Mr. Kenneth J. Cameron writes to the *Central African Times* :— Most planters are aware that the sooner the seed is sown after it is harvested, the greater its strength for germination, and the longer it remains without being planted this strength declines.

There seems to be some doubt as to the proper way a seed should be sown in the seed bed. Taking a coffee berry containing two seeds enclosed in parchment we find them convex on the outside and flat in the inside. Both beans form an oval with the narrow end towards the peduncle and this narrow end contains the root. The exact spot from which the root springs may be noticed by removing the parchment when we find a light spot slightly to one side of the centre.

Sowing seed with the flat side down or the convex we find that the stem comes up first in a loop or like a hair pin, with the root and seed in the soil. In stiff soil the seed which contains the cotyledons and bud for the future plant is fixed so firmly that the bark and sometimes the stem breaks as it grows upwards

To see which was really the best method to sow the seed I made four experiments.

No. 1. with the flat side down.
„ 2. with the convex side down.
„ 3. with the broad end down.
„ 4. with the narrow end down.

To give them all the same chance I used the lightest and most friable soil.

No. 1 came up first. No. 2 six days after. No. 4 nineteen days after. No. 2 and No. 3 seven days after No. 4.

No. 1 is the most common way to sow coffee seed, but considering that I reversed the position in No. 2 the root did not come through the soil and grow in the atmosphere, it immediately went direct down, as it also did in No. 3 although it came out at the top of the seed in the position it was placed. Nos. 1, 2, 3, came above ground with the usual loop, but No. 4 came straight up with the seed first, but all the same it had for a few days a slight bend or incline. Of course the seeds in all four were sown near the surface.

Why did No. 1 and 2 come up first? Simply because I used *Jadoo*, and to give the other two the same chance of a friable soil I used leaf-mould.

From these experiments I consider No. 4 the best method to sow coffee seed and of course with *Jadoo* if it is procurable. The only objection to No. 4 is the greater care required to see that the narrow end is down, which the natives might be careless about, and another point in its favour is that it would not require to be so deep in the soil; while the narrow end is about ½ inch below the surface the broad end may be almost on the surface so that there is less to retard its upward progress.

With *Jadoo* it would not matter which way the seeds were placed, it being light and friable and having much more plant food gives the seedling extra strength, and in that way is an ideal soil for coffee. Seeing its effect on the seedlings what must it not do if used for a good coffee harvest?

COFFEE DIRECT TO CONSUMERS.

Mr. Robert H. Elliot writes from Cairo to the *Madras Mail* :— All coffee producers must have read with interest that part of your report of the proceedings of the Nilgiri Planters' Association's Meeting of the 27th January which relates to the formation of a Company for selling coffee direct to consumers. My object in writing now is to suggest that this project can only be of the fullest value if the Company undertakes to supply the consumer with roasted coffee, both roasted and ground, and in the shape of unground roasted berries. After having paid much attention to the subject I am convinced that the great obstacle to the spread of the use of coffee as compared with tea is that the former is often available only in the raw state, while the latter is always ready for immediate use. I have been assured on good authority that three-fourths of our British troops in India would prefer coffee to tea if it were supplied to them roasted The fact that the Army and Navy Co-operative Society at Bombay sells a considerable amount of roasted and ground coffee imported from England in tins, is a sufficient proof of what is required by the public in India. The Company then should supply coffee in three forms—raw, whole roasted berries. and roasted and ground. I have shown that coffee is roasted in England and exported to India. and I would suggest that some experiments should be made as to roasting coffee in India and exporting it for sale in England. As coffee could thus be supplied to the English consumer at much less cost, seeing that so many intermediaries would be cut out, I feel sure that the numerous Co-operative Societies in Great Britain would be glad to supply their customers with our Indian produce. The best check to adulteration will be found in thus supplying coffee direct from India, as it would obviously be in a form which would make adulteration difficult, or almost impossible. At present the identity of our Indian coffee is lost the moment it is sold, and all sorts of inferior coffees are palmed off on the public as Mysore or other Indian coffees.

BRAZIL CROPS AND THE COFFEE TRADE.

Commenting on Messrs. W. H. Crossman and Bro's. circular estimating the Brazil Coffee crop at not less than 16,000,000 bags the *Grocer* remarks :—

With the superabundance of the Brazil coffee crops for the present and coming season is indissolubly connected the maintenance of existing low prices. and the course they are likely to take in the near future Judging from statistics alone, and without taking into account the needless and harmful intervention of speculators in what are vaguely styled "Futures," we have no hesitation in saying that the quotations now ruling are as high as are consistent with the natural laws of supply and demand. Not only do stocks of coffee in the principal ports of Europe keep on accumulating—amounting to nearly 227,000 tons on February 1, in remarkable contrast with 178,000 tons last year, and 107,000 tons in February 1897,—but since we are on the eve of receiving liberal arrivals of the new season's crops of East India, Jamaica, Costa Rica, and numerous other places of growth, the quantities on hand are sure to be further swelled, and it will be a herculean task to lift and carry forward so great a weight of supply; especially so, if at the same time efforts are being made for sending up prices to much higher levels, as if the statistical position of coffee all round were the very reverse of what it is known to be by impartial and independent observers of actual events. It may even be reasonably allowed that, under the twofold stimulus of plenty and cheapness, the world's consumption of coffee will henceforth progress at an increasing rate; but it cannot by any means augment so rapidly as to neutralise the gain in production, least of all overtake it; and the natural inference is that, provided no unforeseen circumstance of overwhelming consequence happens to alarm the trade by a sudden and unlooked for cutting off or failure of the Brazil crops, no apprehensions of dearer coffee need be entertained.

Messrs. Norton, Megaw and Co. reaffirm their estimate of 8,000,000 bags for the present Rio and Santos crop, they expecting that the receipts for the balance of the season will average about 11,400 bags.

"CHEESY TEAS."

Messrs. Brooke, Bond & Co. (Ltd.) write to the *Grocer* as follows:—We venture to submit this note to you, as we believe its subject-matter is of serious, practical interest to the majority of your readers who are engaged in the tea trade, whether as buyers, blenders, growers, exporters, merchants, brokers, or dealers. The proportion of so-called "cheesy chests" is undoubtedly increasing. The most disagreeable, malodorous taint, strongly reminiscent of rancid cheese, is due to sappy, immature timber of unsuitable type being used in the manufacture of tea-chests on the Indian and Ceylon plantations. As showing the prevalence of the evil, we append a detailed list of 418 packages which have been rejected for "cheesiness" by our own warehouse inspectors during a period of only three weeks:—

January, 1899.

Date.	Mark.	Chest No.	Extent of Damage.
2nd	Invercauld	73/8	Slightly cheesy.
2nd	Venture	70/81	Mostly cheesy.
2nd	Heeleakah	1020/23	Mostly cheesy.
3rd	Venture	82 93	Mostly cheesy.
3rd	Heeleakah	1135 46	Mostly cheesy.
5th	Gairkhatta	2325/37	Mostly cheesy.
5th	Prospect	754 66	All cheesy.
5th	Heeleakah	1024/41	Mostly cheesy.
5th	Aibheel	2644 60	Mostly cheesy.
5th	Kud Kurmum	159 73	Mostly cheesy.
7th	Venture	94 111	Very cheesy.
11th	Ranicherra	101 2	All cheesy.
11th	Vembenard	1022/4	All cheesy.
12th	Prospect	767 9	All cheesy.
12th	Gairkhatta	2338/41	Mostly cheesy.
12th	Arcuttipore	324/43	Mostly cheesy.
12th	Arcuttipore	1818/21	Mostly cheesy.
12th	Arcuttipore	661/72	Mostly cheesy.
12th	Vembenard	1025 36	All cheesy.
12th	Vembenard	1070 1116	All cheesy.
12th	Venture	112 115	All cheesy.
17th	Prospect	767/9	All cheesy.
17th	Gairkhatta	...	Mostly cheesy.
17th	Ranicherra	...	Mostly cheesy
17th	Dinjan	...	Mostly cheesy.
19th	Gairkhatta	3887 902	Mostly cheesy.
19th	Heeleakah	151/88 184/216	Mostly cheesy.
20th	Ranicherra	—	Mostly cheesy.
25th	Cheroot Malay	—	All leads rotted.

Ceylon.

2nd	Debatgama	3938/49	Very cheesy.
3rd	Debatgama	3950 6	All cheesy.
3rd	Katooloya	211 15	All cheesy.
11th	K. A. W.	181 9	All cheesy.
11th	Etulgama	922 30	All cheesy.
11th	K. A. W.	190 201	Mostly cheesy.
19th	Etulgama	941 6	All cheesy.
19th	Katooloya	87 97 98 100	All cheesy.
20th	Etulgama	931 40	All cheesy.

To us, who have experts ever on the watch for any defective package, and who most carefully examine every one of all the thousands of chests which come into our warehouses every week, there is no possibility of a bad tea being passed into a blend; but in the case of the grocer buyer, who still follows the old-fashioned plan of buying unblended teas, there is grave danger of a more or less tainted package, or part of a package, being unsuspectingly included in a home-made mixture. Such an accident would probably contaminate a whole blend, and, by afterwards disgusting and driving away consuming customers, might cause a grocer grievous loss without, perhaps, his ever realising the reason.

There are two principal practicable remedies. The planters must more carefully select and dry all timbers from which they make chests; and all teas, whether previously "bulked" abroad or not, must be "bulked" in London, all the containing chests as well as all the contained teas being systematically and carefully examined by experts.

We trust you will think that the serious importance of this subject to most of your very numerous readers may justify our troubling you with these somewhat lengthy remarks.

THE SILVER CURRENCY QUESTION & PLANTERS.

Mr. Robert H. Elliot writes to the *Ceylon Observer*:—I have read (in your issue of Feb. 6th) with much interest your careful examination of a Currency policy in relation to the advisability of abandoning poor tea and coffee fields. In the course of your remarks you observe that in Ceylon, "an unusual influx of labour took place during 1898 just as depression had set in, and all further extensions were stopped and orders issued for the strictest economy in all departments." And the policy, you observe, resulted in a decline in the earnings of the labourers. But what caused the depression in 1898? Certainly, it seems to me, not prices, but the fact that whereas at first no one believed that the Government would continue its Currency measure, it became evident by 1898 that the Government was determined to persevere in the suicidal policy of placing India and Ceylon in the worst possible position for competing with other silver-using countries. That prices have probably had little to do with the depression in Ceylon seems evident, if we consider that there has been much depression in Mysore leading to a similar decline in the demand for labour, though fine Mysore coffee towards the close of last year was from 105 to 115 shillings a cwt.—a higher price than in the year previous. The fact certainly seems to be that while capitalists will face great risks which arise naturally out of the circumstances, they will not face those Currency risks which are liable to be created by the notices of partially informed and practically irresponsible Indian officials who have every interest in continuing to force up the rate of exchange.

You ask whether I can give you a case of "deliberate abandonment taking place in any part of India." Certainly, and on my own property. On mentioning this to one of our leading Mysore planters some months ago, he observed "That is just what others are doing too." But this is always the case when any cultivation falls into a state of depression owing either to artificial (as in the Indian Currency cause, or the effect of the sugar bounties) or natural causes. A farmer in Scotland once said to me: "How is it that you who have spent so much of your time in India know exactly what ought to be done here to meet those bad times?" Simply because, I replied, I found that you were doing mostly what we had been often doing in India, making money on the good land and throwing it away on the bad—and that the first thing to be done was to throw the latter out of cultivation. It is good policy in any times to diminish risk by cultivating highly the good and abandoning the inferior land. To adopt any other policy in bad times, and especially in the face of a Currency which is liable to be tampered, and re-tampered with, is certainly not the safest course to pursue.

TEA, &c., COMPANIES.

Tea Corporation (Limited).—A general meeting of the Tea Corporation (Limited) (of Ceylon) was held on Tuesday, the 14th ultimo, at Winchester House, E. C., to receive the report of the Committee of investigation appointed at the general meeting held on December 7, 1898. Mr. C. Gurney presided. The Secretary read the report of the Committee, which stated that the Committee had thoroughly investigated the accounts and the affairs of the company from the date of its incorporation, and are of opinion that since the company have had control of the estates they have been most satisfactorily and economically worked; and they consider that with careful management, and every economy in the working expenses, the company will be brought round to a satisfactory paying basis. . . The Committee are of opinion that the estates are now, judging from the manager's reports, thoroughly sound. Mr. Shand endorsed the statement in the report that with careful and economical management the prospects of the future of the company were satisfactory and encouraging. He found that the net profit for the past six months was about 4150*l*. He believed that for the next six months the company would do even better, and the probability was they would realise for the year about 9000*l*. On the motion of the Chairman, seconded by Mr Smith, the report and accounts submitted to the second annual meeting in December, 1898, were then unanimously adopted.

The Palmerston Tea Company of Ceylon, Limited.—The Annual Meeting of the above Company was held at Colombo on 13th instant, Mr. Sandys-Thomas presided.

The report stated:—

ACREAGE:

Tea in bearing	451 acres.
„ coming into bearing	8 „
„ not in bearing	4 „
Jungle and timber	26 „
Grass, &c.	4 „
	Total 493 acres.

The yield of the tea during the period has been 198,941 lbs., costing 29·55 cents, as against 32 18 cents last year, and realising 46·12 cents per lb as against 50 69 cents. As will be seen from the accounts, the net profits for the year amount to R22,287·73, after writing off the sum of R5,768 22 for depreciation on buildings and machinery. An interim dividend of 2 per cent. was paid on the 10th September, 18·8, absorbing R8,200, and the Directors recommend that a final dividend of 3 per cent. be declared, making a total of 5 per cent. for the year, and leaving a sum of R1,787·73, to be carried forward. Mr. W. Sandys-Thomas visited the estates in January, and found everything generally in a satisfactory condition.

The Roeberry Tea Company of Ceylon.—The Third Annual Meeting of the shareholders of the above Company was held at 3, P.M. on 13th instant, at the office of Messrs. Bois Bros., the Agents and Secretaries, Colombo. Mr. W. H. Figg presiding.

The report stated:—

ACREAGE:

Tea in bearing	542 acres.
„ planted 1896	127¼ „
„ „ 1897	40 „
	709¼ „
Cardamoms planted in 1897 ...	4 „
	713¼ acres in cultivation.

The yield of tea during the period has been 180.390 lbs, costing 30-94 cts. per lb., as against 35-31 cts. last year, and realizing 39·94, as against 38·50 cts. for the same period. On a reference to the accounts, it will be seen that the sum at credit of Profit and Loss Account, including the sum brought forward from last year, is R9,113 65, after allowing for depreciation on buildings and machinery, and out of this sum the Directors recommend that a dividend at the rate of 3 per cent. per annum be declared, absorbing R9,000, leaving a sum of R113·65, to be carried forward to the current year. Owing to very unfavourable weather during the latter portion of the year, the crop fell considerably short of the estimate, which was 200,000 lbs., and the result of the year's working is consequently not so satisfactory as was at one time anticipated. The estimate for the current year is 200,000 lbs., of tea as against an expenditure of R58,390. Mr. W Sandys-Thomas visited the estate on the 21st December last, and found everything generally in a satisfactory condition.

The Horrekelly Estate Company Meeting—The Annual Ordinary General Meeting of Shareholders of the Horrekelly Estates Company, Ltd., was held at Colombo on 13th instant. Mr. C. E H Symons, Chairman.

The Report stated that the accounts of the Company for the year ending 31st December, 1898, shew, after writing off R4,405·80 for depreciation on buildings, plant and machinery, a profit of R23.873 14, which, with the balance of R916·38 brought forward from 1897. and the sum of R58·62 unclaimed balances appropriated, gives a total of R24,848·14 available for distribution The Directors recommend that a dividend at the rate of 6 per cent on the capital of the Company be declared. This will absorb R24.000, and leave a balance of R848·14 to be carried forward to 1899. The crop secured has been a fairly satisfactory one. The mortgage balance of R5,000 has been paid, and the property is now free of encumbrances. The working of the estate for the years 1896, 1897 and 1898 compares as follows (the item of interest being excluded):—

		1896 Rs.	1897. Rs.	1898. Rs.
Expenditure on Estate and in Colombo Office	...	30,463·23	32,066·69	37,014·85
Number of Cocoanuts produced	...	1,548.081	1,400,835	1,437,885
Quantity of Coir Fibre made	Ballots...	23,859	28,553	35,474

EAST INDIAN COFFEE.

The *London Commercial Record*, of 24th ultimo, reviewing the Coffee market, says,:—

The week under review has passed away quietly and uneventfully, markets on the whole favouring buyers. Coffee still shows very little strength; good supplies and prospects of a large crop nip every attempt at a spurt in the bud. Coloury coffees are beginning to come in on a larger scale, but there is very little among the shipments worthy of the name of "fine." The berries, as a rule, are small, and the colour leaves much to be desired. This is decidedly disappointing to all concerned. To the planter, for the values he realises in our markets will fall considerably short of the advance he has received; and to the consumer and dealer, for they want fine East Indian sorts badly. The East Indian coffee season altogether has been a very poor one indeed, the total quantity contracted for on arrival terms being exceptionally small, and the prices realised ruinously low. Many of the best known and much-liked estates failed to create any interest in our market, owing to the exorbitant prices demanded by planters. These estates now begin to arrive in our market on consignment to be sold to the highest bidder. Their quality is so indifferent that it is difficult to understand the extravagant ideas entertained as to their value by their owners. Our trade may certainly congratulate itself on not having secured these estates at a high figure on c.i.f. terms; heavy losses would have been the unavoidable result. Now our consumers can secure their coffees at the market value, *i.e.*, at a reduction of about 25 %, and give the planters a lesson which they are not likely to forget in a hurry It seems to be the general opinion in the market that prices for East Indian Plantation Coffees have not touched the lowest point yet, that, being of indifferent quality, they will have to compete with lower grade descriptions, which at the present moment are several shillings below East Indian. Really fine fetches, owing to its scarcity, very high prices: but a few lots only have come before us so far answering to this description. This year's experience, we fear, will render the arrival business in East Indian Estate Coffee even more difficult than it has been so far, and that is saying a great deal.

AMERICAN TEA STANDARDS—HOW THEY ARE DETERMINED

Mr. Herbert G. Woodworth, of Boston, one of the Board of Tea Experts in the service of the United States Government, recently explained to a reporter of *Boston Transcript* how the Board goes about its work. "By the Act of 1897," said Mr. Woodworth "it is decreed that certain standards shall be established in order to prevent the importation into this country of impure or unwholesome tea, and further, that a Board of seven experts shall be appointed to meet at a stated time in New York to establish standards of every brand of tea which comes to this country. This is done solely to protect the consumer. When these standards have been decided on they are sent to the Secretary of the Treasurer, and after he has adopted them, they become law.

"There are 18 standards in all, and they are determined with great care and thought. Many think that the method used is that of tea buyers, but it really is much more exact and sure. In the first place the Board knows pretty thoroughly which teas are bad and which are good. So the essential task is to decide how poor a tea we can afford to allow the importers to bring into the country. This is our method." And Mr. Woodworth went through the process upon a table before him.

"We take the grade to be examined and into one cup pour tea to the weight of a silver half dime. This is for the single infusion. Into another cup we pour twice that weight for the double infusion. Upon the tea boiling water is then poured and the tea is allowed to steep for about two minutes. From the single infusion we determine the quality of the tea and the grade of the leaf, while from the double infusion we learn of its impurity. This last is shown by the coloured matter in the tea, and the congee, both of which float: Congee is a paste of rice water and tea dust, and its effect is to give the tea a uniform colour This matter of colour, by the way, gives the tea anything but a wholesome quality, and is one that we are fighting all the time. It is seen in the so-called country green

tea, which is coloured by Prussian blue or gypsum. The next step is to smell the tea leaf, after stirring it up with a spoon. In this way we detect any sourness or bad flavour. Then we pour off the liquor and examine the leaf carefully in order to learn what kind of stock is in the tea. A black leaf is one that has been used before or one that is dead; either of which is detrimental to the goodness of the tea. There may be a scum or impure matter upon the leaf. And that is not well. In this manner we decide whether the tea is wholesome and pure.

"The 18 different standards of tea," continued Mr. Woodworth, "represent the poorest teas that can come into the country. Every case of tea which is imported is compared to the standard of its kind, and if it fails to equal it, is thrown out. These standards are sent all over the world to every port of export, and now the exporters do not dare to send inferior tea here, as they used to send it, because they know that it will be condemned. In this way we get much better tea than ever before, and as we every year raised the standards a little, each year sees better and purer tea imported." In speaking of the reports that the American people are rapidly giving up tea drinking and are resorting to coffee, Mr. Woodworth said: "It is true that we are drinking more coffee every year, but not at the expense of tea. There is as much tea drunk at present as there ever was, and if we continue to compel importers to raise the standard of tea which they bring into the country tea drinkers will increase; for good, pure tea is better to drink than anything else."

CINCHONA-BARK AND QUININE.

An interesting circular has been issued by Messrs. C. M. & C. Woodhouse, of 30, Mincing Lane, E.C., regarding the position of cinchona and quinine, which has been causing some talk in commercial circles in London lately. They begin, says *The Chemist and Druggist*, with some rather ancient statistics (1878), which are not quite comparable with the figures of the last ten years as Ceylon and Java cinchona have entirely revolutionised both the prices and the qualities of manufacturing-bark. Columbian barks of 1879 contained 2 per cent. of quinine, the Ceylon and E.I. barks 2 to 3, and the Java barks 5 per cent. In 1879-80, of the 8,224,000 lbs. of bark sent to Europe 6,961,000 lbs. came from South America, 1,172,000 lbs. from India and Ceylon, 70,000 lbs from Java, and 21,000 lbs. from Jamaica. The highest importations into the U. K. (according to the Board of Trade) were in 1886, when 16,281,104 lbs., valued at 1,812,501*l*, was the total; last year (1898) the imports were 5,143,000 lbs., valued at 98,132*l*. In an appendix to the report the firm give a number of interesting tables of statistics. Those in regard to bark show that the world's supply is well maintained. We quote the more important of the figures, which, unless otherwise stated, represent English lbs:—

	1894	1895	1896	1897	1898
Ceylon, exports ...	2,229,261	919,877	1,328,498	591,136	975 784
E. I., exports ...	1,674,833	1,137,420	754,384	816,077	3,090,000
Java, exports ...	9,813,753	9,807,457	11,079,234	9,349,867	12,303,424
U. K., imports ...	6,535.000	3,562,000	3,952,000	2,758,000	5,143,000
U. K, exports ...	6,462.000	3,280.000	2,883,000	2,625,000	3 269,000
Holland, imports ...	10,498,000	8,967,000	10,922,000	9,070,000	11,657,000
Holland, exports ...	6,910,000	7,186,000	10.160,000	12,440,000	11 891,000
Germany, imports...	8,004,000	4,465,000	7,649,000	9,279,000	7,805,000
France, imports ...	1,788,000	1,949,000	2,603,000	2,270,000	2,30 ,960
U S A , imports ...	2,684,000	2.018,000	2,599,000	2,696,000	3,302.128

The French imports for 1898 represent eleven months only. The figures regarding African and South American barks are stated in bales, and are therefore excluded. The most notable point about the above figures is that Holland was accumulating stocks up to 1896, when the exports began to approach the imports, and in 1897 and 1898 the exports exceeded the imports In other words, U. K. and Holland, in 18 3–95, imported 47,622.0 0 lbs. and exported 39,5 4,000 lbs., leaving a surplus of 8,038,000 lbs., and in 1>96-98 the imports were 43.502,000 lbs., the exports 43,26 ,000 lbs the surplus for that period therefore being 234,000 lbs. The stocks in London and Amsterdam at the end of 1895 were 43,597 packages and at the end of last year 32,254 packages, these not including second-hand stocks in Amsterdam. The conclusion that Messrs. Woodhouse come to is that the supply of bark is barely sufficient for the consumptive demand. "Increased shipments from Java will be required to supply manufacturers and make up for the expected deficiency from British East India and Ceylon, and in any case we fancy the days of quinine selling below 1s. per oz. are numbered."

We have on several occasions referred to the world's consumption of quinine as being in the neighbourhood of 10,000,000 oz. annually. There are no absolute data for a true estimate, many of the figures being interchangeable, and they are complicated by bark which is not used for quinine-making. Taking the above line of German imports of bark it is interesting to compare with it the following exports of quinine from Germany—viz., in 1894, 4,927.000 oz.; in 1895, 5,616,000 oz; in 1898, 6,930,000 oz.; in 1897, 8,876,000 oz.; and in 1898, 7,094,000 oz. The exports from France have been well maintained during the period, and amounted to 924,000 oz. last year; while Java exported 3 0,000 oz. (according to Messrs. Woodhouse, but our official figure is 468,800 oz.) Italy is responsible for exports of 86,405 oz, but the exports from the United Kingdom are not declared. We import roughly 1½ million ounces of German quinine yearly, and the United States 2,747,0 0 oz. in 1898. The bark figures scarcely leave British manufacturers anything to work upon (another example of statistical trouble), but we may safely take it that quinine is made in this country, as our manufacturers would not buy bark to pitch it away, and we give the following estimate of quinine production as a deduction from the foregoing figures:—

	Oz.
Germany exported	7,094,000
Germany consumed	500,000
U.S.A. manufactured	3,333,000
France exported	924,000
France consumed	500,000
U.K manufactured and consumed	1,500,000
Java and other countries manufactured ...	1,000,000
	14,851,000

This represents the production of quinine sulphate in 1898. The figure seems excessive, but only a fourth of it is estimated, so that the total cannot be far wrong. As 100 lbs of Java bark yield at least 85 oz of quinine sulphate, last year's exports of bark from Java alone represented 10,000,000 oz. of quinine sulphate.

COCOA IN TRINIDAD.

The following are notes by a Visitor:—

General Remarks on Cultivation.

In the oldest Cocoa growing districts, these estates are situated in the valleys formed by the ridge of hills running along the north of the Island parallel to the coast.

The soil in these valleys was said by many planters to be getting exhausted, and to be giving poorer crops than some of the newer lands opened up more recently.

The centre of the Island has been opened up within the last 20 years, and at the present time, there is a great quantity of young Cocoa just coming into bearing.

It is said to be the richest and most productive part of the Island, the Cocoa estates situated here giving a higher return per tree than elsewhere.

This is a slightly undulating district, and the hills and valleys are clothed with Cocoa trees.

Varieties of Cocoa Grown.—The varieties of Cocoa grown in Trinidad are the Criollo, Forastero and Calabacillo.

The quality of the Criollo Cocoa is better than that of the Forastero, and the Forastero is again better than the Calabacillo variety.

Formerly the Criollo Cocoa was grown in Trinidad, but some 10 years ago, a blight destroyed nearly all the trees, and these were replaced by the hardier Forastero variety from the Main, (probably they would come from the district round Carupano).

The Calabacillo is the commonest kind of Cocoa grown, it is the hardiest variety of tree and gives the largest yield

The Criollo variety gives the smallest yield of the 3 varieties, and the tree is more subject to disease than the other two.

Whilst these 3 varieties exist in Trinidad, the bulk of the trees are strains of the Forastero and Calabacillo, the Forastero variety largely predominating.

In Grenada the Calabacillo predominates; in the west of Venezuela the Criollo is grown.

The various varieties of Cocoa are distinguished by the pods and seeds, the shape of the pods and the size of the seeds.

The Calabacillo has a small round pod—the Criollo a long narrow one—the stalk end being constricted. The Forastero has a long pod without the constriction. The beans of the Criollo Cocoa are round and thick, and when cut are white in the centre and of a sweet flavour. Those of the Forastero are not so round, and flatter than the Criollo beans and when cut, have a purple colour, and bitter taste.

The Calabacillo beans are smaller, flatter and more purple than the Forastero beans. When these beans have been fermented and dried, the Criollo is of a light brown colour, the Forastero a dark brown, the Calabacillo a purple colour. The "break" of the Criollo Cocoa is better than that of the Forastero, whilst the Calabacillo has a more "slatey" appearance when cut across. The commoner varieties of Cocoa require longer fermentation to make them at all palatable (*i.e.*, to remove the bitter taste).

All the varieties of Cocoa bear both red and yellow pods, this being no indication of the quality of the Cocoa.

The value of Cocoa depends upon.

(1) The variety of the tree from which the beans are gathered.

(2) The method of fermentation adopted by the planter.

(3) The quality of the soil on which the Cocoa is grown.

The very finest flavoured Cocoas can only be grown on certain soils.

One planter attributed the quality of his Cocoa to the care that was taken in the selection of the trees and the difference in quality between his and another estate was due to this fact, as they are both grown in the same valley on contiguous estates.

The Criollo Cocoa had been tried, but it was difficult to grow, and the yield was small, consequently the trees had been pulled up.

Seeds have been taken from the trees grown in the Ocumare and Choroni Valleys of Venezuela and planted in other parts of Venezuela and Trinidad, but have not given Choroni Cocoa, and trees from other districts planted at Ocumare in 4 generations produced Ocumare Cocoa.

However, one must not forget that there is only 1-10th of the original strain of Cocoa, if the tree is planted at Ocumare surrounded by trees of the true Criollo type.

Probably it would be safe to say one could grow Cocoa in any West Indian Island, like the average Cocoa produced in any part of the world, but not equal to the best of any particular kind. It would be necessary to take seed from the variety of Cocoa one wanted to imitate, ferment it in exactly the same way, and to take care the flower was not crossed by any local variety growing near.

Formation of an Estate.—The estates in Trinidad are nearly all formed by contractors. That is to say the planter gives a certain portion of his land to a contractor, generally a negro, who clears it and plants the Cocoa trees. He grows plantains and ground provisions between the young Cocoa trees for his own use or for sale.

At the end of five years he hands the land back again to the owner, who gives him 80 cents of $ per tree, according to the arrangement made.

A single contractor generally planted 1,000 trees.

Some planters supply the contractor with seeds bnt generally they are left to provide their own.

When we were in Trinidad, the planters said it did not pay to take the trees over so soon, and some left them with the contractor a year or two longer.

The advantages of the system are its cheapness, but the disadvantages are that unless the contractor is supplied with seed and well looked after, he will put in a common and hardier variety of plant, as it is easier to grow.

Arrangements of an Estate.—The Cocoa trees are planted in lines, some 12 feet apart, whilst every 36—40 feet the Bois Immortelles are planted. In the hilly districts where the Cocoa trees are planted on the steep hillsides they are placed closer together and fewer shade trees are employed This method of planting seemed generally employed throughout the Island, though of course some estates were better lined out than others.

One planter thought a better yield might be obtained per tree by planting the trees further apart.

The Bois Immortelles were used in nearly all cases as shade, though in some places the sand box tree was used instead.

The timber of the Immortelle is valueless, but it has always been found to be the most successful shade tree by the planters.

The manager's or owner's house is generally situated in the centre of the estate and is surrounded by the sweat boxes and drying sheds.

Kind of soil, adapted for the Cocoa estate is a light, loamy one; sandy soil gives a better quality Cocoa than heavy ones. It is essential that the soil should be of some depth.

All the planters in Trinidad said it was not worth while planting old sugar estates, as the soil had been exhausted by the sugar and as there was plenty of virgin soil to be obtained, it was better to clear fresh land than plant that partly exhausted.

Work on an Estate.—This consists, after it has been handed over by the contractor, in the careful weeding of the ground, the pruning of trees the gathering, breaking, fermenting and drying the Cocoa. There is work on an estate all the year round, as the men are employed in pruning and weeding when the picking is over.

Thus a small body of men are constantly employed. and there is no necessity for a large amount of labour at one time, and neither is a very large amount of labour required as on a sugar estate.

Gathering Cocoa.—This is done by the men who cut off the Cocoa pods within easy reach by means of a machette: those higher up they remove by means of the Cocoa hooks which are mounted on long bamboo poles. The Cocoa hook is sharpened at the tip and on the underside of the hook, so that the Cocoa can be gathered by means of a thrust or a pull.

The pods are known to be ripe by their colour, some being green, others red It is not easy to say at first when they are quite ripe, but the men employed soon gain experience and are enabled to tell by the appearance.

When the pod is cut open it is easy to tell whether it is ripe, as in a ripe pod the beans are separated from the shell, but they adhere to it before ripening.

The Cocoa gatherers leave the pods upon the ground where they fall. Women are employed to collect them into baskets.

The women deposit the pods into large heaps at different parts of the plantation.

Breaking Cocoa.—This consists in cutting open the pods and removing the beans. A planter told us that it improved the quality of the Cocoa to leave pods a few days in the heaps on the ground before "breaking," but he said that he always had the Cocoa broken as soon as it was gathered, to prevent it being stolen in the night.

In the other plantations we visited it was generally left three or four days in the heaps on the ground before "breaking."

If the Cocoa is left too long in this manner, it will ferment and go mouldy.

When "breaking" the Cocoa the men take a short knife (*i.e.* machette with the end taken off) and cut the pod in two, throwing the top half on one side and the bottom half (to which the placenta with the beans is attached) into a basket. The beans are removed from the bottom half of the pods by means of little wooden spoons and put into large wicker baskets.

This part of the process is performed by women.

These baskets are emptied into the panniers of the ponies whcih take the Cocoa to the sweat boxes. Whilst breaking on the best estates the brack and decayed beans are put on one side and not mixed with the good Cocoa

Sweat Boxes.—These on one estate were large wooden troughs with a cement bottom some 6 feet square and 4 feet deep arranged in sets of 12 under one roof, there being an opening between the top of the boxes and the roof, and sufficient space between the bottom of the box and the ground to allow of the juices liberated during fermentation to escape. Arrack is put at the bottom of the box and when it is filled with Cocoa, banana leaves are spread over the top with sometimes a lid over all, and most of the sweat boxes we saw were arranged on the same principle. Some had fewer divisions.

The boxes on another estate that they were using held from 30 to 40 bags of Cocoa.

On another the fermenting troughs were arranged somewhat differently. There were 6 side by side with a door opening into each box.

Fermentation.—The method of fermentation was the same all over Trinidad with some slight difference. The difference between an estate mark and a common Trinidad is mainly in the fermentation, the better Trinidad Cocoa being fermented the longest of all.

One planter only fermented 5—8 days. The Cocoa on another estate was fermented 10—12 days, being turned over two or three times. During fermentation the white pulp which surrounds the beans is largely removed—part being used in the process, and part draining away as a liquid at the bottom of the troughs.

NOTES ON GINGER-GROWING.

The Journal of the Jamaica Agricultural Society publishes extracts from a pamphlet by Mr. J. B. Kilmer, of New Brunswick, N. J., on the subject of ginger cultivation in Jamaica. We find therein some valuable facts relating to the methods employed in that island in planting and preparing ginger for the market by the small settlers in the ginger-producing districts. Nor can we avoid noticing how much the local Botanical Department and Agricultural Society are doing to advance cultivation. The absence of similar enterprise in this Presidency is a standing reflection upon the otherwise progressive administration of the Local Government.

The following are excerpts from Mr. Kilmer's observations:—

One of the essential requirements for the growth of this plant is—sunshine. Another requisite is moisture.

The underlying soil (in the ginger districts of Jamaica) is white and yellow limestone, with trappean formation This is covered in some of the nooks or valleys with a pulverent mould or loam deposit several feet in depth. The plant grows luxuriantly in such soil, but will apparently not thrive in marshy soil, nor where there is present more than 10 to 20 per cent. of clay or 30 per cent. of sand.

The Government returns for the whole island give only about 250 acres devoted to ginger. This amount of acreage would not give the amount harvested. But the real cultivation is not in acres, many cultivators having beds varying from 6 feet square up to the size of a building lot. A few cultivate from one to six acres. Large lots are very rare.

From 25,000 to 50,000 of the people of Jamaica are more or less dependent on the ginger crop for such ready money as is essential to maintain their existence.

The ginger planter divides ginger into "blue" and "yellow" from the colour of the rhizome. These are also known respectively as "turmeric" and "flint." The root of the blue is hard and fibrous, and less valuable commercially.

There is also a division into "plant" and "ratoon" ginger. The latter is a product of laziness, and is a return crop secured by leaving a part of the "hand" containing a bud in the ground. Ratoon ginger is smaller in size of hands than the planted, and loses each year in flavour.

Ginger-Planting.

The process of planting differs little from potato-planting. Each finger containing an "eye" or embryo is planted in trenches or holes a few inches below the surface, and about a foot apart. The plant needs plenty of sun, and weeds must be kept down. The growing plant grows to a height of 4 or 5 feet. Its cone-topped flower-stems reach from 6 to 12 inches.

On wet soil, and during very rainy seasons, the root is subject to what is termed "black rotten." The root fills with water, swells in spots, turns black, and emits an offensive odour. In this condition it is attacked by insects and worms, which has given rise to the belief among planters that the rotting is caused by a so-called ginger worm. (It is possibly a fungus disease).

Growing ginger must be well watered. An all-important feature is the rapid impoverishment of the soil that follows the ginger culture. The soil which produces the very highest quality of ginger-realising, perhaps, £[illegible] per cwt. in the London markets—is the very deep, black soil of virgin forest.

Ginger can be and is grown in many places year after year on the same ground. When the soil becomes too poor to grow "white ginger," the "blue ginger" (the inferior variety) can be grown

More depends on the curing of ginger than on the soil. Regularly shaped "hands" command the highest price in the market.

Gathering the Crop.

Ginger is known to be ready for harvest when the stalk withers. This begins shortly after the bloom departs. The rhizomes are twisted out of the ground with a fork. In this operation every bruise or injury to the hands is detrimental to market value.

The hands are thrown in heaps, the fibrous roots are broken off and the soil and adherent matter removed. This must be done quickly after removal from the earth, for, should the ginger be dried with the soil and roots still adhering, the product would not be white; and if it lies in heaps before drying, it will mould. The custom is to throw it immediately into a dish of water; it is then ready for the uncoating or peeling operation. This is done by hand.

Peeling Ginger.

Ginger-peeling is an art. The ginger-knife is simply a narrow-edged blade rivetted to a handle. In large operations the expert peels between the fingers of the "hands." Examination of a transverse section of ginger will show the importance of the operation. There is an outer striated skin, under which there are numerous layers of very thin-walled cork cells. These layers contain numerous oil cells, the oil cells being most numerous at the bud points. The oil contained in these cells, in specimens fresh from the ground is almost colourless, very pungent, and exceedingly aromatic. It becomes yellow very quickly on exposure to the air, and even upon drying without removing the epidermis its delicate aroma is found to be fleeting. On drying the ginger, the contents of these cells appear as a yellow, pitchy mass. (It has been stated that this colouring matter is identical with that of Curcuma.) As this cork layer is the seat of the greatest amount of oil and resin cells, it will readily be seen that the deeper the peeling, so much the more of these substances will be carried away with the epidermis, and more cells opened from which these principles may exude.

As fast as peeled, the roots are thrown into water and washed. The purer the water, and the more freely it is used, the whiter will be the product. Generally a very little water washes a great deal of ginger. The hands are peeled during the day, and allowed to remain in the water overnight. This water acquires a slimy feeling, and, if concentrated, becomes mucilaginous and acquires a warm and aromatic taste. The natives claim that this process soaks out the "fire and poison" from very hot ginger. I placed some pieces in a stream of running water for twelve hours, and succeeded in making them several shades lighter in colour. The sample proved to be less pungent to the taste, and it is quite possible the force of the water carried away some portion of the aromatic principles. A few planters use lime juice in the wash water. This gives a whiter root, having some solvent action on the colouring matter; but, as the lime juice contains saccharine and pectose matter, it prevents drying, and mildew follows. In another experiment I supplied the natives with citric acid, vinegar, and acetic acid. They all worked fairly well, citric acid being the best whitening agent, but it was reported that the process was expensive and troublesome.

It is generally stated that ginger is deprived of its coat by being plunged into boiling water before being scraped. This practice is not used to any extent in Jamaica. Its effect is to swell the starch and bassorin-like gums. I found that after keeping the freshly peeled root-stalks in boiling water for an hour, they were suddenly swollen, and the steam was filled with the aroma of ginger. Under this treatment the coating comes off easily, but, if the action of the boiling water is prolonged, the starch and fibre acted upon, the product dries hard, and the colour is darkened. In fact, what is known as "black ginger" of the market is the result of this process. Ginger is found in the market coated with calcareous matter such as carbonate of lime, &c.; this is said to be to fill a demand for "white ginger." Such a proceeding is apparently unknown among the planters. Well-cured ginger has a decided white coating, and that is all they know about it. It has been stated that it is a common practice to bleach ginger with the fumes of chlorine or sulphurous acid. It may be done in the other parts of the world, but no instance of it is known in Jamaica.

I tried chlorine gas as a bleaching agent, but at best the product was of a dirty yellow colour. By using the fumes of burning sulphur, the whole being partially enclosed in glass, the heat of the sun aiding in the experiment, the ginger was whitened, and mildew prevented. I found, on trial, that it might be of service to place the ginger in a weak solution of chloride of lime before drying; this would aid in bleaching, and prevent mould.

Curing Ginger.

After washing, the process of drying follows. The tropical sun is the drying agent in all cases. Large operators have what is called a "barbecue." This is a piece of ground several feet square bevelled off and laid with stone, and the whole coated with cement

It is placed so as to receive the greatest amount of sunshine. The small planter uses what is called a "mat," consisting of sticks driven into the ground, sawbuck fashion, and across these sticks are laid boards, palm, banana or other large leaves; oftener than otherwise the place for drying is a few palm-leaves spread on the ground.

Careful handlers put their ginger out as the sun rises, and turn it over at mid-day, taking it in at sundown. Rainy or cloudy weather invites mildew. It requires six to eight days for the root to become thoroughly dry. I made several tests to ascertain the loss in weight by drying in the sun, and found the average to be nearly 70 per cent.

The loss in the peeling and drying process takes, some say, 66⅔ per cent., others 80 per cent. So that if the planter lifts 100 lbs. of ginger from the soil, he has, after it has been peeled and dried, say from 20 to 33⅓ lbs. of cured ginger ready for market.

In a portion of the island given almost entirely to the cultivation of this product, a few years ago a wet season prevailed. It was impossible to dry the crop in the sun; as a consequence there was a loss of the crop, followed by a considerable distress among the planters.

During my observations an attempt was first made to dry without removal of the skin coat. This, if successful, would have meant the saving of considerable labour. The product was quite dark, the flavour not as good as that of the sun-dried. By removing a part of the coat the drying was hastened. Dr. A. G. McCatty, a practising physician and owner of a plantation, at my suggestion, placed in operation an American fruit evaporator. It was necessary to use wood as a source of heat, and, partly owing to the high temperature and partly from the ignorance of the operator, the product so far has been rather poor in quality, the colour many shades darker, much of the aroma was lost, and a smoky, burned flavour acquired. Other planters are trying the process on this year's crop.

A curious incident resulted during these experiments. The natives, through prejudice against innovations, boycotted the drying apparatus, and refused to furnish supplies at any price. Experiments were made with calcium chloride as a drying agent. The result did not equal samples produced by the native method of drying in the sun. Attempts made to dry the ginger after first slicing, as might be expected, resulted in great loss of flavour and pungency. My conclusions were that, when well conducted, the native method of careful peeling and curing in the sun would produce a handsomer and a better product than any process yet suggested.

These observations were not undertaken with a view of making any complete analysis, and it was found that a microscopic examination by expert judges was far more reliable than any assay that could be made with the limited facilities present in the ginger fields. A few such examinations were made as follows :—

Ethereal Extract.—Exhaustion of the ginger with ether in a Soxhlet extraction apparatus. The resultant extract, after evaporation of the ether, was dried over sulphuric acid to remove moisture. From this extract the volatile oil was calculated by the loss on drying the ethereal extract at 110 degrees C. for three hours. The only results from this process that seemed to be of value was that the finer grades, when carefully dried, contained a higher percentage of volatile oil.

Ginger dried, without removing the peel, gave somewhat higher results as to volatile oils than the peeled. The loss of this constituent was greater in a product dried by artificial heat, than when dried by sun. The amount of volatile oil found by aforesaid process was :—Lowest, 1 per cent.; highest, 3·20 per cent. The results as to ethereal extract, exclusive or volatile oil or of alcoholic extract from the ether-exhausted residue, seemed to be of little value, the different specimens giving such greatly changing amounts as to afford no guide . . . . . .

The ruling price in Kingston and Montego Bay, for the heap, is 1½d. (about 3 cents.) Heaps purchased by me varied according to quality, but the average weight was from one quarter to half a pound.

The buyers of ginger for shipping are expert and accurate. They grade, sort, and price, with a quick eye and ready touch gained by years of practice. The highest grades are larged-sized hands of light and uniform colour, free from evidence of mildew. This grade is brittle and cracks easily, but broken pieces depreciate the value. Buyers also require the hands and fingers to be firm and full, without wrinkless or spots. They generally assort into four or five grades, that which is shrivelled and small being the lowest. The dark varieties form another ; the heavy, tough, and flinty, a third. These four are finally assorted by placing hands which are small, but of good texture and colour, as one grade ; the larger-sized, well-bleached hands into the highest grades.

The ratoon ginger sorts generally bring the lowest price, as they are small, soft, and soggy, and lack flavour. Ginger gathered green shrivels much in drying, and is less aromatic and pungent than when fully matured. Ginger that has mildewed is spotted, and the mildew starts a decomposition that effects the flavour. Ginger put in bags or laid away before being thoroughly dried will mould and acquire a musty odour and flavour, which it is impossible to remove.

The largest-sized hands are carefully selected by buyers and shipped to special markets, usually to England. I noticed hands weighing as much as 8 oz.; many of them weighing from 4 oz. upwards.

Ginger is packed in barrels for shipment.

ECONOMICS.

The amount of ginger exported from this island during the last ten years is shown in the following table :—

	lbs.
1187	1,121,827
1881	1,141,877
1889	1,002,653
1890 (half-year)	554,193
1891	1,219,197
1892	1,822,331
1893	1,526,884
1894	1,672,384
1895	1,736,460
1896	1,960,609

The yield and profit of the ginger crop depend somewhat upon the nature of the soil. In favourable seasons rainfall, sunshine, planting, care, and curing are also factors. An average yield can be estimated at from 1,000 to 1,500 lbs. dried ginger per acre. In exceptional cases, 2000 lb. have been gathered. There are planters in Jamaica who plant ginger here and there in patches, and gathering as little as 100 lbs. in a year. Ginger is well adapted to the small planter, admirably suited to the peasantry of Jamaica, who, by slow evolution, are passing from serfdom to manhood and independence.

The Botanical Department, through its crops of agricultural instructors, is now going among the people and showing them exactly what may be done in the way of improving their methods of cultivation. The Jamaica Agricultural Society is conducting practical and extensive demonstrations to show the use and value of fertilisers. These have already an important bearing upon this crop. Information recently to hand states that the crop which will be gathered in the coming season (spring, 1898) will probably be the largest ever grown upon this island. This is due to the improvements in cultivation, together with an abundant rainfall. Unfortunately for the ginger planter, a largely increased production will tend to lower prices.

I am aware of the fact that these notes will add but little to the already recorded observations upon ginger. It may be questioned whether such a common article of *materia medica* merits any extended research. We should, however, realise that any drug that holds a name and place in medicine is of sufficient importance to merit our best efforts.

Our knowledge of the changers which take place in crude drugs, due to the methods of preparation, is very meagre. Karl Dieterich (Berichte der Dutschen Pharm. Gesellschaft, 1896, p. 335) says :—

"Thus it is that I am convinced that the study and development of this branch of pharmacy will yield far more than theoretical results, and that the analysis of fresh and dried drugs at different stages will be of great practical advantage in directing the proper manipulations to be employed in producing uniform and superior products"

My convictions are strong that the study of drugs should begin in their habitat and extend to the bedside of the patient. That it is important to know every change that may take place in their cultivation and collection, as well as those incident to their preparation for administration, this seems to be sufficient warrant for these observations taken in the Land of Ginger—Jamaica.

THEORY OF THE FLAMING SWORD.

"Ah, talk of blessings! What a blessing is digestion! To digest. Do you know what it means? It is to have the sun always shining and the shade always ready for you. It is to be met by smiles and greeted with kisses. It is to hear sweet sounds, to sleep with pleasant dreams, to be touched ever by gentle, soft, cool hands. It is to be in Paradise.

"There came a great indigestion upon the earth and it was called a deluge. All the evil comes from this. Macbeth could not sleep; it was the supper, not the murder. His wife talked and talked; it was the supper again. Milton had a bad digestion, and Carlyle must have had the worst digestion in the world. Ah! to digest is to be happy!"

There!—how does that strike you for a burst of eloquence? I quote from Trollope. If there is anything wrong about the theology you must hold him responsible. As for its physiology and pathology (pardon all these "ologies") I can answer for the correctness of these two. And so can millions of people besides me. They speak of the curse of indigestion continually in every language; they groan and writhe under it in every land and climate.

"For many years," says one of this innumerable army of martyrs, "I was obliged to bear as best I could the torments of indigestion. My appetite was practically destroyed. I ate, of course, because one must eat or die! but after meals, I had great pain at the chest and around the sides.

Sleep almost forsook my pillow, and naturally I was tired and exhausted. Sometimes better and then worse, but never free from pain and illness, I lived on with little or no hope of getting well. It is hardly necessary to say that I had medical treatment, yet no real benefit resulted from it. Happily at this time Mother Seigel's Syrup was brought to my notice, and so strongly commended that I laid aside other medicines, which were doing me no good, and began using this one only.

"In a short time I realised a great improvement; food agreed with me and I gained strength. A little later—continuing to take the Syrup regularly as directed—the pains at the stomach, sides and chest wholly ceased, and I have not felt them since. My indigestion was cured at last, and I enjoyed the blessing of health. My son, who suffered severely from rheumatism has been relieved by Mother Seigel's Syrup as by nothing else he ever tried. In gratitude I give you full permission to publish my letter should you desire. (Signed) (Mrs.) Ann Barker, Field Lane, Braughing, Ware, Herts. Oct. 7th, 1898.

It was a fortunate circumstance for Mrs. Sarah Gell, of Melchbourne, Bedfordshire, that one day she had a personal talk with Mr. Smith, the butcher at Rushden. He told the lady that in his opinion if she went on suffering from indigestion and asthma (one of its consequences) it would be because she neglected to use Mother Seigel's Syrup. "And," said Mr. Smith, "I speak from knowledge." She had been ill with this abominable ailment for many years, and had spent time and money in unavailing efforts to obtain relief.

Acting on Mr. Smith's advice, Mrs. Gell began using this remedy at once, and tells the outcome in a letter of which we have room for the conclusion only:—

"I was better almost immediately, and was soon as well and healthy as one could wish to be. Now I keep 'Mother Seigel' in the house and it never fails to help us when needed for any passing complaint." (Signed) Sarah Gell, Oct. 5th, 1898.

Judging from the force of his comment on the disease, I should say Mr. Trollope knew something about indigestion from experience. Most literary people do. To them, and to all other victims, I confidently commend the best remedy yet found—Mother Seigel's Syrup.

MARKET REPORT.

[*By Mail advices of 24th February* 1899.]

COFFEE.

The *London Commercial Record* reports that a generally flat tone has prevailed during the week and prices for most descriptions have been in favor of buyers, except for the small proportion of colonry qualities, for which previous prices have been maintained. Some parcels of Plantation Ceylon sold with good competition at full rates. The further supplies of new crop East India continue to shew a depreciation in quality, and, in consequence, sales have been made with difficulty at a fresh decline of 1s. to 2s. per cwt., a small proportion of fine being sold at about former prices. Jamaica partly quitted at about valuations. The quantity of Costa Rica and Central American kinds offered has been on a restricted scale, and the sales shew a similar variation in prices to other growths. "Futures" have shewn a continued downward tendency and prices are again lower; yesterday the reduced rates resulted in large sale; closing rates are—

London ...	Santos ...	March delivery	... 29s. 6d.
New York ...	No. 7 Rio...	„ „ ...	... 5·35 cents.
Hamburg ...	Santos ..	„ „ ...	... 30¼ pf.
Havre ..	Santos ..	„ „ ..	... 36½ francs.
Holland ...	Good ordinary Java	...	.. 31 cents.

Imports Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
Tons ...	12,421	9,877	2,859	4,729
	Home Consumption.		Export.	
	1899.	1898.	1899.	1898.
Tons ...	2,058	1,957	2,792	2,478

The preceding figures exhibit—

In the Imports a decrease this year of 1870.

Home Consumption an increase of ..	101 tons.
Export an increase of	314 „
Stock an increase of	2,544 „

Auctions this week have gone off as under:—

Ceylon.—*Plantation.*—28 casks 6 tierces 17 barrels 4 bags mostly sold, smalls 60s. to 67s., low medium to bold rough greenish 68s. to 86s., low middling to middling brownish 102s. to 107., bold and extra bold 104s. to 114s., pea-berry 74s. to 125s.

East India.—1,889 bags mostly sold as follows:—*Mysore*, smalls 42s. to 72s., middling blue 71s. 6d. to 72s., good to fine bold 100s. to 105s. 6d., pea-berry 98s. to 116s.; *Coorg*, smalls 44s. 6d. to 51s., low middling greenish to colory 61s. to 67s., middling to good middling 68s. to 75s 6d., good to fine bold 83s. 6d. to 95s., pea-berry 83s. 6d. to 106s.; *Neilgherry*, smalls 45s., low middling 56s, bold dull colory 80s. 6d., good bold grayish 105s.; *Nelliampathy*, smalls 44s. to 46s., low middling 59s., bold dull green 80s., pea-berry 78s. to 96s.; *Wynaad*, bold dull colory 82s.; *Pulneys*, smalls 57s. 6d. to 61s. 6d., pea-berry 90s. 6d.

Mocha.—30½ bales withdrawn.

Penang.—*Liberian.*—7 bags sold, bold yellow pea-berry 40s.

Jamaica.—Of 210 barrels 514 bags offered 150 barrels 255 bags sold, smalls 26s. 6d. to 37s. 6d., good to fine ordinary greenish 38s. 6d. to 44s., fine fine ordinary to low middling faded gray 45s. to 52s., pea-berry 38s. to 46s.

Costa Rica.—Of 762 bags offered about 280 bags sold, good ordinary dull green 36s. to 38s., middling dull gray 60s., pea-berry 57s. 6d.

Guatemala.—Of 363 bags offered only 60 bags sold, low middling dull green 53s. to 53s. 6d.

Colombian.—1,151 bags mostly sold, smalls 32s. to 47s., ordinary dull pale 32s., fine ordinary gray 40s. 6d. to 44s., low middling greenish 65s. middling to good middling blue and green 57s. 6d. to 64s. 6d., bold dull mottled gray 65s., good blue 68s. to 76s. 6d., fine middling 78s. to 81s., good to fine bold 75s. 6d. to 96s, pea-berry 60s. to 76s.

Mexican.—Of 123 bags offered 56 bags sold, smalls 38s. to 40s.

Peruvian.—66 bags half sold, fine ordinary dull green 41s.

Vera Paz.—405 bags catalogued and 110 bags sold—middling faded green to good middling blue 59s. to 65s.

Venezuelan.—Of 464 bags offered, a small part sold at 45s. to 50s. for fine ordinary to low middling grey.

Salvador.—141 bags withdrawn.

Auctions to-day comprised 677 packages Jamaica, 3,957 bags East India, 59 bags Columbian, 145 bags Guatemala, 145 bags Costa Rica and 278 bags New Granada. The sales went off quietly, Cannon's Mysore and other fine qualities sold well at high prices but the less desirable grades were dull of sale, and in some cases 1s. per cwt. lower.

TEA.

China.—Auctions this week have offered 3888 packages, the greater proportion selling at somewhat irregular but, on the whole, steady prices, viz.:—new make Congou 5¼d to 7½d. Scented Caper 6d to 7d. Scented Orange Pekoe 8½. Panyong 6d to 6½d. Lapsang Souchong 6¼d to 6¾d. Oolong 5¾d to 11d. Moyune Green—Gun-

powder 4⅞d to 1s 1d, Imperial 4d to 5½d, Sow Mee at 5⅞d to 1s 1¼d, Foong Mee 7½d to 9¾d, Hyson 3¾d to 4d, Young Hyson 3d to 4¾d, Ping Suey 5¾d to 6d.

Indian.—Public auctions were of similar dimensions to those held since the commencement of the month, having comprised 41,800 packages, against 42,100 packages in the previous week, and 32,600 packages at this time in 1898.

The demand generally continued good, common to fair Pekoe Souchongs and Pekoes being again in strongest request and often dearer. Dusts and Pekoe Fannings also participated in the advance recently established. Medium Pekoes and Orange Pekoes ruled firm, but there was less disposition to secure Broken Pekoes and occasionally lower rates had to be accepted. From South India 800 packages were catalogued, for the most part of useful quality, and results in sympathy with those of shipments from other districts were more satisfactory.

Including what is advertised for Monday next, 169,800 packages have been printed during the month, contrasted with 134,500 packages, in 1898, making the amount of the crop disposed of to the 28th inst., say 1½ million lbs. more than to the end of February in the season before.

For 32,100 packages on Garden account, 9½d. was obtained against 8½d. per lb. for 23,600 packages, and 9⅞d. per lb. for 28,400 packages in the two preceding years.

Ceylon.—About the same quantity was brought for forward, viz.:—14,100 packages versus 14,600 packages on the 14th inst. and 17,100 packages a year ago.

A better tone was noticeable, the small offerings combined with moderate prospective supplies encouraging purchases. Spirited competition prevailed for leafy kinds, Pekoe Souchongs and Pekoes under 7½d per lb, showing a rise of ¼d to ½d per lb., while medium to fine Pekoes and Orange Pekoes were taken more freely for export at enhanced quotations. Broken Pekoes under 10d per lb. also passed rather better in some instances, though the finer lines did not mark much alteration.

The average has risen to nearly 8¾d per lb. On the 16th inst. it stood at 8½d per lb., while in this period of 1898 it was barely 7½d per lb.

Java.—Slightly over 1,900 packages, chiefly of direct import, were submitted to the trade and received good attention, leaf grades being somewhat higher.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, of February 24th, 1899, states :—

QUANTITY BROUGHT TO AUCTION IN LONDON

From 1st June to Date.

	Indian.	Ceylon.	Java.
1898-1899.	1,288,901 pkgs.	827,415 pkgs.	34,554 pkgs.
1897-1898.	1,260,799 „	876,603 „	30,489 „

42,490 pkgs. Indian
15,124 „ Ceylon
1,924 „ Java
} Total 59,538 packages were offered in public auction this week.

Foreign and Colonial markets absorbed over 62 million pounds of Indian and Ceylon Tea during 1898, an increase over the previous year of 11 million pounds.

The total consumption of Indian and Ceylon Tea in 1898 was 33 million pounds more than in 1896, 20 millions of this quantity being taken by new markets; production during this period only increased 18 million pounds. It is mainly owing to the expansion of these new outlets that the market has advanced from the very low level to which it had been forced down by excessive production in recent years. Should consumption expand, as seems probable, better average prices may be looked for.

Export of Indian and Ceylon Tea (in lbs.) to places outside the United Kingdom from 1st January to 31st December.

Indian.

	1898.	1897.	1896.	1895.
Re-exports from U.K. ...	7,855,495	5,496,539	4,399,640	3,973,531
Transhipments from U.K. ...	1,427,298	3,449,256	3,146,548	2,330,591
Direct Exports from Calcutta.	16,746,974	13,253,015	11,659,984	10,511,201
Total lbs. ...	26,029,767	22,198,810	19,206,172	16,815,323

Ceylon.

	1898.	1897.	1896.	1895.
Re-exports from U.K. ...	11,522,434	10,502,178	8,496,663	7,147,086
Transhipments from U.K. ...	1,541,537	2,153,501	1,482,619	983,712
Direct Exports from Ceylon..	23,335,994	16,293,635	13,486,451	11,793,005
Total lbs. ...	36,399,965	28,949,314	23,465,733	19,923,803

Indian. With continued strong demand prices for all grades under about 8d. showed a further advance of ¼d. to ½d. per lb., better grades being well competed for at firm rates. The following averages are worthy of note:—"Seeyok," 1/1 1; "Beheating," 1/6¼; "Poobong," 1/5¾; "Amal. T Co. Dooteriah," 1/4¼; "Assam Fron. Co. Hapjan," 1/3½.

Ceylon. Teas under 8d. rose in value to the extent of nearly ½d. per lb., other grades being firm. The official estimate of the Ceylon Tea crop for 1899 is given as 125 million lbs., against 119,769,071 lbs., and the quantity available for the United Kingdom as 93 million lbs., against 96,133,833 lbs in 1898. Average for week 8·66d., against 7·23d. same week 1898.

Ceylon Tea sold on Garden Account, 1st Jan. to date 1899, 155,730 pkgs., av., 8·16d. 1898, 178,700 pkgs., av., 7·95d.

		1899.	1898.	1897.	1896.
Pekoe Soug.	(Ordinary leaf; fair liquor)	7¼d.	5¾d.	6½d.	6½d.
Pekoe	(Ordinary leaf, little twist; fair liquor)	8d.	6½d.	7⅝d.	7⅝d.
Pekoe Soug.	(Rather bold leaf; indifferent liquor)	6¼d.	4¾d.	5¼d.	5¼d.
Pekoe	(Somewhat bold leaf; indifferent liquor)	6¾d.	5¼d.	6d.	5¾d.

Java. Sales passed with strong competition at a further rise in the lower grades of ¼d. to ½d. per lb., prices being steady for other descriptions. Auctions included several parcels brought from Holland.

CINCHONA.

Amsterdam Bark Market.—The *B. and C. Druggist* remarks :—We have received our report of the results of last week's bark auctions in Amsterdam, and it confirms the main particulars published in our last issue from the telegram received on Thursday last week. It appeared that after the auctions some of the bark which had been credited to the purchases of the chief factories was not bought on their account, and this has had the effect of reducing the purchases of each of the German factories. We repeat last week's table, therefore, corrected by the later information, and now stated in English weights :

English and American Quinine factories (principally).	Brunswick factory.	Mannheim and Amsterdam factories.	Frankfort and Stuttgart factories.	Miscellaneous buyers.	Total sold.	Bought in or withdrawn.	Total offered.
Tons. 4.525 (say 4½)	Tons. 3.673 (say 3⅗)	Tons. 2.951 (say 3)	Tons. 3 197 (say 4⅕)	Tons. 2.969 (say 3)	Tons. 18.564 (say 18¼)	Tons. 3.214 (say 3⅕)	Tons. 21.778 (say 21⅘)

It also appears that part of what is given as sold in the above table was disposed of privately before the auctions, and also that of the 3⅕ tons noted as "bought in or withdrawn" nearly two tons were not put to the hammer, but held in reserve. The bark was divided as follows :—*Succirubra*, 42 tons; *Ledgeriana*, 341 tons; *Hybrid* and other barks, 44½ tons. Of the total thus made, root bark formed 33 tons.

QUININE.

Our last report closed, says the *B. and C. Druggist*, at the point where the result of the Amsterdam bark auctions had been received in London, and with it instructions to the agents for the chief German makes to advance the bulk figure to 1s. 2d. Howard's had withdrawn their standing prices, and on Thursday evening sent out notices of an advance in the *sulphate* to 1s. 6d. in 1 oz. vials (100 oz. lots; 1d. less in 1,000 ozs.) They did not, however, notify any change in the bulk price until later. The advice as to

the bulk price of Howard's *quinine sulphate*, which followed later, made this 1s. 4d. in 100. oz. tins, less 1d. in quantities of not less than 1,000 ozs. The prices of the alkaloid itself and of salts other than sulphate in one-ounce vials, and in small lots were put up to the following figures:

	s.	d.		s.	d.
Quinia	2	4½	Hydrobromate	2	0
Arseniate	2	0½	Hydrochlorate	2	0
Benzoate	2	1½	Salicylate	2	0
Bihydrobromate	2	3	Salicylate (physiologically pure)	2	3½
Bihydrochlorate	2	1½	Valerianate	2	3
Citrate	2	0½			

Since our last the second-hand market has been quiet. It was feared that the result of the Amsterdam auctions might lend activity to the speculative market through its being forgotten that the advance in bark had really been anticipated by the rise in quinine; but these fears have not been justified, and the result has been that probably less than 100,000 ozs. have been sold this week in the second-hand market, most of this being done on Friday and Saturday. The spot price has not got beyond 1s. 2d. for German brands in bulk, and 1s. 2¼d. for May delivery. The German agents are selling in small wholesale lots to "non-speculators" at 1s. 2d.

PEPPER.

Black.—The market is steady but rather quiet—decidedly quiet at the close. On the spot sales have been at $5\frac{5}{16}$d to $5\frac{3}{8}$d for fair Singapore, and at 5d to $5\frac{1}{8}$ for Lampong. For arrival 100 tons Singapore have changed hands, at $5\frac{1}{2}$d February-April shipment, and at $5\frac{15}{32}$d March-May and April-June.

At auction on Wednesday 67 bags Singapore were bought in at $5\frac{1}{2}$d, and 40 bags Penang at 5d. 50 bags fair brown Lampong realised $5\frac{1}{8}$d per lb.

White is firm and in good demand for parcels on the spot. Singapore has been sold at $8\frac{3}{4}$d for fair, and Penang at $7\frac{7}{8}$d. For arrival 100 tons are reported sold, viz., Singapore near at hand at $8\frac{7}{8}$d; Penang near at hand at $7\frac{15}{16}$d, and March-May at $8\frac{3}{16}$d to $8\frac{1}{4}$d per lb.

Public sales on the 22nd inst. offered 241 bags Singapore, 80 bags Siam, and 62 bags Penang, all of which retired unsold with the exception of 7 bags of the first-named description which were placed at $9\frac{3}{8}$d per lb. for fine boldish.

INDIA RUBBER.

The market has been quiet and easier Fine Pará quoted at 4s $1\frac{1}{2}$d. Negroheads neglected and little demand this week, but good medium Rubber is scarce and wanted. No auctions to-day.

CARDAMOMS.

These have been moving freely at the usual premium on last auction rates.

East India Coffee sold in Public Sale since 16th February 1899.

February.	Mark.	District.	A		B		C		PB		T	
22	Matheson's Ghatted Hulla	Coorg ...	12	83-6	15	64-6	3	49-0	4	98-6	4	45-6
	Do. Palakerry	do. ...	17	83-6	22	61-0	5	49-6	7	99-6	5	45-6
	Do. A. F.	do. ...	7	71-bid	13	52-6	3	46-0	7	95-0	2	44-6
	Do. Chenen Cottay	do. ...	48	86-0	34	65-0	5	51-0	18	106-0	6	48-0
23	Chisholm's Corringabetta	do. ...	63	90-0	55	67-0	2	46-6	14	105-6	12	47-0
	Muskelbora	do. ...	44	90-0	28	68-6	1	48-0	12	105-0	6	48-0
	Chundra Mulla	Nelliampathy ...	12	80-0	8	59-0	1	46-0	2	78-0	3	35-6
	Koorg Hully	Coorg ...	17	95-0	20	75-6	1	51-0	8	103-0	5	47-0
	Mootil Peak	Wynaad ...	29	82 0	42	59-6 bid	...	...	6	no bid	3	42-6
	Barguai Estate A.	Mysore ...	29	105-6	40	86-0	19	72-0	13	116-0	4	55-0
	Do. R. A.	do. ...	9	100-0	12	71-6	7	62-6	4	98-0	1	42-0
	Craig's Eliza	Coorg ...	55	92-6	51	67-68-6	2	47-0	11	104-6	9	47-0
	East's Cavery	do. ...	27	86-0	17	66-0	...	...	6	101-0	7	46-0
	Devon	Neilgherry ...	8	80-6	17	56-0	1	45-0	6	80-bid	4	40-0
	Adderley	do. ...	38	105-6	103	69-bid	34	45-bid	20	no bid	14	34-6
	Binny's Koondalum Kollu	Coorg ...	9	82-bid	14	61-0	3	46-0	3	83-6	3	39-0
	Do. Wudderhully	do. ..	50	89-6	62	66-66-6	6	47-0	21	102-0	11	39-0
	Arbuthnot's Java Estate	do. ...	10	85-6 bid	15	62-bid	...	...	5	90-0	3	43-0
	Do. Ceylon	do. ...	15	86-0	17	62-0	...	...	5	90-0	3	43-0
	A. & Co. Iyencovil	Palnis ...	...	...	7	57-6	28	61-6	4	90-6	10	43-0
	F. Dunkeld	Coorg ...	16	88-0	11	65-0	4	46-0	3	90-bid	1	37-0
	Wallia Warum	Nelliampathy ...	45	no bid	21	62-bid	1	44-0	4	96-0	4	38-0

Tea.

(Average for all India 9·42d.) *February 24th.*

Garden.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust, and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.
Neilgherry ...														
Pykara Falls ...	52	7¼	...	...	52	7¼	...	...	...	...	...	...	...	...
South Wynaad ...														
Erramaculla ...	114 p	8¼	...	...	38½c	8¼	30½c	10½	20	7¾	16	7	10½c	7
Travancore ...	626 p	7·48												
Belford ...	144½c	6¾	...	...	75½c	6¾	58½c	7¼	...	...	7½c	6	4½c	4¾
CMR ...	80	6¾	...	...	52	6¼ 6½	24	7½	...	...	3	5½	1	4¼
Sth. Trav. Co. Ven J.	110	8	...	...	49	7¾	41	9	20	6¾	...	...	...	...
" " K.	97	8	...	...	47	7½	50	7¾ 8¾	...	...	...	...	...	...
Stagbrook ..	89	8	24	8½ 10½	29	7⅞	...	...	15	7	8	6½	13	8
Wallardie ...	106	7	...	...	36	6¼ 7	38	8¼	11	6½	16	6	5	5¼

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

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ADVERTISEMENTS.—The charge for line advertisements is 4 as. per line for the first, 3 as. for the second, and 2 as. for the third and succeeding insertions. Five-line (or shorter) advertisements from Subscribers will be inserted for three issues for one rupee; non-Subscribers will be charged two rupees.

DOMESTIC OCCURRENCE.—The fee for inserting a domestic occurrence will be *One Rupee* for each insertion, payable in advance.

N. B.—Remittance, should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 31st instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Please note the change of address.

Coorg.

Polli Betta, *23rd Mar. Weather.*—Brazen sky, blazing heat, high east wind. Not the least sign of rain. *Crop.*—Some gleaning of old crop still going on, buds still fresh; but rain soon would be desirable. *Labour.*—Some estates have paid off. Nearly all will have done so by first week in April.

SOIL FERTILITY AND LEGUMINOUS PLANTS.

Mr. B. Nelson's interesting letter on the result of his experiments in Coffee-planting without manure should be widely read by planters, not only in Southern India but elsewhere also. Mr. Nelson has been doing what we should like to see all planters do. He has been giving practical application in the East to scientific theories expounded in the West. Not that he is alone in this. We are glad to know that similar experiments have been made in Ceylon with somewhat similar success, and are now being made by other planters in Southern India. In the United States also the agriculturist has begun to recognise the nitrogen-giving properties of leguminous plants. But the trial made nearest to his own estate deserves most attention from the South Indian planter, particularly as it is a trial made in regard to coffee-cultivation, and with leguminous plants that are easily obtainable throughout this Presidency and adjacent to the Native States. We do not for a moment deny the use of chemical fertilisers. In many cases the action of leguminous plants would no doubt be painfully slow, whereas that of chemical manures would be fast. Then, too, the one system of fertilisation is resorted to for

the *nitrogen* it enables the plant to obtain. The other in many cases gives less reliable help in the matter of nitrogen, though it counteracts any deficiency of potash or phosphoric acid, according to the kind of manure employed. Whether an estate can be run on leguminous "manuring" principles alone, or can be worked to greater advantage on a system combining leguminous cultivation and chemical manures, is a matter to be settled by the man in charge. In some cases actual experiment will be necessary before he can arrive at a right decision; in others, he may be able to form a sound judgment from soil analysis or by other methods.

Mr. Nelson has stated how it came about that he gave this "leguminous manuring"—if we may for convenience use an expression that is not literally correct—a trial. But it may be well to impress upon readers who have not studied the matter as he has done, the principles upon which the theory referred to is founded. The object is to fix the free nitrogen that is so abundant in the atmosphere, and to put it in harness, so to speak, for employment in the service of the plant world. It has been definitely determined that the *leguminosæ* family of plants are "born Jehus." They are able by the aid of certain micro-organisms in the soil to fix this free nitrogen and make it available for the use of plants. Nitrogen is the most fickle, unstable and unreliable of the elements of plant-growth It forms no stable compound. It has a never-ceasing tendency to leave its chemical combination. Eminently fitted in this way for the life processes that require continued changes in the plant, it is for the same reason very difficult of control. It is costly, and may be approximately rated as worth three times as much as either potash or phosphoric acid. Even in a fertile soil there is only a limited amount of nitrogen An American authority has stated that in some fertile soils it has been determined that the potash would suffice to produce crops of wheat exclusively for 360 years, the phosphoric acid for 140 years, but the nitrogen only for about 100 years. We may take it, therefore, that replenishment of nitrogen is more frequently required than replenishment of the other two elements just mentioned. Any method or practice that will increase the store of nitrogen in the soil will greatly improve its fertility. Here, then, lies the explanation of one point that the farmer or the planter has to keep in view if he wishes his crops to flourish.

The means he has to adopt to secure what he wants, lie in the cultivation of leguminous plants, and the ploughing in or burying in of these in cases where rotation of crops cannot well be resorted to. As already stated, it has been determined, by careful experiment, that all leguminous plants have the peculiar power of fixing the free nitrogen gas of the air, and changing it to the form of nitrates, in which form it can be readily used by all species of plants. This fixation, as explained by Mr. T. B. Mumford, of the Missouri Agricultural College, "is accomplished by means of a minute micro-organism in the soil, which attaches itself to the root of these plants, causing the development of a small tubercle or swelling, and inside this tubercle or swelling the free nitrogen gas of the air is changed to nitrates." So far as is yet known, the *leguminosæ* are the only plants that are able to fix the nitrogen in this way, in quantities large enough to be of practical importance to the cultivator of the soil. They thus open to us an easy way of maintaining soil fertility. It has been found that the fertility of the soils so far as nitrogen is concerned may be maintained by giving a sufficient number of crops of clover or other *leguminosæ*. Not only this: taking the clover as an instance, we may state that its roots grew deep in the soil, so that it will often find food below the level at which other plants refresh themselves. It then brings the potash and phosphoric acid from the deeper layers of the soil to the surface. Soil fertility is drawn up from the depths, and the roots of plants growing in contact with the soil are continually dissolving the elements of plant food, particularly potash and phosphoric acid, and any crop grown upon the soil for the purpose of green manuring is at the same time increasing the available plant food in the soil by dissolving the unavailable compounds. This is, we think, a brief outline of the theory that has guided Mr. Nelson's experiments, which may, perhaps, be said now to have passed the experimental stage and entered that of practical planting. It is to be hoped that other planters will follow the lead he has given them, and that one result may be progress in the direction of reduction of cost of production. This we must always regard as the best weapon for use in the struggle of competition.

INDIAN TEA FOR INDIA.

A Parsee Tea-merchant of Bombay has sent the *I. P. G.* an interesting paper on "Indian Tea for Natives of India." He says that the suggestion that tea manufactured by Europeans will never become a popular drink among the mass of Hindus, is entirely against his experience of nearly a quarter of a century. Indian tea, whether manufactured by Europeans or natives, can, he says, "be extensively introduced among the natives in every part of India in the manner it was done in the city of Bombay and many other parts of this Presidency." Besides, the Hindus are not the only natives of India: we have to take into consideration the vast Mohamedan population, who now-a-days make use of certain kinds of tea in place of coffee. The Parsee writer says:—"In the year 1874, when our firm was first started, Indian tea was hardly known in this city, and was never used among the natives, including the Parsees, who were nevertheless great China tea drinkers. But now the times are changed. Indian teas have superseded China teas with the exception of a small consumption for blending purposes. Not only high-caste Hindus, but even the working classes, such as mill hands and others, go in for Indian teas. There are now more than a 1,000 tea drinking shops in the city of Bombay alone, where Indian tea can be had at ¼ and ½ an anna per cup, and as many more where it is sold in packets and loose. And further, the natives are too well aware of the fact that, although the planters are mostly Europeans, the tea is manufactured by natives under their supervision." He considers that the chief reason why Indian tea is not extensively used by the natives all over India is that no systematic endeavours have yet been made to create a taste for Indian tea, and to show the advantage they will derive from the use of pure tea in preference to alcoholic drinks. He suggests that it should be introduced among the masses of the people, chiefly through the medium of native agency.

In addition to the Indian demand, there is also the Anglo-Indian and Eurasian, and we scarcely think anyone will

assert that this is either catered for or met as it should be. Packet tea in India is, in too many instances, irregular in quality and dear in price. It is beyond the reach of many of the poorer classes of Eurasians, among whom coffee continues to have the preference. South India has set a good example with its United Coffee Growers' Company for distributing tinned coffee. It might now follow up with a Tea blending and distribution Company, to select and blend South Indian teas, and distribute them in packet and in bulk. There is a hoary old advertising phrase:—"Ask for . . . . and see that you get it." In how many cases is the buyer outside India in a position to ask for South Indian tea and see that he gets it? As regards buyers in India, planters do not, for the most part, encourage them. Prices are asked that are quite out of proportion to current values in London, and it is perhaps scarcely an exaggeration to say that a Madras concern, such as Spencer & Co., Ld., for instance, could import its India teas from London at as low a cost as most planters quote for supplies deliverable at Madras. This sort of thing must in the long run tell against the producer.

THE GOVERNMENT GARDENS AND PARKS IN MYSORE.

The Annual Report on Government Gardens and Parks in Mysore for the year 1897-98 contains much that should interest planters, as well as a great deal that has no special interest for their community. Among the chief sections noticeable are those dealing with Agricultural pests and Hybrid coffee. The pests noted are not such as have been observed in coffee, but all pests should have an interest for our readers, seeing that the principles that guide the treatment of one class are often similar to those that relate to another. One pest was a caterpillar that was doing much damage to 'Gid Ragi' and other crops in the Hassan district. The India Museum authorities identified them as larvæ of the Noctues moth, *Heliothis armigera*, Hübn. the latter being identical with the dreaded 'Bollworm' of America. Various questions were put to raiyats, and warnings sent to them along with suggestions as to remedies. This is not a new pest. The second one noticed is the 'American blight' or 'Woolly aphis' of the apple, *Schizoneura lanigera*. Brown scale accompanied by a black fungus was prevalent on some trees during the dry season. The trees that suffered most from these mutual pests, are *Antidesema* sp., *Anthocephalus cadamba*, *Vitex altissima*, and *Psidium guyava*, but other trees and shrubs were affected also. This scale insect has been identified as *Dactylopius adonidum*, and is possibly farmed by ants for the secretion known as "honey dew". At any rate numerous ants (both black and red) accompany the insect and render the fungoid growth, which subsequently develops, less injurious than it otherwise would be. The fungus is possibly *Trisporium Gardneri*, Berk. Kerosine emulsion is the best remedy for these pests. It is also reported that the maiden-hair fern, *Adiantum cuneatum*, has been frequently attacked by a small insect which hides in the surface soil and gnaws off the tender fronds. Specimens were submitted to the Indian Museum for identification, when the following interesting letter was received from the Superintendent, Surgeon Major A. Alcock:—"With reference to your letter No. 360, dated 24th January 1898, the little animals are *Isopod crustaceans* of, I think, the genus *Porcellio*. They are allied to the "Wood-louse," (Slater) and "Sowbug" of English gardens. I do not know who could give you their specific name, or even that they have ever been named and described. I should think not, as I know of no systematic work whatsoever on the Isopods of India. I myself have been engaged for the last three years on Indian Crustacea, but it will be years before I get to the Isopods. It is difficult to suggest a remedy for the pests, that would not be equally destructive to the ferns. The conditions that suit the ferns best (namely, warmth, moisture, subdued light and plenty of decaying vegetable matter) are just those that best suit the "Sowbugs" and their relatives." Major Alcock adds:—"Centipedes flourish where "Sowbugs" do, and feed upon them; but I do not suppose any one would like to encourage centipides as a remedy."

Passing from the "General" section of the report to Cultivation and Experiment, we come to some interesting remarks on experiments with Hybrid coffee. Mr. Cameron opens by stating:—"The possession of hybrid plants on several estates in Southern India now appears to be an undisputed fact. These new forms are reported to combine, more or less, the characteristics of *Coffea Liberica* and *Coffea Arabica*, and are only found in localities where the two species have been cultivated and propagated together. They have not been introduced by the planters as new varieties, and were unknown prior to the introduction of the West African species *Coffea Liberica*. It is, therefore, reasonably inferred that these intermediate plants are true hybrids. The most remarkable thing about them is their immunity from coffee-leaf disease, a condition which can only be attributed to enhanced vitality in the constitution of the hybrid." Mr. Cameron then proceeds to state that this is a discovery of much importance to the planter, and will encourage him to pursue the operation of crossing on methodical lines, with a view to raising improved strains of seed, as has already been done in most of the chief products of agriculture and horticulture in Europe, and that what should be aimed at now is the systematic crossing and recrossing of different species and well marked varieties until a really good hybrid or cross is produced. With this object a small coffee-plot has been planted in the Lal Bagh. It consists of 135 bushes in two species and one variety, namely *Coffea Liberica* (Liberian), *Coffea Arabica* (Arabian), *Coffea Arabica* var. (Maragogipe). Most of the plants were of a good size when put down, and it is almost certain that a few of the Liberian and Maragogipe specimens will flower early next year, when crossing operations will be commenced. Mr. Cameron concludes by saying:—"On the occasion of the Planters' Conference at Bangalore last August, the writer had the honor of being invited to attend the discussion on 'scientific investigations,' when the opportunity was taken before the representative planters of Southern India to advocate the advantages of crossing and hybridising coffee with a view to invigorating growth and increasing productiveness. The same advice has been given in official correspondence with planters, and the institution is generally doing what it can to promote the welfare of the planting industry." Hybrids, or supposed hybrids, have been reported from the Oosoor and Ubban estates, Manjarabad; Koppa estate, Kadur District; Panera Peak and Kalpatti estates, S. Wynaad, and the Beechlands estate, S. Coorg.

OUR PRIZE ESSAYS.

The choice in respect to the five essays submitted in response to our offer of a prize of Rs.100 was easy enough until we arrived at the two essays dealing with the Wynaad district. Then it became difficult. We have finally selected as the prize-winner:

Mr. W. V. Hudleston's Essay

on

The Past, Present and Future Supply of Labour in the Wynaad.

For other than journalistic purposes we should have given the palm to "1874's" essay on the same subject, but having strongly urged the need for brevity, we feel that the very comprehensive paper that "1874" has sent us must be put aside in favor of its more compact rival. We hope to publish the Prize Essay next week; meanwhile we have remitted Rs.100 to Mr. W. V. Hudleston, of Kalpatty, South Wynaad.

A New Prize

of

Rupees one hundred

is now offered for the best essay on "The lines that a Madras Labour law should follow." The aim of writers should be to point out, *briefly* and *concisely*, the lines they think the Madras Government should follow in amending Act V. of 1866 in accordance with the resolution of the Government of India anent the report of the South of India Planters' Enquiry Committee.

The following are the rules of the competition:—

1. Write on one side of the paper only.
2. Give your name in full, and state address (not for publication, except in the case of the winner).
3. Be as brief and concise as possible.
4. Cite your authorities where possible.
5. Mark your MSS. "Prize Essay Competition."
6. Submit not later than 20th May, 1899 (in Madras).

It should be clearly noted that all essays sent in will be the absolute property of *Planting Opinion*, and that the proprietors will have the right to publish them, in full or abridged or revised, in *Planting Opinion* or elsewhere, and to republish in pamphlet or book form. No limit of length is fixed, but brevity is strongly urged. Rs.100 will be remitted to the winner immediately after publication of the prize essay.

THE "ROYAL EXPERIMENTAL TEA GARDENS OF INDIA."

"Secatur Indicus" suggests in the *Planter* that there should be some such gardens established as could properly bear the name given above. He puts forward a "purely financial" side of his scheme for discussion to begin with, remarking:—"working plans we can easily discuss subsequently." We do not propose to follow his year by year estimates through all their details. The first figures he gives are as follows:—

Capital Account.

	Rs.	A.
1,000 acres planted at per acre Rs 300	3,00,000	0
Buildings estimated	1,00,000	0
Machinery ,, ...	50,000	0
Furniture and fittings	20,000	0
Chemical laboratory	15,000	0
Library	10,000	0
Tools and stock	10,000	0
Microscopical laboratory	5,000	0
Total capital account ...	5,10,000	0

Annual Establishment Charges.

	Rs.	A.
The Director, at per month Rs.1,000	12,000	0
Chemist ,, ,, Rs.400	4,800	0
Doctor and entomologist, Rs.500	6,000	0
Engineer and surveyor, Rs.300	3,600	0
Secretary, Rs.300	3,600	0
Two estate managers, Rs 250 each	6,000	0
Storekeeper, Rs.100	1,200	0
Two clerks, Rs.50 each	1,200	0
Four overseers, Rs.15 each	720	0
Four tindals, Rs.10 each	480	0
Tea maker, Rs.250	3,000	0
Miscellaneous Establishment, calculated ...	2,400	0
Coolie labour, estimated	60,000	0
Total establishment charges ...	105,000	0

Among "miscellaneous charges" we find an item of Rs.5,000 for stationery, stamps and printing, which perhaps gives an indication of the scale of estimates generally. Disbursement accounts are then given for each year up to the thirteenth, and the closing remarks are as follows:—

It may be fairly held pending payment of interest it should be compounded, and following is the calculated amount that would fall due on the eighth year when interest regularly ensued:—

Compound interest account.

	Rs.	A.
On first year's establishment loan, eight years' compound interest	2,100	0
On Second year's establishment loan, seven years' compound interest	1,837	8
On third year's establishment loan, six years' compound interest	1,775	0
On stationary loan calculated six years' compound interest	262	8
On tea charges loan of third year	61	4
On capital eight years	10,200	0
Total compound interest account	16,236	4
Balance in hand	96,225	0
Less Compound interest	16,236	4
Nett credit balance	79,998	12

One invaluable item has, however, been omitted from the estimate, namely, Rs.5,000 per annum for chemical substances. Manure and purely experimental work accordingly I set it down Rs.5,000 for the past 13 years, Rs.65,000.

Balance carried to next account Rs.14,998-12.

We hesitate to comment on this beyond remarking that while Rs.5,000 is religiously set down for stationery every year, Rs.5,000 per annum for 13 years, for artificial manures and experimental work is thrown in at the last minute as an after-thought, and the "interest compounded" thereon is not even hinted at. Certainly, "any discussion" that ensues will be interesting.

INDIAN TEA IN FOREIGN MARKETS.

The undernoted excerpts from Messrs. Baines & Co's. (Calcutta) Tea review, dated 9th instant, are very instructive, especially if we bear in mind that the term "Indian Tea" does *not* in this case include South Indian tea; or, at any rate, that the quantity of South Indian leaf exported to foreign markets is so infinitesimally small as to be unworthy of special comment. Messrs. Baines say:—

Australia.

Our trade with this country has been somewhat disappointing showing as it does no increase on last year, while Ceylon has exported 15,126,891lbs. against 13,258,456lbs. in 1897. No doubt the superior freight facilities which Ceylon enjoys has something to do with this, there being four or five lines calling weekly at Colombo, while we can only boast of one steamer a *month*! Besides

the freight question, many gardens, notably Darjeeling, have preferred to sell in London, in spite of the growing enquiry for flavoury kinds in this market. During the past season many orders could not be executed for want of supplies, at a time when Darjeeling Pekoe Souchongs were obtainable in London at 5¾d. and 6d.

America

Has shown a growing appreciation of our teas, and one of the largest wholesale houses in London is pushing the trade there with great effect, and the grower should avail himself of the orders which are sent to this market, and not be only dependent upon the export from London

Asia

Has shown the biggest increase in consumption of any outside market, which has been gratefully welcome to those Cachar and Sylhet growers who have sold in Calcutta, for the bulk of this export has been Pekoes from these districts, with which throughout the season the London market was fully stocked, and which were plentifully obtainable at 5¼d. to 6d. there, against 5-6 to 6-6 annas in Calcutta.

The class of Pekoe in favour in the Asian trade is a well-twisted, black, even leaf, with fair tip, free from broken and small, and all Cachar and Sylhet gardens should carefully note this.

Well-made strong chests, *not half chests*, are required as the teas have long transport on camel, which none but the strongest boxes will bear.

Foreign Europe.

Orders continue to increase steadily from Germany, Constantinople, and other European markets, and there is a growing preference in those centres to obtain their supplies from the country of growth. With regular lines running direct, buyers are saved time and freight by operating in this market, a fact not to be lost sight of by the producer.

Of course, in the matter of freights, South India is at a great disadvantage, while Ceylon has the pull over both Northern and Southern India. We cannot but think, however, that the time has arrived when Nilgiri and Travancore Teas should be specially pushed in those foreign markets for which they are suitable. Whether it would pay South Indian tea planters to manufacture tea specially for, say, the American market is a matter for further consideration. It is a sound general principle, however, that one should have a reserve string, whether for a bow or a banjo. To rely entirely on London demand is shortsighted policy.

TELEGRAPHIC QUOTATIONS.

	Mar. 17	18	20	21	22
London —					
Bar Silver	27⅝	27 9/16	27 9/16	27½	27 7/16
Bank Rate	3%	3%	3%	3%	3%
Coffee	[dull]	...	...	[dull]	...
Mysore ave. (B) size.	65*s.*	65*s.*	65*s.*	65*s.*	...
Ceylon Plantation, Mid.	...	105*s.*	105*s.*	...	...
Cinchona per unit	...	1⅜*d.*	1⅜*d.*	...	..
Cocoa	...	79*s.*	79*s.*	...	..
New York.—					
Coffee—Fair Rio ...	6⅛	6⅛	6⅛	6⅛	6⅛
,, Futures, June	6·07	6·02	5·91	5·94	5·99
Silver—Comml. Bars	59⅞	59⅞	59¾	59⅝	59½

NOTES.

Mexican Coffee. Exports of coffee from Mexico in 1897-98 amounted to about 354,300 cwt.—nearly all the crop.

Low-grown Tea. At the forthcoming Agri-hoticultural Show to be held at Colombo on the 21st and 22nd July, a special gold medal will be given for tea grown below 1,500 feet.

Our "Plebiscite." We have to hold back until next issue remarks on the results of our reference to subscribers as to what subjects they would wish *Planting Opinion* to deal with.

Coffee, &c., in Coorg. During the official year ending 31st March 1898, there were 86,155 acres under coffee in Coorg, and 8 acres under Cinchona. The exports of coffee totalled a value of Rs.19,69,600. About one-third of the land revenue of the district is derived from coffee.

The Chemistry of Mate Tea. The *British and Colonial Druggist* says:—Polenske and Busse have examined a number of commercial samples of this tea, and find that the percentage of caffeine varies from ·5 to ·88 per cent. Of great interest is the discovery that small quantities of vanillin are almost always present. This substance has never, we believe, been found in any of the caffeine-containing plants before.

Wild Vanilla in Zanzibar. The *Shambas* reports that vanilla-plants grow wild out there in large quantities, but the plants are weak and straggling. Fruit was forming on many of the plants. Some insect must have been at work fertilising the flowers, and if the wild why not the cultivated? asks our contemporary.

The United State's Tea Market. Mr. Blechynden's "1898" report is published to-day, and will well repay perusal. Hopes and fears alternate in a somewhat bewildering manner, but we take it that if India and Ceylon prosecute energetically the work they have begun they stand a very fair chance of tenfold success on success.

The drowsy South. The United States and Canada took last year 13,608,696 lbs. of British-grown tea, against 11,361,840 lbs. in 1897. The quantity has steadily increased from 3,075,900 lbs. in 1892. Of the total quantity, vast India exported only 5,971,701 lbs. and little Ceylon 7,636,995 lbs. As regards *South* India, we very much doubt if it totalled up 200,000 lbs.!

The Rubber Forests of the Congo. An important order has been signed by King Leopold of Belgium, whereby a certain number of trees or caoutchouc-bearing lianas are to be planted each year in all the forests of the Congostote State. A new forestry staff of one inspector, six controllers, and six sub-controllers is to be organised for the purpose of seeing that the new order is fully enforced.

A new Planter's Association in Ceylon. At a meeting held at Galle on 18th instant, it was resolved to establish an Association called the "Galle Districts Planters' Association," and that all proprietors and representatives of estates in the Southern Province wishing to join be eligible for membership. Mr. C. G. Simmonds was elected Chairman, Mr. C G. d'Hauteville, Secretary.

The London Tea Market. Cabling to Colombo on the 17th instant, Messrs. Gow, Wilson and Stanton reported that the market for Ceylon tea was

generally unchanged, but the average showed a fall of ¼*d.* standing as 8½*d.* Reuter still gave it as 8¾*d.* and stated th t 25,000 packages had been sold out of 26,000 offered. Of 33,000 packages Indian offered 30,000 were sold, the average continuing unchanged at 9¼*d.*

Coffee in Canada. We alluded recently to the practical absence of demand for coffee in Canada. This week's mail has brought us papers in which an advertisement attributes the fact that "the consumption of coffee in Canada is not what it should be" to the fact that "the public is imposed upon by inferior coffee and compounds." The United Coffee Growers Company may find Canada a useful market.

The Tea Duty in Austria-Hungary. The Vienna Chamber of Commerce lately passed a resolution :—"That the duty on tea be reduced to 50 kreutzers per kilogramme without any regard to quality or country of production, the differential tariff in favour of all sea-borne teas remaining the same."

Mr. Cameron's Visit to Coorg. In a generally appreciative review of Mr. John Comeron's report of his visit to Coorg, the *Madras Mail* criticises two points, remarking (1) that Mr. Cameron does not show *why* he has arrived at the conclusion that the Coorg coffee industry has "entered the forcing stage," and (2) that though one object of his visit was to conduct certain experiments, there is no allusion in the report to any experiment whatever.

Coffee in Zanzibar. A recent report says :—"About 60 young Arabica coffee trees are growing in the Nursery from seed obtained from Nyassaland. They look well and will be planted out, though they can hardly be expected to prosper in Zanzibar as the elevation is too low. Liberian coffee was sown late in the year and has not yet germinated. Attempts have been made to procure seed of the Maragogipe coffee, Brazilian variety, but none has yet been received."

Natal Tea. Mr. J. Austen, of Messrs. Tarrant, Henderson & Co., Colombo, has returned from a trip to Mauritius. South Africa and the Transvaal. He considers Natal tea poor stuff, and says that the bulk of that grown in the colony compares unfavourably with Ceylon. The sale of Natal tea is considerably assisted by the fact that both in Cape Colony and the Transvaal there is no duty imposed, whereas outside teas are taxed to the extent of 6d. per lb., and, of course, that is a heavy handicap on Ceylon.

Brazilian Coffee. In the course of a long letter, dated Rio de Janeiro, 14th January 1899, to the *Ceylon Observer*, Mr. A. Scott Blacklaw remarks :—"Coffee No. 7—the Brazilian middling type—is 6⅞ cts. per lb. in New York; and, I write it with the sentiment of one revealing a secret, the arrivals of coffee at the sea port towns are not diminishing in quantity, nor the stocks in consuming countries are not getting smaller. The weather is all that the incoming crop is in need of—occasional hot days with evening thunder showers."

Tea for Thibet. The *I. P. G.* remarks that there is a peculiar fact about Chinese brick tea in Thibet which would tell severely against the introduction of Indian tea. The Chinese bricks circulate as a sort of money, like Indian currency notes. The Chinese descriptive wrappers form a kind of face-value stamp. With gentle irony our playful contemporary enquires :—Even if it were possible, would it be justifiable to introduce confusion into the Thibetan monetary system and bless them with a "currency question ?"

Eighty years ago and now. The following table gives a comparison of approximate prices in England in 1819 and 1899 :—

Tobacco, per lb.	6*s.*	5*s.*
Tea. in canister, per lb. ...	7*s.* 4*d.*	1*s.* 8*d.*
Sugar, moist ,, ...	10*d.*	1½*d.*
,, lump ,, ...	1/1*d.*	2*d.*
Cheese ,, ..	10½*d.*	8*d.*
Salt ,,	5½*d.*	1½*d.*
Candles ,, ..	11*d.*	4*d.*
Soap, yellow, per cwt. ...	11 6*d.*	2/6*d.*

The figures point their own moral.

The Canadian Market. In a letter to the *Canadian Grocer* anent increasing imports of Japan tea, the 'Salada' Tea Co. state that much of this tea passes through Canada to the United States and is never intended for Canadian consumption, and that practically every wholesale and retail dealer and every commercial traveller knows that the consumption of Japan tea is quickly falling off in Canada, and that of Ceylon and Indian tea is fast increasing. There is no bonded warehouse system in the States, so many American importers use Canada as their bonded warehouse.

Uncle Sam buys Tea in Canada. The *Canadian Grocer* of 17th ultimo reports :—Buyers from the United States have been on the Toronto market during the past week in search of China green teas, and they are understood to have secured about 600 half chests. This has helped to appreciate the value of these teas in the "Queen City," and descriptions which were, three weeks ago, selling at 11 to 12c., are now firm at 13 to 14c. per pound. China green teas are decidedly scarce in the United States, and shipments to the North American continent, this season, are only 12,000,000 pounds, compared with 20,000,000 pounds last season.

Mr. R. Blechynden. *Apropos* of the report published on another page, we note that the London correspondent of the *Times of Ceylon*, remarks :—"I presume it is now known in Ceylon that Mr. Blechynden's agreement, which concludes in April, is not to be renewed as far as America is concerned. The Indian Tea Association have decided that the work is done, that the introduction of Indian Teas into the States may now be left in the hands of those who have been induced by past efforts to handle the teas; and the money thus saved to be used for pioneering other countries—Russia and France in particular. Seven years Mr. Blechynden has been working in the West.

Colouring and Coating Coffee in Belgium.

It has been officially notified that article 3 of the Belgian royal decree of September 28, 1891, relative to the traffic in coffee, has been completed as follows:—

Will be tolerated, the total coloration of coffee by aid of inoffensive matter, as well as the coating of coffee with alimentary fatty matter or with sugar, only on condition that the proportion of foreign substance added shall not exceed 1 per cent. of the total weight of the coffee.

Coffee prepared with inoffensive matter other than coloring, alimentary fatty matter, and sugar, as, for example, gum, lac, may be sold, exposed for sale, held, or transported for sale or delivery when bearing a label indicating in plain characters the nature of the added substance, as per example, *café laqué* (coffee gum lac).

Coating with hydrocarbides (vaseline, paraffin, etc.) is declared injurious to health, and is consequently prohibited.

A "Tree of Gold."

Indian Gardening says:—A Rangoon paper tells the story of a young banyan tree of only three years growth that has sprung up in Burma and which "has the appearance of being made of pure gold." Making allowance for exaggerations, it would be possible, perhaps, for botanists to name the particular species of tree that might be so described. The field in which the tree grows is near the Kodok "pick-up" station between the railway stations of Phyinbongyi and Poundaw, on the Sttang section of the Burma railway, and the owner of the field is a Karen, who lives near the spot; and who has had many thousands of excited visitors to see his wonderful tree, during the last few weeks. The Rangoon Paper goes on to relate that all sorts of superstitious beliefs have sprung up amongst the Burmans in the neighbourhood.

Downcast Ooty.

"Flora" writes from Coonoor to *Indian Gardening*:—"Ootacamund is most depressing in many ways. The planters and gardeners are all so downcast, that they don't seem to be able to make anything out of their efforts. Coffee is not what it used to be. Tea pays pretty well, but the man who goes in for fruit culture is a fool for his pains. There is no sale absolutely for anything, save at such low rates that it actually does not pay carriage; and when you add to that the inroads of vermin, thieves, and 'Acts of God,' as they say, when a hail storm batters your trees, or a drought lays them low), you may imagine what the outlook is. A Kotaghiri planter who has grown fruit for years now, says it is the most profitless undertaking 'He prefers to let his oranges rot under the trees rather than sell. The coolies and birds and beasts get their share.'" Surely that Kotagiri planter cannot expect his fruit to "sell itself." If there is no market at his very gate, he should try to find one.

London Tea Statistics, February 1899.

	1898-99.		1897-98.
	Imports.		
China	26,086,548	...	34,347,409
Japan	59,215	...	72,930
Java	2,568,090	...	2,467,220
	28,713,853	...	32,887,559
Indian	128,123,454	...	126,700,648
Ceylon	69,076,186	...	70,908,142
Natal	114,864	...	26,880
Total...	226,028,357	...	230,523,229

London Tea Statistics, February 1899.

	1898-99.		1897-98.
	Deliveries.		
China	22,357,787	...	25,199,197
Japan	70,330		51,935
Java	2,507,050	...	2,689,470
	24,935,167	...	27,940,602
Indian	106,737,331	...	94,855,581
Ceylon	68,843,106	...	72,565,748
Natal	123,120	...	28,176
Total	200,638,724		195,390,107
	Stocks in 28th February.		
China	15,449,345	...	18,038,728
Japan	87,165	...	102,570
Java	718,620	...	529,970
Total...	16,255,130	...	18,671,268
Indian	59,459,911	...	64,080,279
Ceylon	17,226,374	..	18,295,574
Natal	24,144		29,952
* Grand Total ... lbs.	92,965,559	...	101,077,073

* Arrived to February 28, but not yet included in the stock 220,000lb against —— lb. in 1898.

Advertising in Canada.

Whoever is conducting the India-Ceylon Tea Campaign in Canada has a happy knack of drafting advertisements. One sets out "a little problem for calculating grocers." The growth of demand for Ceylon and Indian tea is contrasted in figures with the decay of demand for Japan and China leaf, and the problem follows in these terms:—"*Problem*: Take the average of the above years as the normal consumption of tea in North America; deduce from the statistics given the number of years from 1898 within which the positions of Machine-made, and Hand-rolled tea will be reserved. The name of those successfully solving this problem will be published on this page. A second advertisement gives a picture of "A group of Singalese tea pickers at ease" and the accompanying letter-press says:—"Every possible care is taken in the cultivation, in the picking, and in the preparing and the packing of *Ceylon and Indian Teas* for the market. This is one reason why they are so pure, cleanly, appetizing and healthful. Thousands of dollars are being spent to thoroughly advertise them throughout the country. Grocers should try and reap their share of the benefit."

Cinchona Bark Statistics, February 1899.

	1899	1898	1897	1896	1895	1894
	Imports (to February 28).					
South American...cases ...	...	...	...	...	...	...
bales,&c.	1,016	776	472	513	1,155	1,268
East India, Ceylon, and Java. cases ...	15	..	25	....	3	21
East India, Ceylon, and Java. bales,&c.	1,509	4,757	1,180	3,065	2,845	2,735
	2,540	5,533	1,677	3,578	4,003	4,024
	Deliveries (to February 28).					
South American...cases ...	...	...	...	...	...	...
bales, &c.	464	674	634	1,490	1,969	1,670
East India, Ceylon, and Java. cases ...	53	42	10	40	38	13
East India, Ceylon, and Java. bales, &c.	1,953	2,219	1,611	1,672	1,207	2,886
	2,470	2,935	2,255	3,202	3,214	4,569
	Stock (on February 28).					
South American...cases ...	54	54	56	58	64	52
bales, &c.	13,050	12,288	13,662	16,272	19,207	22,791
East India, Ceylon, and Java. cases ..	376	325	323	230	156	113
East India, Ceylon, and Java. bales, &c.	6,581	6,626	7,571	10,566	13,423	14,340
	20,061	19,293	21,612	27,126	32,850	37,296

Prices in Canada.

The following quotations (in cents.) may interest our readers :—

Coffee.

	Montreal, Quebec.		Toronto, Hamilton, London, Ottawa.		St. John, Halifax.		Manitoba and B. C.	
Green—								
Mocha ...	24	29	23	28	25	30	24	25
Old Government Java	27	31	22	30	25	30	24	25
Rio	10	11	7½	12	12	13	10	10½
Plantation Ceylon	29	31	26	30	29	31	...	...
Porto Rico ...	24	28	22	25	24	28	...	...
Gautemala ...	24	26	22	25	24	26	...	..
Jamaica ...	18	22	15	20	18	22	...	...
Maracaibo ...	13	15	13	16	13	15	...	..

Teas.

Black—								
Congou—Half-chests Kaisow, Moning, Paking, ...	$0 12	$0 60	$0 12	$0 60	11	40	...	...
Caddies Paking, Kaisow ...	14	40	18	50	15	40	...	...
Indian Darjeelings ...	35	55	35	55	30	50	...	...
Assam Pekoes ...	20	40	20	40	18	40	...	...
Pekoe Souchong	18	25	18	25	17	24	...	...
Ceylon—Broken Pekoes ...	35	42	35	42	34	40	...	...
Pekoes	20	30	20	30	20	30	...	..
Pekoe Souchong ...	17	35	17	35	17	35	...	...
China Greens—								
Gunpowder-Cases extra firsts..	42	50	42	50	...	...	...	...
Half-chests, ordinary firsts...	22	28	22	28	...	...	...	...
Young Hyson Cases, sifted, extra firsts	42	50	42	50	...	...	...	...
Cases, small leaf, firsts ...	35	40	35	40	...	...	...	...
Half-chests, ordinary firsts ...	22	38	22	38	...	...	...	...
Half-chests, seconds ...	17	19	17	19	...	...	...	...
„ thirds ...	15	17	15	17	...	...	...	...
„ common ...	13	14	13	14	...	...	...	...
Ping Sueys—								
Young Hyson-½-chests, firsts...	28	32	28	32	30	40	..	...
„ seconds.	16	19	16	19	...	...	..	..
Half-boxes, firsts ...	28	32	28	32	...	...	...	...
„ seconds ...	16	19	16	19	...	...	...	...
Japan—								
½-chests, finest May pickings...	38	40	38	40	...	...	...	...
Choice	32	36	32	36	...	...	...	...
Finest	28	30	28	30	...	...	...	...
Fine	25	27	25	27	...	...	...	...
Good medium	22	24	22	24	...	...	...	...
Medium	19	20	19	20	...	...	...	...
Good common	16	18	16	18	...	...	...	...
Common	13	15	13½	15	...	...	..	...
Nagasaki, ½-chests Pekoe ...	16	22	16	22	...	...	...	...
„ „ Oolong...	14	15	14	15	...	...	...	...
„ „ Gunpowder...	16	19	16	19	...	...	...	...
„ „ Siftings ..	7½	11	7½	11	...	...	...	...

Say Coffee about 3¾*d.* to 15½ per lb. or 35*s.* to 144/8*d.* per cwt. (*no* Indian) ; and Tea (bar siftings) 6*d.* to 2/6*d.* per lb. (*no* South Indian.)

Adulterated Coffee.

We note that it has been suggested at Home that there should be *uniformity* throughout all the United Kingdom in regard to the quantity of chicory used in a mixture of coffee. It is scarcely likely, however, that any such suggestion will be seriously considered. By far the simplest plan would be to make "mixers" label their compound '. . . . per cent. coffee, ... per cent chicory,' or, at the very least :—' this mixture contains, in addition to chicory, at least . . . . per cent. of pure coffee. The Bill in regard to the Sale of Food and Drugs that has been introduced into the House of Commons by Mr. Long, the Solicitor-General, and Mr. T. W. Russell, deals mainly with agricultural products. There is, however, a part devoted to foods and drugs in general. Section 12 of the Bill is perhaps the most likely to interest coffee-planters, as it deals with the labels for notifying that the substance sold is a mixture, and so far amends the Section 8 of the Act of 1875. that a label shall not be deemed to be legibly printed within the meaning of the section unless it is so printed that the notice of mixture given on the label is not obscured. We need scarcely remark that any such provision as this is ridiculously inadequate to the requirements of honest trade.

"Cheesy" Teas.

Alluding to these, Messrs. Whitworth, Hillyard and Wade, of London, write :—"In many instances the objectionable flavour of these teas passes away on exposure to the air, but the tea is prejudiced at the start by the short-sighted policy of the growers in not seeing to it that the wood is thoroughly dry and inodorous. It is surprising that the managers of the various gardens are not more jealous of the reputation of their respective marks. Wholesale firms ought not to be thus placed under the grievous necessity of warning their customers, who buy direct from bond, to be on the alert for a defective package of this character in a consignment of Indian and Ceylon teas for their own blending, for after all the great majority of the larger country wholesale and retail buyers prefer to blend their own teas, each retaining his own special characteristics in preference to those of the universal blender, who will supply the same blend to his competitor—or even to his customer. Many a teadealer has turned his back upon a mark which was once a favourite with him, and for no other cause than the "cheesy" character of one or two lots." A Darlington grocer pertinently remarks :—"It would be of service to the trade if some solicitous for others' welfare would tell us what becomes of the many hundred packages rejected by experts. Do the merchants take the tea back, or do they put these remnants on the market and sell them as damaged packages ?"

LETTERS TO THE EDITOR.

E. LITHOSPERMA.

Dear Sir,—In Mr. Cameron's interesting article in *P. O.* of the 18th instant, in referring to *E. lithosperma*, he writes as follows :—"The evergreen species, *E. lithosperma*, is also under trial, although in some cases it is not true to name, being thorny and a doubtful evergreen." In writing this he has fallen into the not uncommon error of assuming that the thorny trees are not *E. lithosperma*. He is slightly in error in writing as he does, as the true *E. lithosperma* is a thorny tree, the thornless one being a type evolved by cultivation. In common with all cultivated types it displays a tendency to reversion to the parent stock when grown under altered circumstances. This reversion is more pronounced under extremes of dry, heat and cold, the percentage of thorny plants grown under similar conditions of climate and altitude as the parent trees being nominal. I have observed trees that were completely thornless occasionally throw up thorny shoots on being cut down, the thorns ultimately disappearing as the tree recovers from the shock. I should not have troubled you with this explanation only

that Mr. Cameron's remarks may lead some planters to think that the occasional thorny plants that occur in nurseries from Arienkow seed are not the true *E. lithosperma*. *They are only too true.* That they are the perfectly true type anybody can ascertain for themselves by letting a thorny plant go to seed, the seed pods will be the unmistakable pods of *E. lithosperma*, totally different from the pods of the thorny *E. Indica* and fully justifying the name by which the tree is known in Java, *E. Hypapahoros*, the lower half of the pods being barren, being, I believe, totally distinct from any Erythrina known. That the tree goes very thin in the dry weather is perfectly true, and is probably the reason the tree is so appreciated in Java, the automatic conversion of the shade overhead into a mulch on the ground in the hot weather being eminently favourable to retention of vigour in the tree, and maturing the wood, and development of blossom.

B. Nelson.

NOTES ON BUILDING WANTED.

Sir,—A column in each, or every other, issue of *P. O.* devoted to notes on building generally, but more especially as relating to coffee and tea estates, would, I am sure, be of interest to many of your readers, more especially to those who like myself have very little experience in such matters.

Rough plans or sketches might be annexed for explanatory purposes.

Beginner.

GENERAL ARTICLES.

THE COLOMBO TEA SALES.

Impressions of a Visitor.

The first thing that strikes one on entering the Colombo Sales' Room at the Chamber of Commerce is the comparative quiet with which the proceedings are conducted; the room is airy, well ventilated and cool, with Japanese punkahs in full swing, and there is no crowding. Bidders sometimes speak in an undertone, but their voices are instantly spotted, and swept up into the continuous flow of the sellers' auctioneering harangue. To any one accustomed to the Tea Sales at Mincing Lane there is, of course, something lacking in the excitement of the proceedings. Of the latter I attended two at home, not long ago, the second time with Mr. Wm. Somerville himself, who also kindly accompanied me on this my first visit to the Colombo Sales Room, and by running over the names of those present, greatly added to one's enlightenment on the *personel* engaged in capturing the various breaks and grades that were put up and bid for with eagerness, deliberation, or sometimes distinct indifference. At Mincing Lane men stand in a throng round the auctioneer's desk, the biggest buyers nearest, every desk in the room being crammed—the majority of the company it is true being lads who have come to take down the prices for the papers or for firms other than those represented in the room. There the London auctioneer's task is vastly more trying and to pick out the first voice among six that are roaring together like a hurricane is no simple matter. Here in Colombo too there is more time for conversational remarks, quite a little spar being raised now and again over some abnormal bid or point of sale with which a bidding-claimant happens to be dissatisfied. Of course, at some the interests concerned and the consignments dealt with are vastly more immense, so it is scarcely to be wondered at that the business proceeds with far more continuous briskness. However, under the conductorship of Mr. W E. Drury of Messrs Forbes and Walker this contrast was not so marked, and the largest of the three sales lists was tackled with the greatest despatch. One of the largest,—if not, the largest—prices among those in to-day's sale was that fetched by *Palmerston* Broker Orange Pekoe— namely 79 cents; 77 cents was given for the same grade of tea from *Petteresso*, while *Queensland* (another of the Palmerston Co.) fetched 76. *Inverness* broken Pekoe was offered at 65 but not sold, 60 being the nearest bid. In Mr. E. John's list 76 cents were given for *Mount Everest* B. P. and 63 for its Orange. *St. John's* B.O.P. was started at 70 and knocked down at 77; for Orange Pekoe of the same estate the price given was 66, for Pekoe 51, and 45 for Pekoe Fannings. In Somerville & Co.'s list *Dalhousie* O. P. fetched 55 *X. Y. Z.* broken Pekoe 54, and *Woodthorpe* (ditto) 51. These were the chief prices among the larger breaks.

Most of the bids were made and won by Mr. F. F. Street, who seemed always ready to step into the breach when bidding flagged, or to meet a piteous appeal from the desk, such as: "What only—— cents? Oh, I can't sell. I'll take——(perhaps one cent higher)." Mr. Garrett was there buying for Lipton, but his bids were by no means over frequent. Mr. Croll for Messrs. Crosfield, Lampard & Co. bid very little on the whole, but generally destroyed the competition with a bold and well-timed offer whenever there seemed a certain hesitancy in the room to advance as far as the shadowy boundary lines of market value. As far as I could learn, the market was, if anything, rather better than usual, one bidder averaging something like a 2 cents rise on that of last week. To turn to the lighter side of the proceedings, the following will give a selection of the remarks that passed aloud, here and there:—

At one point a break of 2,340 lb. in the catalogue was announced to be only 270 lb. "Why don't you correct the catalogue?" called one. "I'll send it to you to correct next week!" returned Mr. Drury. "All in Venesta packages!" said the auctioneer, in putting up some B. P. fannings of Kennington for sale. Later on the question whether they were packed in Venestas was considered so important that Mr. Drury was requested to send a clerk to telephone an enquiry as to the chests used. The tea was Nahalma Broken Pekoe. "I'll give you 45 cents if they're not in Venestas" was one exclamation. A finish-up bid of 41 cents for Clunes' Pekoe made the room musical, or the reverse,—for several notes were blended in a discordant whistle. For *O.S.S.* an offer of 40 cents being unsuccessful, a non-bidder called across "Don't sell without seeing me." Over Lamiliere teas business was proceeding so rapidly that several were unaware exactly which lot was being dealt with. "Where are you now?" called one. "Pekoe!" was the reply. "What did you do with the Pekoe Souchong?"—"You bought it—at 42 cents!" was the crushing rejoinder. When things were going to sleep a little, and someone, missing a bid he thought was his, gave vent to his feelings a little, he fetched a sharp retort from the person reflected on. "Oh! O!" said a few. "Well, I won't stand *that* from anybody" the injured one replied: "No don't" went the chorus. "Knock him down. Sit on him. Jump on his chest!" and so on *ad lib.*

Even to an outsider the Colombo Tea Sales are far from dull. —*Ceylon Observer.*

NOTES ON TEA.

The following extracts are from Messrs. Baines & Co.'s (Calcutta) review of Tea in 1898:—

Assortment.—There is plenty of room for greater attention to this part of the manufacturing process, and the fewer the qualities made the better; for a garden producing fair medium teas, four qualities are quite sufficient; this specially applies to small gardens, whose managers should try to cut down as much as possible the number of grades in their assortment; it is better to have two full-sized breaks of Pekoe and Pekoe Souchong, than four or five qualities in small breaks. Where small breaks are unavoidable, it would pay to pack and keep them until a sufficient amount of tea is manufactured, then bulk the whole.

Good appearance in make should be aimed at, as America and Asia select teas of this description,—large, rough, bold leaf should be avoided; if this class of leaf is being taken from the bushes, owing to quick growth and the flush getting out of hand, it is better to have it equalized in the breaker, thereby saving the wholesale houses and blenders the trouble of cutting it for themselves; a well equalized leafy Broken Pekoe Souchong, or small Pekoe Souchong, free from dusty broken, sells much better, and is a far more useful tea than a bold leaf.

Invoices should comprise breaks of not less than 20 full chests, 30 half-chests or 50 boxes, which are the minimum breaks sampled by the trade, and it is as well to have a few extra chests in the

event of damage, reducing the size of the break, for in these days, when the weekly auctions of Indian tea frequently amount to 50,000 packages, small breaks meet with very little attention, and are sold on a separate day, when large buyers scarcely think it worth while to attend the sale.

Our advice to growers therefore must be to pay the closest attention to improvement of quality, and to avoid sending forward any produce which, from inferiority of quality, or undesirable packing, will damage the reputation of the article. There is no doubt that careful supervision on these matters will bear fruit in due course.

Equality in tares, and well-made packages, are matters which should have the attention of every manager.

The consumer attaches great importance to getting his teas in well-made strong boxes, and although there has been great improvement in recent years, there are still many gardens from which teas are sent down in weak chests, made of bad wood, causing loss in weight, and consequent claims. Where a garden once gets a name for bad packages, buyers will fight shy of the mark in the future. This year badly seasoned wood has resulted in frequent cases of "cheesy" taint upon Cachar and Sylhet invoices, losing to the grower often 1d. per pound in value.

The weight of tea in chest should not exceed 100lbs. to 110lbs. of broken leaf and 80lbs. to 90lbs. whole leaf, while Dusts should never exceed 100lbs. nett, in order to avoid loss in weight.

Prospects.—With the extensions of 1896-98 shortly coming into full bearing, there is no probability of short supplies, nor are prices likely to show any great rise from the level they have reached in the past three years, nevertheless the industry is in a healthy condition, and consumption is growing, and there is no reason, with careful attention to manufacture and expenditure, why the tea trade in India should not continue on a safe remunerative basis.

TEA, &c., COMPANIES.

Atal Tea Co., Limited.—Shows a profit of Rs. 16,578-7-8 for 1898. A dividend of 5 per cent. is recommended.

The total outturn from the gardens of the company weighed out 309,605lbs. which has sold at an average of 5 annas 5 pies.

Durrung Tea Co., Limited.—The crop amounted to 2,750 mds as against 2,682 mds. in 1897 or some 50 mds in excess of the estimate. The quality of the tea has been satisfactory throughout the season, and the average annas 6-11 per lb. obtained is fair in a season like the one just closed, when the market ruled unusually low. There has been a good labour force on the gardens, which has enabled the manager to cultivate, well. Sulphur has again been applied with success and the bushes have been kept fairly free of blight. The result of the season is a small profit of Rs. 16-10-11, and the balance at profit and loss is Rs.433-0-6, including Rs.416-5-7 brought forward from the previous season.

Hoolungore Tea Co., Limited.—After writing off a deficit on the season's working of Rs 5,141-6-7, accounts shew a balance at credit of profit and loss account of Rs.7,474-5-11 to be carried forward. The crop was only 2,557 maunds, 34lbs., against an estimate of 2,900 maunds, and an outturn in 1897 of 2,769 maunds 78lbs. The average price was 8 annas 5 pies per lb against 9 annas 1 pie in 1897. Fifty-two acres of new tea were put out during the year, which brings the planted area up to 943·89 acres.

Mothola Co., Limited.—Accounts show profit of Rs.21,454-9-5, and a dividend of 7 per cent is recommended.

The crop weighed out 2,377 mds. against in 1897, 2,456 mds. and against in 1896 2,679 mds. The whole of the crop was sold in Calcutta, yielding a gross average price of As. 8-10 $\frac{13}{16}$ per lb., and a nett average of As. 8-9 $\frac{3}{16}$ per lb., the corresponding figures for last year being As. 8-11$\frac{7}{16}$ and As. 8-9$\frac{7}{8}$ per lb.

Dehing Co., Limited.—Profits Rs. 12,614-11-11. Crop 7,031 maunds against 6,314 in 1897. The entire crop was sold in Calcutta, and has realised a gross average price of annas 8-3 per lb. against annas 9 1¼ per lb last year.

The Gangawatte Estates Company of Ceylon, Limited.—The Second Annual General Meeting of this Company took place on 17th instant at Colombo, Mr. T. G. Hayes (Director) presided. The report stated:—Acreage.—Tea in full bearing, 335 acres. Tea planted in 1898, 10 acres. Grass and ravines, 10 acres. Total, 355 acres.

There was a shortfall on the estimated crop of tea, no unusual circumstance this year. The crop from the Gangawatte division was sold in green leaf, and that from Bitterne was manufactured partly at Rickarton Factory and partly at Gangawatte, which work commenced in July last.

The Bitterne crop analyses as follows:—41,348 lbs. made at Rickarton, and sold in London at the equivalent of 36·6 cts. net. 23,605 lbs. made at Gangawatte and sold in Colombo averaged 38 55 cts. net. Computing the outturn of Gangawatte leaf at the same rate as that given by Bitterne, the total crop amounted to 141,445 lbs tea against an estimate of 150,000 lbs., which realized R55,598·55, or an average of cts. 39·58 per lb. The profit on the season's working amounts to R19,204·65, subject to miscellaneous expenses, interest on mortgage, Secretariat and Auditor's fees. Out of the available balance an interim dividend of 5 per cent on the capital has been paid, absorbing R8,925; and the Directors now recommend the payment of a final dividend of 3 per cent., leaving a balance of R1,715·91, which, after meeting Directors' fees, they propose should be carried forward to the new year. The estimate of crop for 1899 is 150,000 lbs. against an expenditure of R38,992.

The Union Estates Company of Ceylon, Limited.—The Annual General Meeting of the above Company was held at Colombo on 18th instant. The Chair was taken by Mr. W. D. Gibbon.

The Annual Report stated:

Hayes Group—tea in full bearing, 517; tea not in bearing, 11; cardamoms 25; total cultivated, 553; grass, jungle and waste land, 1,658; total 2,211. Dea Ella—tea in full bearing, 235; tea not in bearing, 13; cocoa, 91; total cultivated, 339; grass, jungle and waste land, 147; total 486.

The tea crop amounted to 308,025 lbs against an estimate of 360,000 lbs., for which the average nett price realised was 34·32 cents per lb. compared with 32·64 cents in 1897, or an increase of over 1½ cents per lb.; 149 cwts. cocoa were sold at an average of R41 per cwt., and there were small receipts by sale of cardamoms. The shortfall in the crops must be attributed to the very dry season.

The estimated crops for the current season are 327,000 lbs. tea, 150 cwts. cocoa, and 300 lbs. cardamoms on an expenditure on working account of R97,441·11. In addition a small profit is anticipated from purchase of outside leaf and from manufacturing teas for other estates. On capital account R7,356 is estimated for completion of machinery on Hayes and the upkeep of the new clearings on both places.

The Estates Company of Uva, Limited.—A Meeting of the Estates Company of Uva was held in Colombo, on the 18th instant. Mr. W. D. Gibbon presided. The report stated:—

Acreage: Dammeria Group.—Tea in full bearing, 46 acres; in partial bearing, 110 acres; not in bearing, 27 acres. Total tea, 602 acres; other products, 30 acres; timber, grass, forest and waste land, 558 acres. Total 1,190 acres. Battawatte and Forest Hill.—Tea in full bearing, 413 acres; in partial bearing, 140 acres; not in bearing, 38 acres. Total tea, 591 acres; other products, 5 acres; timber, grass, forest and waste land, 159 acres. Total 765 acres. Gampaha.—Tea in full bearing, 332 acres; in partial bearing, 124 acres; not in bearing, 119 acres. Total tea, 575 acres; other products, 45 acres; timber, grass, forest and waste land, 246 acres. Total 866 acres. Total tea in full bearing, 1,210 acres; total in partial bearing, 374 acres; total not in bearing, 184 acres. Total tea 1,768 acres; total other products, 80 acres; total timber, grass, forest and waste land, 963 acres. Total 2,811 acres. The tea crop, which was estimated at 505,000 lbs., only amounted to 485,712 lbs., the shortfall being altogether attributable to the unfavourable weather experienced during the last few months of the year. The coffee crop however amounted to 462 bushels, as against estimate of 120 bushels, while there were also crops of 89 cwts. cocoa, 553 lbs. cardamoms, and 56,632 lbs. cinchona bark, which latter was harvested from trees cut down to improve the growth of the tea planted underneath. During the year, 60,658 lbs. tea were manufactured for other estates. The average nett price realised for the tea sold was 39½ cents, as against an average of 41 cents last year.

The Directors recommend the payment of a dividend of 2 per cent. for the year, and that the balance of R9,842·10 be carried forward to the current year's accounts. The crops for the current year are estimated at 540,000 lbs. tea, 210 bushels coffee 600 lbs. Cardamoms and 65 cwts. Cocoa, on expenditure of R174,483 on the estate, while a small profit is anticipated from manufacture of 60,000 lbs. tea for another estate.

"RUST" FUNGUS ON TEA.

Mr. J. B. Carruthers, the Ceylon cryptogamist, shortly before he returned to England, paid a brief visit to a low-country estate to report on a form of leaf-disease on the tea plants which had been noticed there for three years. His examination was not thorough, but he has prepared the following report:—

As requested, I visited estate and examined the tea plants which were diseased. The Superintendent has observed the same phenomenon for about three years past. An area of about 40 acres contained affected bushes, but about one plant in five was the most observed on any given square ten yards. In no case had the disease killed any plants, and always disappeared after pruning. I took specimens of the leaves, and these I have examined microscopically. There is just a "rust," *i.e.*, a fungus belonging to the *Uredineæ* a group to which the *Hemilea vastatrix* of coffee and the rust of the wheat belong. This fungus can be recognized on the tea leaf by its fruit, which appear to the naked eye as a reddish-brown mould, covering a space varying from the size of a pin's head to that of a threepenny piece. With an ordinary field lens this shows itself to consist of a number of thread-like stalks, swollen at the top, and bearing on the swollen portion a series (5 or more) of orange-coloured spores (*Basibiospores.*) These spores in all probability (that is judging by what is known of the life-history of allied fungi) will on falling on to another tea leaf, or another portion of the same leaf, produce another spot of rust. There is also another fungus which produces a yellow or brown patch, and this is covered in some cases by a series of minute black dots, which are lighter when older. These small spheres contain ascospores—which places this fungus in the large group, characterised by such spores, the ascomyates, to which the cocoa canker belongs. That these are the only spores on the tea leaves, or that they are alone responsible for every diseased bush, I am not willing, after so cursory an examination, to state, but a careful search revealed no other spores produced on the leaves. Both these fungi live in the leaf, and, as they do not re-appear in the plant after pruning, it is evident that they are confined to the leaf, and therefore, if the leaves are taken off and burnt, the spores will be destroyed. From the fact that the young leaves plucked for tea-making are not rusted, even on affected bushes, I should imagine that the time taking for the spores to reproduce themselves is more then ten days. The mycelium of roots of these fungi ramifies among the loose cells of the leaf, and gains it nutrition from the juices of the plant. A greater strain, therefore, is put upon the plant in supplying food, both for itself and the fungus. There was no case in the fields I examined of a bush being so badly attacked as to cause death. A purely leaf-disease very rarely produces fatal effects. If measures are taken to prevent the spores of these diseases spreading, by burning diseased leaves, there is no reason to expect that they will spread to any serious extent. A cooly, or gang of coolies, might be specially employed to collect and burn affected leaves. It has occurred to me that any tea being left to go out of cultivation might easily foster these or other diseases; and it would be well that at any rate an inspection of such untended tea should be made to ensure that it is not a "spore farm" for the rest of the island. As the report has been written after a most hasty examination, I must ask to be allowed to state that I consider the statements it contains open to correction.

(Signed) J. B. Carruthers.

October 14th, 1898.

TEA WITHERING.

The Planter remarks:—A correspondent, who says he has had no personal experience in the manufacture of tea, makes some suggestive remarks. He writes:—I have had many conversations during my tours with some of the most experienced tea makers, and have always been impressed with what I learnt from them as to the need for some improvement in the ordinary system adopted in the initial and important process of "withering." It appears to me, in short, that the style of "wither" should be more in keeping with original method of the Chinese. Tea making is agreed to comprise chemical and mechanical processes, and though no one suspects the Chinese of much chemical knowledge, there is no doubt that in blindly following the methods handed down to him by his predecessors, the Chinaman was to a large extent carrying out a system of chemical processes. It is true we have advanced a long way ahead of the Chinese makers of tea, while the celestials have retrograded, but in considering how our present day tea-makers are sometimes charged with turning out teas inferior to those which they placed on the market some years ago, it is as well if we ask why this is, and whether they have gone too far in their mechanical modification of the old Chinese methods? Unless the "withering" be properly conducted, unless tea be subjected to precisely the *right degree* of "curing" in the withering, it is in vain to expect to turn out a first class tea with the true strength and aroma.

Our correspondent then goes on to speak of a visit which he paid to a factory where perforated wooden *boards* were used for withering, and where at the same time the closest attention was paid to the *gradual* drying of the leaf by means of a current of warm, but *not hot* air passing through and over it, with the result that the teas manufactured were all of the best quality. He writes:—From what I have learnt, care has to be taken that the withering is not pushed to excess, for by so doing the leaf will run a chance of desiccation, in which case it will not give a full-bodied liquor. The proper decree of wither is known by the pleasant aroma arising from the leaf. Regarding the process of firing, he says that the work of "tea-curing" should be by a slow, rather than by a rapid desiccation, for reflection will show that a high temperature, no matter for how short a period, will seriously affect the character of the "roll," dissipating the fine elements in the leaf which go to impart the quality of "point," so much sought for by tea buyers. In conclusion, he remarks that it is possible that any falling off in the quality of teas, instead of being due to deterioration of soil, may be owing to errors or defects in manipulation caused by a desire to work off increasing flushes of leaf, a point which it would be well to have determined. At the same time he says:—In writing as I have, I am merely conveying lessons which I have learnt from others, and must not be supposed to be taking up the *role* of amateur tea-maker

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A young planter, under the *nom de plume* of "Chella," wishes us to obtain the following information for him from our district correspondents—

(i). What thermometrical and hygrometrical conditions are *the* best, for (*a*) withering, (*b*) oxidation and (*c*) firing?

(ii). Should hot moist air be employed for withering leaf? Some of the withering machines at present in use apply heated moist air to the leaf to such an extent that the leaf *discolours* in the process, turning a light fermented colour. Should the processes of withering and fermentation be combined, as they are in these machines? Should they not rather be kept quite distinct? If the combination of the processes does no harm, why should the machines not be so constructed as to include the rolling process also, at one and the same time? As a matter of fact the leaf, when it is discharged from these machines, is so bruised and mashed that it is in reality half rolled. Why then should the operation of rolling not be thoroughly accomplished in the withering machines? It would be an advantage, saving both time and the expense of rollers.

BRITISH-GROWN TEA.

Brighter Outlook.

The Statist of February 25th, remarks:—

The heavy fall in the sterling value of the rupee which took place some years ago was, for the time being, a source of considerable profit to the tea producing industry, enabling planters to reduce the cost of cultivation; but after a few exceptionally prosperous years a reaction set in This was largely owing to great increase in the acreage brought into tea cultivation. The Indian famine and the almost coincident rise in the value of the rupee completely changed the situation, and increased expenses of production to such an extent that the year 1897 proved a bad one for the industry, especially as the price of tea had fallen considerably owing to the largely increased production. The results for the year 1898 have not yet been published, and will not, as a rule, be

generally known until next May or June, but prices of both Indian and Ceylon teas were low, and will probably be below 1897, although the remainder of the crop still unsold will probably realise better figures, and consequently raise the year's average to some extent. The cost of the rupee was greater than the previous year, and in consequence production will be more expensive; while the price of rice was also high during the greater portion of the year. Bearing the above facts in mind, it is probable that 1898 will be in some instances as bad as 1897, although for some of the better teas grown in Assam the result will possibly be slightly better. Cachar and Sylhet have suffered severely from abnormal weather, which has not only caused a reduction in the output, but also interfered with the quality of the teas, and many gardens in these districts have therefore been obtaining very low prices. In Ceylon the crop has been short, so that results will also suffer from this cause.

Looking now beyond the 1898 season, there appears very strong reason to believe that the industry has passed through the worst part of the late crisis. Consumption of Indian and Ceylon tea in 1898 was 33 million pounds ahead of 1896, while production had only increased by 18 millions; and, more important still, there was an excess in production during 1896 of 12 millions, which had been turned to a deficit of 3 millions in 1898. Such a remarkable change has been brought about by a greatly increased use of British-grown teas. Not only is the home market taking more tea, but foreign and colonial markets are rapidly acquiring a taste for the teas of India and Ceylon; and whereas in 1897 51 million pounds were used outside the United Kingdom, in 1898 the quantity had risen to about 63 millions, and there appears every reason to believe that large increases will take place in the quantity used in these outlets in future. Now that the Americans have started a line of steamers, under the United States flag, going from Calcutta and Colombo direct to New York without coming near the United Kingdom, the sympathy of American shipowners will be enlisted on the side of British-grown tea. The Russian Volunteer Fleet, which calls at Colombo, is already taking large quantities of tea to South Russia, and the fact that Russian tea purchasers have established houses in Ceylon goes far to show the probability of an increased liking for Ceylon teas in Russia. The quantity shipped from Colombo direct to Russia in 1897 was only 439,349lb., and had risen to 2,714,003lb. in 1898. The absorption of British-grown tea by Russia is by close observers in the trade regarded as only in its infancy. We may now turn to production. The Ceylon output last year was reduced owing to bad weather, and it is therefore probable that the following crop may be somewhat larger. With respect to Indian, the output in Cachar and Sylhet was also reduced from the same cause as in Ceylon, and it is possible that this may not occur this year; but, considering the very large area over which tea is now grown in India and Ceylon, the weather is not likely to be suitable everywhere for the growing of large crops. So that we need not, perhaps, look for a very large increase in the 1899 crop, taken as a whole. Even though a large quantity of land was brought into cultivation some few years ago, which should now be coming into bearing, it must be borne in mind that there is reason to believe many estates have allowed some of their unprofitable tea to lapse, and that others have not had the money to carry on the cultivation which they had commenced, or even to fill up some of the vacancies which occur through plants dying out. So that, taking all these things into consideration, it is doubtful whether we shall have a very large increase in production for the present.

Looking, therefore, at the industry as a whole, the position seems to have entirely changed from what it was a year ago, and for the first time in the history of the British-grown tea trade consumption appears likely to overtake production. The possibilities opened out by the new markets are very great. For years past it has been a case of educating consumers. The efforts have had little result till quite recently, but in nearly all countries which use tea largely there is reason to believe that a very large development will take place during the next few years. It must not be forgotten that the world's consumption of tea outside countries of production amounts roughly to 500 million pounds, while the total production of British-grown tea in 1898 was only 278 million pounds, (3 millions less than the consumption), so that there still remains 222 million pounds of other growths which will, doubtless, eventually be further displaced by the energy of the Indian and Ceylon tea planters. The question of exchange must not altogether be forgotten, and, leaving out the policy of the Government, it would, perhaps, be the best thing for the tea-producing industry if the rupee were to be steadily maintained at its present level. The rapid rise in the rupee cost the tea industry an enormous sum of money, but it has had its effect in causing great efforts to be made to reduce expenditure in all directions, and has resulted in checking the annually increasing cultivation which had previously been taking place. Should the rupee remain stationary, it is possible that production would only slowly expand, and that prices of tea would advance to some extent. The trade has passed through what may be termed a very severe surgical operation. The painful process has saved the industry from a still more serious crisis, bound otherwise to have come upon it in the course of the next year or two; and if the value of the rupee be maintained where it is at present, it will probably produce a continuance of the sounder position into which the industry has now entered.

THE INDIAN TEA ASSOCIATION (LONDON.)

Mr. Blechynden's Report for the Year 1898.

New York, *Jany. 10th*, 1899.

Ernest Tye, Esq., London.

Dear Sir.—I have the honour to submit my report for the year 1898, and, as requested, make it as brief as possible.

Joint Action with Ceylon.

I have great pleasure in recording that our relations with the Ceylon Association continue most close and intimate, as I am satisfied that both Associations are great gainers by the arrangements we are thus both enabled to make. The interests of India and Ceylon tea in this country must remain identical for many years. Each country gains by the increased quantity of tea from either country taken off the London market.

Subsidies.

During the year we have continued to make grants, or subsidies, to firms pushing India and Ceylon tea in packets, and have secured the co-operation of one or two firms to push these teas in bulk. The latter method is, in my opinion, the one which would be to our greatest advantage to foster, but it presents the disadvantage that firms cannot, under present conditions, be certain of retaining the trade they open up, as there are no means of insuring the repeat orders coming to them. It is only when the tea is packed under some copy-righted name that pioneer work can be made to pay. Loose teas of almost, sometimes exactly, the same quality can be supplied by any firm in the business; and competition is so keen that our friends find that trade, that they have been at the trouble and expense to open up, is seized upon by rivals. So far as the Association is concerned, it is of course quite immaterial, so long as the tea is sold, who finally reaps the benefit; but such experiences are very discouraging to our allies. The packet tea business is, so far as firms are concerned, a much more lucrative investment. But packet teas have to be advertised to consumers, which is a very expensive matter, and though there are numerous packets in the market, there are but few firms with sufficient capital at command to make this business succeed. We have some staunch allies, and also some who are half-hearted. Others again have gone into the business with energy for a short time, but have dropped off, or will do so as the stronger houses gain ground. Our object in aiding packet dealers is not so much for what they actually sell as for the advertising they must do to have any prospect of making a business, all of which day by day familiarizes the public more and more with the merits of our teas and makes them better known. The packet teas also act as standards of quality which grocers selling our teas loose must compete with.

Lettering Stores.

We continue to letter a few stores with the words: "India and Ceylon Tea;" but as the packet business increases, the demand for a general advertisement of this nature falls off.

Demonstrations.

Less of this class of work is being done by us, and it will continue to grow less as we try to turn such work over to packet firms. These are equipped to supervise the details and to follow up work by direct sales. In my half-yearly report I referred to some work of this nature we had inaugurated in the Jewish quarter of the town, where a great deal of black tea is consumed. As there seemed to be good prospects of success, we had no difficulty in transferring the entire care of the matter to a firm which started

a special packet to meet the local requirements. They also undertook to spend a reasonable sum, in addition to our grant, in exploiting this field. They have opened a store for the sale of their packet, and have added the sale of coffee to their business, for, as usual, it is in the greatest demand: the profits on the latter go towards paying part of the expenses. So far the experiment is promising; but whether it succeeds or not is of no great moment, as demand for our tea is being established, and other packet tea firms are also reaping the benefit. Not knowing of our interest in this section of the town, one of our other allies mentioned, as a matter that might be of interest to us, that their sales in the Jewish quarter, which they had done nothing to foster, had suddenly got a start. It is thus indirectly we frequently benefit from the work we cause to have done.

TEA-ROOM.

I stated in my half-yearly report that the tea-room we had started in the previous year, and which we ran for twelve months, has been closed for want of success. While this room was in existence, it was of some use as an advertising medium but was too expensive, and we closed it with regret. Since it was closed a large dry good store in that neighbourhood has more than once been on the point of opening a similar room on its own premises, and the scheme may yet take shape. The large number of tea demonstrations given in dry good stores by firms we are in close contact with is probably one of the main obstacles to the success of independent ventures of this kind.

ADVERTISING.

During the year we have narrowed down the number of magazines we use for advertising purposes, and now use only those where our advertisement appears absolutely next to reading matter. We have for some time discontinued the use of magazines, otherwise excellent in all respects, style, circulation, &c, but which have from forty to sixty pages of advertisement matter in which any single advertisement is buried out of sight.

The newspaper advertising we do is much on the same lines as heretofore; but although it comes under the head of advertising, it might frequently be more appropriately charged under grants. The reason for this is that when firms are pushing their teas vigorously in any given town, they ask us to advertise India and Ceylon teas there We take our usual space, and advertise the teas generally. They then take a small space immediately under our advertisements. extolling the merits of their special brand of India and Ceylon tea, and thus gain the benefits of our advertisement as well as their own, getting also the advantage of the reduced rates we can secure as large advertisers. In some places we have several firms following our advertisements in this manner. We are not using a single paper in which one or more packet firms are not following us. Our advertisement of course makes the words India and Ceylon prominent; and by this means we not only advertise these teas generally, but those firms wanting to benefit by our advertisement have to use the same words on their packets and in their advertisement, instead of merely pushing the packets under the name of the brand.

We have continued to issue a large quantity of advertising matter in the shape of cards, pamphlets, &c. As has been previously described, this matter has always space reserved whereon the name of a brand or firm can be printed. We distribute all our printed matter through large firms, and they in turn distribute through stores. By this method the expense of distribution is brought down to a nominal figure. Were we to attempt to distribute independently and directly, the cost of stamping, addressing envelopes, &c, would greatly reduce the amount of work we could do, and would exceed the cost of printing. As the space reserved on the printed matter can be filled in with the name of the grocer as well as that of the brand, all parties have equal interest in getting it into circulation, and we can be satisfied that there is no waste. We have been fortunate so far in being able to prepare subjects which have proved popular and are in great demand. We could get them out by millions, instead of thousands, with equal ease and to great advantage if funds permitted.

UNFERMENTED TEAS.

Some samples of unfermented or Oolong teas made in India were sent to me early in the year. They were found so suitable for the market, and firms were so ready to give immediate large orders, that I have had to revise the opinion I formerly had as to the impossibility of Indian gardens preparing suitable teas of this class. I now believe that there are certain districts in India where Oolong teas of a character to command ready sale can be made, and that if such teas are produced, there is practically no limit to the business that could be done. I have dealt with this matter at length in another place. so will confine myself here to adding a warning, so that the same stumbling block which our black teas encounter every day may beavoided. I refer to the

INEQUALITY OF THE TEA.

It does not appear to matter what tea finds favour here, as soon as one lot of it is sold, and orders are ready for more of exactly the same tea. there seems an impossibilty of supplying them. In filling the repeat orders the leaf or liquor, or both, differ from the original, and there is no firm in business on this market which will guarantee to duplicate any given sample of tea exactly This is one of the most serious obstacles to the expansion of the trade. More than two years ago I urged careful consideration being given to the question of blending teas in Calcutta for this market as the one possible means of supplying a standard article. Now that there is a question of manufacturing a special tea, I feel it my duty to make this point very clear, as the success of the enterprise will depend in a great measure on supplying exactly the tea ordered—not a tea which resembles it, or which may even be thought better. The experience of what was done in the London market cannot be taken as a guide, conditions being different. It a tea (black or green) is found acceptable here, means should be found to supply that identical article. The cost of holding the tea and blending until the standard is reached will not be lost.

GENERAL.

The year 1898 will long be rememberd as an exceptional one by the Tea trade of America. The period under review was marked by the war with Spain which necessitated the taxation of tea as a war measure. The imposition of duty having been threatened in the previous year, and being withdrawn in the face of the objection of its undue incidence on the poor man, came as a surprise to the trade, and caught it quite unprepared. The only tea it was possible to rush in before the act became law was that in the Canadian market, whence a fair quantity was drawn. There was a sudden boom in prices and a great deal of tea changed hands, but with the imposition of duty the merchants cabled to China and Japan cancelling buying orders and a long period of great depression ensued. During the previous season the new Tea Act had become law under which certain standards of tea were selected and much inferior rubbish heretofore finding a ready market here was kept out. The action of the law had been to reduce the imports of the previous season, and the imposition of a duty of 10 cents per lb, added to the impossibility of importing cheap teas, still the retailers would not pay an enchanced price and business came to a standstill. It was then found that there were quantities of tea left over from previous seasons which had been looked upon as unsaleable, and some of which had been stored in this country over 20 years The novel conditions placed a premium on the antique rubbish, valued previous to the passing of the duty, at say 4 cents per lb. It was dragged forth once more into the light of day and sold at prices ranging up to 20 cents per lb. The stocks held all over the country proved a surprise to the trade, and it is only now that they are getting exhausted. What these stocks must have been can be gathered from the fact that, although the importations of all teas into this country since the 1st of June to the 30th November were approximately 40 million lbs., the amount of tea which has paid duty, or in other words has been put upon the market, was only 12 million lbs., approximately, in the same period. I am unable to quote the figures for December, inclusive, as they have not so far been published. With the trade in this condition, the sales of India and Ceylon tea have of course suffered, but less I think than those from other countries The fact that any India and Ceylon tea has been sold speaks highly for the vitality of the demand which has been created for them. It must be borne in mind that China and Japan manufacture a distinct class of tea for sale to America alone, and which has no sale elsewhere. These teas once manufactured must come here, there being no other market for them and once here have to be sold, even at great loss, to meet bank obligations and so on. India and Ceylon teas have other markets, and are imported only to meet actual or anticipated demand, and can be diverted to other markets. Under the circumstances, it is a matter of some surprise to me that so much business has been done in them during the last disastrous six months. There is an artificial demand for the packet Indian and Ceylons, created

purely by advertising; and it is within my knowledge that the past year has been quite up to the average with the packet tea firms: indeed some of them have done quite well, and even extended their business. Now that stocks are approaching exhaustion, I look very confidently forward to a widespread and lasting demand for tea from all parts of the country Stocks must be renewed, and though the fear remains that the duty may be removed at any time, and will curtail orders to actual requirements, the market will gain by the steady demand this method of doing business will bring about, and will be saved the unhealthy effects of a sudden boom. Conditions point to our gaining more than our due share of business, as the crop of China and Japan is estimated to be at least six million lbs. short of last year, to which has to be added the rejections, which will be at least another million lbs. If my estimate of the position is at all accurate, it appears to me that an unusually large quantity will have to be drawn from other markets before new season's China and Japan come in. Before closing this report, I have to record considerable more activity on the part of the advertisers of Japan tea. With the commencement of the new year, they have. I understand, made contracts for quite an extensive scheme of advertising, some of which is already in evidence.

I am, sir,
Yours faithfully,
(Signed) Richard Blechynden.

MARKET REPORT.

Per Mail advices of 3rd instant.

COFFEE.

The *London Commercial Record* says:—The market exhibits unusual depression for this time of year and, except for the limited supplies of attractive quality, sales are difficult to effect, and a large proportion of the quantity offering at auction had to be withdrawn for want of adequate bids. Ceylon fully maintained its recent high value. The quality of East India submitted to public competition shews no improvement, and this added to the flatness previously prevailing; a large percentage failed to attract offers either from the home trade or export, and where sales were made prices further declined 2s to 3s per cwt., except for high-grown fancy marks. Jamaica 1s per cwt., cheaper on the week, and a similar reduction must be reported for Central American descriptions—in some instances a further fall has been submitted to. "Futures" have been irregular; at one time there was more firmness and a slight recovery in prices took place, but the close is weak and quotations are easier, owing principally to excessive receipts at shipping ports. We quote:—

London ...	Santos ...	March delivery	..	29s 3d
New York ...	No. 7 Rio ..	„ „	...	5.20 cents
Hamburg ...	Santos ...	„ „	..	29¾ pf.
Havre ...	Santos	„ „	...	35½ francs
Holland ...	Good ordinary Java	...	..	30 cents.

The Dutch Trading Co. announce their next public sale for Tuesday the 7th inst. at Rotterdam, when 22,790 bags 20 cases Java will be offered; good ordinary is valued at 30½c

Imports Deliveries and Stock of Coffee in London are as follows:—

		Stock.		Imports.	
		1899.	1898.	1899.	1898.
West India	tons	585	604	354	589
Ceylon ...	...	114	109	97	46
East India ...	...	1489	1224	1144	860
Mocha ...	...	449	446	84	95
Brazil ...	...	3383	3171	183	903
Other Foreign	...	6581	4689	1860	3353
Total tons	..	12601	10243	3722	5846

		Home Consumption.		Export.	
		1899	1898.	1899.	1898.
West India	tons	42	65	127	236
Ceylon ...	...	21	23	28	27
East India ..	...	300	403	282	336
Mocha ...	...	118	131	26	16
Brazil ..	...	208	256	251	354
Other Foreign	...	1632	1368	2495	1966
Total tons	...	2321	2251	3209	2935

The preceding figures exhibit—

In the Imports a decrease this year of	2124	tons
Home Consumption an increase of	70	„
Export an increase of	274	„
Stock an increase of	2358	„

Auctions this week have gone off as under:—

Ceylon *Plantation*.—48 casks 8 tierces 16 barrels 7 bags sold—smalls 55s to 82s, low middling to middling 91s to 104s, bold to extra bold 104s 6d to 113s, pea-berry 96s to 116s.

East India.—Of 2,679 bags offered a small part sold:—*Mysore* smalls 40s to 45s 6d, middling dull gray 61s 6d, bold faded greenish 80s to 90s, pea-berry 85s to 98s 6d. *Coory* smalls 43s to 44s 6d, low middling to middling 62s to 65s 6d, bold good colory 90s, pea-berry 90s to 101s. *Wynaad* smalls 43s 6d to 46s 6d, low middling 50s to 57s, bold 70s to 76s 6d, pea-berry 86s 6d to 91s. *Neilgherry* smalls 42s 6d to 47s 6d, low middling 53s 6d, bold rough gray 68s, good to fine bright gray 80s to 90s 6d, pea-berry 65s to 80s.

Nyassaland.—430 bags withdrawn.

Jamaica.—Of 172 barrels 121 bags offered, 53 barrels 30 bags sold—small brownish colory 30s to 36s, fine ordinary brownish 42s, low middling 49s 6d, bold ditto 58 6d, pea berry 40s to 51s 6d.

Colombian.—2,158 bags mostly sold—smalls 30s to 48s., fine ordinary 41s to 45s, low middling to middling 50s to 59s, middling to good middling colory 60s to 69s 6d, bold good colory 74s to 76 6d, good hard gray 76s 6d, fine bold 83s to 83s 6d, pea-berry 36s to 79s 6d.

Savanilla.—290 bags mostly sold—smalls 31s to 35s, low middling to middling 51s to 57s 6d. good middling 69s 6d, pea-berry 57s to 60s 6d.

Mexican.—Of 388 bags offered 200 bags sold—smalls 37s 6d to 44s. low middling dull gray 53s, good middling blue 69s 6d, fine bold hard blue 91s 6d, pea-berry 95s; damaged and bulked: small dark mottled green 28s to 31s 6d, medium 39s, bold 45s, pea-berry 40s to 45s.

Guatemala.—373 bags old crop, mostly sold—ordinary brownish 27s to 27s 6d, small 32s, good ordinary dingy greenish 34s to 36s 6d, good bold colory 68s 6d, pea-berry 70s.

Porto Rico.—Of 400 bags offered 100 bags sold—good bold polished colory 56s to 56s 6d.

Bolivian.—8 bags small greenish sold at 24s.

Costa Rica.—Of 356 bags offered 100 bags sold—smalls 32s, low middling greenish 56s 6d, good middling green 74s 6d, peaberry 50s.

Salvador.—196 bags bought in.

Vera Paz.—84 bags bought in.

Nicaragua.—60 bags taken out.

Venezuela.—358 bags all passed the hammer unsold.

Bolivian.—35 bags withdrawn.

Ecuador.—20 bags bought in.

Bahia.—100 bags retired.

Brazil.—193 bags Santos bought in.

Auction supplies to-day embraced:—20 casks 6 tierces 18 barrels 3 bags Ceylon, 15 bags East India, 91 half-bales Mocha, 20 bags Nyassaland, 11 barrels 325 bags Jamaica, 2,163 bags Costa Rica, 121 bags Guatemala, 359 bags Mexican, 804 bags Columbian, 30 bags Nicaragua, 18 bags South Sea Island, 194 bags Venezuelan, 42 bags Peruvian. 168 bags New Granada, 61 bags Coban, 240 bags Vera Paz, and 152 bags Santos. The sales went slowly and prices were generally in buyers' favor.

RECEIPTS IN RIO AND SANTOS.

Since July 1	1898-9 Bags.	1897-8. Bags.	1896-7. Bags.	1895-6. Bags.
Rio	2,362,000	3,305,000	2,665,000	1,889,000
Santos ...	4,552,000	5,168,000	4,194,000	2,675,000
Total ...	6.914,000	8,473,000	6,859,000	4,564,000
Crop	—	10,461,000	8,680,000	5,489,000

Rio Exchange 6 3/32d, previous day 7d

Havre, March 2.—Santos good average March opened quiet at 35¾f. and closed quiet at 35½, May opened at 36¼ and closed at 36f.

Hamburg, March 2.—Good average Santos March opened quiet at 30pf and closed quiet at 29¾pf, May opened at 30¼pf and closed at 30pf.

New York, March 1.—Closing prices of No. 7 Rio were as follows:—

	Mar.	April.	May	June.	July.
March 1 ...	5.30	5.35	5.40	5.50	5.55
Feb. 28 ...	5.25	5.35	5.40	5.50	5.60

Messrs. Wm. Jas. & Hy. Thomnson's Report of the Colonial Markets for the week ending March 1st, 1899, states :—

This market closes flat and lower for all kinds except finest. The supply of East India brought forward consisted chiefly of gray and undesirable qualities, and these met with a very poor demand, and were mostly sold at very irregular prices, the decline being fully 2s. to 4s. per cwt. Central American kinds are also lower. Brazil markets flat.

Futures have ruled quiet and featureless, closing unchanged to 6d. lower, viz.:—Good average Santos in Havre, May delivery, fcs. 36.50, in Hamburg pf. 30½, and No. 7 low ordinary Rio in New York $5.40

Prices realized at auctions for the principal Marks of East India :—

MYSORE.

	0	1	2	3	PB	T
Barguai Estate Mysore A ◇ ...		105-6	86-0	72-0	116-0	55-0
Do. do. R A ◇ ...		100-0	71-6	52-6	98-0	42-0
Cannon C ◇ B ...	116-0	90-6	61-0	—	115-6	65-0
Do. ...	117-0					
Murkull U ◇ Mysore ...		90-6	67-0	47-6	100-0	41-6
Do. do.		90-6	70 0	51-6	104-0	44-0
Do. do.		91-0				
Elliots' Mysore	85-6	62 0 bid	44-6	—	81-0 bid	46-0
Yelliemudloo Mysore ...		72-6 bid	55-0	45-0	85-0 bid	39-0
Leslie's Mysore	77-0 bid	53-6 bid	44-0	—	87-6 bid	38-6
Doobla Mysore		no bid	no bid	45-0	88-0 bid	39-6
Maynard's Mysore Devarakhan ...		70-0 bid	no bid	48-0	82-0	34-6
S ◇ Channahadloo Mysore ...		80-6	53-0	—	85-0	36-6
Maynards SM Mysore ...		72-0 bid	51-6 bid	44-0	83-0	32-0
Marthi Cannally Mysore ...		90-0	57-0 bid	—	103-6	36-0
Someswarkhan Mysore ...		80-0	no bid	—	no bid	32-0
Maynard's Mysore Hitlow Δ ...		83-0	58-0	40-0	97-0	41-0
Yester □ Mysore		74-0 bid	51-0 bid	35-0 bid	82-0 bid	34 0

	0	A	B	C	PB	T
Harlay Mountain Mysore	96-6	73-6	55-0	—	102-0	47-0
Mysore Chetenhulli	97-6	73-6	56-0	—	103-6	44-6
JP.& Co. ◇ Bibbenluke Mysore ...		86-0	66-6	—	98-0	39-0
Mockett G ◇ Mysore ...		107-6	88-6	69-6	117-0	57-6
Do do.			89-0			
Do. B ◇ do.		98-6	73-0	48-6	104-0	49-6
Yellagode Mysore	84-6	62-6	49-6	—	96-0	37-0
Archully Mysore	88-0	65-0	49-0	...	97-0	44-6
Goody Tota Mysore		85-0	62-0 bid	44-6	99-0	40-6
Clifford's Mysore Kerkie Coondah.		80-0	no bid	45-0	94-0	35-6
Do. Balehonnur		75-0	52-0 bid	42-0	95-0	38-6
Gubgull Mysore		80-6 bid	61 6	45-6	98-6 bid	43-0

COORG.

	A	B	C	PB	T
Craig's Eliza Coorg	92-6	67-0	47-0	104-6	47-0
Do. do.		68-6			
East's Coorg Cavery	86-0	66-0	—	101-0	46-0
Binny's Coorg Cannon Kadu ...	84-0	62-0	43-6	96-0	39-6
Do. do. Konadalum Kolli ...	80-0 bid	61-0	46-0	83-6	35-0
Konadalum Kolli Wudderhully ...	89-6	66-0	47-0	102-0	39-0
Do. do. ...		66-6			
Koorghully	95-0	75-6	51-0	103-0	47-0
Chisholm's Coorg Corringabetta ...	90-0	67-0	46 6	105-6	47-0
Muskelbora	90-0	68-6	48-0	105-0	48-0
Chisholm's Coorg Silpikadu ...	93-0	69-6	48-0	103-6 bid	46-6
Prater's Devarah Cadoo	90-0	68-0 bid	—	103-0 bid	43-6
Chisholm's Coorg Banangalla ...	86-6	59-0	45-0	92-0	41-0
JR Grove	93-6	70-0	47-0	104-0	48-0
Do		70-6			
MB Honeyvale Mysore	102-0	75-0 bid	53-0	104-0 bid	54-0

	A	B	C	PB	T
DBC Coorg	89-0	68-0	45-0	93-6	46-0
St. Edmund's Coorg	87-0	64-0 bid	—	103-0	43-6
Aynsley	89-0	67-0	48-0	103-0	47-0
Do.		68-0			
IM Netley Grant & Abbs	no bid	64-6	45-0	no bid	40-0
Cowerie Betta Coorg	90-0	65-6	43-0	101-0	40-6
Bajee Collie South Coorg	87-6	64-0	45-0	97-6	40-0
Arbuthnot's Yemmagoondi... ...	85-0 bid	62-0	—	97-0	40-0
Binny's Coorg Purchie Kadu ...	no bid	64-0	44-6	98-0	40-6
Abial Coorg	80-0 bid	58-0 bid	no bid	97-0 bid	37-6

	1	2	3	PB	T
Arbuthnot's Kembu Kollie	88-0	60-0	—	90-0 bid	40-0
Do. do. Coorg Java Estate ...	85-6 bid	62-6	—	90-0	43-0
Do. do. Ceylon Estate ...	85-6	62-6	—	90-0	43-0
F ◇ Dunkeld Coorg	88-0	65-0	46-6	90-0	37-0
CMM Korthikad	88-6 bid	62-0 bid	—	103-0 bid	40-0
AM Coorg	93-0	67-6	—	101-6	44-0
Mangles Suntagherry	86-0 bid	63-6	—	103-0	42-6
Wood Suntikoppa	91-6	69-0	—	102-0	42-6
Do. do.	91-0				
CT Coorg	88-6	65-6	—	99-0	38-0
Wood Suntikoppa	89-0	64-0	48-0	—	38-0
GMM Coorg Abial Δ Mountain ...	87-0 bid	64-0	—	101-0	43-0

NEILGHERRY.

	A	B	C	PB	T
Devon Nilgiri	80-6	56-0	45-0	80-0	40-0
Woodbriar Nilgiri	no bid	no bid	42-0	65-0 bid	30-0
Adderley	105-6	70-0	49-0	85-0 bid	38-0
Clyffe Nilgiris	no bid	48-0	43-0 bid	no bid	33-0
Lower Droog	71-6	56-0	45-6	62-6	33-0
Leighwood	67-0 bid	49-0 bid	43-0	76-6	34-6
Nilgiris Nellakotta	no bid	no bid	44-6	80-0	35-6
JM ◇ Woodlands Nilgiris	68-0	47-6	37-6	65-0	26-0
Koterghery F. C.	90-6	60-0 bid	47-6	85-0	31-0
Chengal	80-0	53-6	45-0	70-0	32-0
JM ◇ Oland Nilgiris	55-0	45-0 bid	42-6	—	29-6
Fairfield Nilgiris	no bid	46-6 bid	43-0	no bid	30-0

NELLIAMPATHY.

	A	B	C	PB	T
Wallia Warrum	87-0	62-0	44-0	96-0	38-0
Chundra Mulla Nelliampathies ...	80-0	59-0	46-0	78 0	35-6
Nelliampathy Monkwood	78-0	58-0	—	80-6	35-6
Pootha Coolie	no bid	no bid	no bid	—	35-0

NAIDOOBATUM.

	A	B	C	PB	T
Glenvans	86-0 bid	62-0 bid	—	85-0 bid	36-0 bid

PULNEYS.

	2	3	PB	T
A & Co. Iyencoil	57-6	61-6	90-6	43-0

WYNAAD.

	A	B	C	PB	T
Chulika	73-6	51-0	45-0	85-0	34-6
Do.	75-0	54-6	47-0	86-6	36-0
Walter's Estates Touramulla ...	68-6	53 0	44-0	92-6	39-0
Do. do.	69-0	53-6			
Moyaar Estates	89-0	68-0	50-6	99-0	41 6
Vangacotta	70-0	50-0	43-6	86-6	32-0
Mootilpeak	82-0	59-6 bid	—	90-0 bid	42-6
Perinda Methel	75-0	57-0	47-6	83-0	34-0
Andatode	66-0	51-0	35-0	81-0	35 6
Nedikarna	73-0	50-0	—	80-0	0
Tulla Mulla Peak	76-6	57-0	46-6	91-0	37-0
Do. do.	76-0				
Moopanaad	75-0	53-6	—	60-0	35-0

TEA.

Indian.—Public sales were rather heavier, amounting to 45,400 packages, compared with 41,800 packages in the preceding week and 35,300 packages a year ago.

There was again a good enquiry for leafy kinds under 8d per lb., which ruled firm to occasionally dearer, the supply of these available being apparently barely sufficient for the current requirements of buyers. Medium to fine Pekoes and Broken Pekoes were not in so much request and were at times easier, particularly in the case of the latter which look comparatively cheap at present rates. Finest grades were somewhat neglected, dealers' attention being principally engrossed with the lower descriptions.

A fair selection from South India was included in the catalogues, quality being generally of a useful character, many of those from Travancore possessing colory liquors.

Deliveries for February are satisfactory, being 11,931,000 lbs., against 11,0[illegible]3,000 lbs. last year, thus indicating an increase for the eight months from 1st July, 1898, of 10½ million lbs. over those of the corresponding period of 1897-1898.

For 33,200 packages on estate account 9d per lb. was obtained, contrasted with 8d per lb. for 26,700 packages and 9½d per lb. for 26,900 packages in the two previous seasons.

Ceylon.—A large quantity passed the hammer, totalling 20,400 packages whereas on the 21st ult., 14,100 packages were catalogued, but at this time in 1898 there were 32,200 packages brought forward. Choice flavoured parcels over 1s per lb were sparsely represented; quotations however did not mark much change. For medium Broken Pekoes with serviceable infusions there was more demand and some recovery in prices took place over 9d per lb. Medium to fine Pekoes and Orange Pekoes as a rule sold dearer, while common to fair Pekoe Souchongs and Pekoes in sympathy with other growths further advanced in most instances ¼d per lb.

Owing to the small proportion of the upper lines the average remains as on the 23rd ult. viz., nearly 8¾d per lb. In 1898 it was rather under 7½d per lb.

During February auctions comprised the following:—

1899.	1898.	1897.
73,300 packages	100,100 packages	84,500 packages
(Avge. 8½d per lb.)	(Avge. 7½d per lb.)	(Avge. 8¼d per lb.)

Java.—Rather over 1,000 packages of direct import were put out on the market. Bidding was brisk and fully prior values were secured.—

In the month offerings were:—

1899.	1898.	1897.
6,100 pkgs.	2,800 pkgs.	4,500 pkgs.
(Avge. 7¼d per lb.)	(Avge. 6¼d per lb.)	(Avge 6d per lb.)

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns were:—

From 1st to 28th Feb., 1899 ... ... 16,989,558 lbs.
„ „ 1898 ... ... 15,926,157 „

During the week the following have been printed for sale by public auction:—

	Sold.	Withdrawn.	Total offered.
	Pkgs.	Pkgs.	Pkgs.
India	38,826	6,545	45,371
Ceylon...	19,453	970	20,423
Java	1,000	12	1,012
Total ...	59,279	7,527	66,806

Also 964 packages from second hands.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report of March 3rd, 1899, states:—

QUANTITY BROUGHT TO AUCTION IN LONDON
From 1st June to Date.

	Indian.	Ceylon.	Java.
1898-1899.	1,335.247 pkgs.	848,983 pkgs.	35,566 pkgs.
1897-1898.	1,296,478 „	908,946 „	30,489 „

46,346 pkgs. Indian
20,940 „ Ceylon
1,012 „ Java
} Total 68,298 packages were offered in public auction this week.

Clearances of Indian Tea were lbs. 900,000 above February last year, and have now brought up the excess in Indian deliveries, from the commencement of the season, to lbs. 12,000,000.

Indian.—The late advance was maintained for all Teas up to 7½d.; above this price, weakness was noticeable, except for choice descriptions. The Official Wire gives export to the United Kingdom for the second half of February as lbs. 778,000, against lbs. 930,000 same month '98, making total from 1st April to end of February of lbs. 134,715,000, against lbs. 133,350,000.

Week's average of Tea sold on Garden Account 1899, 33,544 pkgs., av. 8·97d. 1898, 26,911 pkgs., av. 8d.

	Week Sales. 1899.		Week Sales. 1898.		1st June to date. 1899.		1st June to date. 1898.	
	Pkgs.	Price.	Pkgs.	Price.	Pkgs.	Price.	Pkgs.	Price.
Assam ...	13375	10·32	11941	9·48	488095	10·05	459966	9·95
C'ch'r & Sylhet.	10711	7·75	7299	6·56	231759	6 54	253809	6·96
Chittagong ..	—	—	—	—	2984	7	5383	7 19
Chot' N'gpor' ...	122	6·62	155	5	1461	5·75	1640	5 03
Darjeeling ...	1295	10·81	969	9·54	71416	10 82	63720	11·04
Dooars ...	5309	8·39	3704	7·18	131069	7·54	117381	7·50
Kangra, etc. ...	44	6 50	230	6·44	6959	6 81	7784	7·23
Neilgherry ..	262	7·69	250	6·32	6160	6·89	5590	7
Terai ...	498	8 41	637	7·18	12953	6·72	19879	7·20
Travancore ...	1928	7 23	1726	6·06	32956	6·40	26922	6·42

Ceylon.—A further slight advance has taken place in Teas up to 7½d with very strong competition, while medium and good Teas showed a somewhat firmer market than last week. The Official Telegram gives exports to U.K. for February as lbs 7,750,000, against lbs. 6,750,000, making the total from 1st January to end of February as lbs. 14,500,000, against lbs. 14,750,000, and estimates the quantity for March as 8 to 8½ millions. Average for week 8·57d., against 7d, same week 1898.

Java.—Quotations were fully up to those of last week, common Teas being if anything a shade stronger. Some fine Teas from "Calorama," grown from Assam seed, realised high prices. 9,000 packages are advertised for sale in Holland on the 9th March.

Bank Rate 3 per cent. Exchange on London three months-sight:—Calcutta 1/4 5/32. Colombo 1/4 5/32.

COCOA.

Offerings at Tuesday's public sales summed up 5,860 bags, which again experienced a good demand, 4,100 bags being quitted at generally full prices. Of 2,082 bags Trinidad catalogued about 1850 bags sold at valuations—75s 6d to 77s 6d for fine to superior red, 72s to 75s for middling to good, 70s to 71s for ordinary, 69s for weathered, pickings 60s to 65s 6d. Of 534 bags Grenada offered 440 bags found buyers at 70s 6d to 72s 6d for good to fine red, and 68s to 70s for middling to fair, showing no appreciable alteration. 33 bags Dominica brought 68s, and 47 bags good fermented Jamaica 71s 6d, whilst 22 bags good pale St Lucia realised 69s to 70s, these prices likewise being steady. 13 bags Tobago were placed at 69s 6d to 71s 6d. and 31 bags Surinam at 69s 6d. 400 bags Guayaquil sold at about recent rates—72s for Winter Arriba. 71s to 73s 6d for Tenguel, and 70s for grey Caraquez. 2 bags common African sold at 64s. Ceylon went somewhat irregularly, but the general range of values showed little change; 1,994 bags catalogued, and 1,260 bags sold—good to fine bold and medium red 72s 6d to 79s 6d, fair ditto 69s to 70s grey medium and small 65s 6d to 66s, pickings 56s to 67s 6d per cwt.

PEPPER.

Black.—A firm market this week but not much business done. Sellers standing out for a further advance About 100 tons Singapore are reported sold—at 5 5/16d to 5 3/8d for fair on the spot, at 5 19/32d for March-May shipment, and at 5⅝d to 5 21/32d for April-June.

The shipments of Black Pepper for the month of February compare as follows:—

	1st half. 1899.	1st half. 1898.	2nd half. 1899.	2nd half. 1898.
U.K.–Sing ... 50	75	230	50	125	60	180
„ Penang... 25		*nil*	75		120	
Continent	30	40	140		130	
United States... ...	150	*nil*	*nil*		40	
Total tons ...	255	270	265		350	

There were no offerings at Wednesday's public sales.

White is quiet, with sales of 70 to 80 tons, including Singapore on the spot at 8¾d to 8 13/16d for fair, and March-May steamer at 9d; Penang on the spot at 7⅞d, and March-May and April-June shipment at 8¼d per lb.

At auction on the 1st inst. of 388 bags Singapore offered only 12 bags sold at 9⅛d for bold dullish. 8 bags Penang realised 7¾d per lb.

GINGER.

Cochin.—Catalogues embraced 198 cases 891 bags which experienced a desultory enquiry. 18 cases 180 bags selling at a decline of about 3s on new crop cut, whilst washed, of ordinary quality, was also cheaper. Good bold with some medium cut and scraped new crop realised 80s, and small cut ditto 35s; bold, some medium roughly cut wormy old crop 61s, small cut ditto 20s 6d to 24s 6d.

according to proportion of worm eaten; rather dull and leanish medium and small washed rough (July, 1895 import) 23s, ordinary lean medium and small rough, wormy, 19s 6d, and bold but wormy cuttings 17s per cwt.

Jamaica in good demand at somewhat irregular rates.

VANILLAS.

At auction yesterday 1,251 tins (a record quantity) were brought forward, the great bulk consisting of new crop Seychelles. A strong demand prevailed, the home trade being the chief buyers, and 1,180 tins sold in the room at fully valuations for fair to fine quality beans, whilst ordinary and common brought some advance. The following are the prices realised:—Seychelles, good to fine, 8 to 9 inches 25s 6d to 27s; fair to good, 7 to 8 inches 21s to 24s; good, 6½ to 7½ inches 21s to 23s 6d; fair to good fresh, 6 to 7 inches 20s to 22s, 5 to 6½ inches 19s to 22s, 3 to 5½ inches 18s to 21s 6d, 5½ to 7 inches 20s to 23s; fair to good split, 4½ to 7½ inches 17s to 22s; reddish, 5 to 7 inches 14s to 18s; red, 3 to 7½ inches 11s to 16s; common to ordinary red and split, 3½ to 7½ inches 10s to 16s; cut ends 14s to 19s; loose, very common 8s 6d to 9s. Mauritius, good fresh, 7 to 8 inches 23s 6d to 24s, 6 to 7 inches 22s to 23s 6d, 5 to 6 inches 21s 6d; split, 4½ to 8 inches 18s 6d to 21s 6d. Split Bourbon, fair, 4½ to 5 inches 22s to 23s. Fair Tahiti 10s 6d per lb.

CARDAMOMS.

A sale was announced for yesterday but did not come off. Business privately has been confined mainly to good seeds at 2*s.* 9*d.* per lb. and a few lots of ordinary pods at last sale rates. Fine Ceylon Mysores are still in request, but none is to be had even at the high rates offered.

INDIA RUBBER.

Prices for Pará kinds have advanced during the week with few sellers and rather strong demand for covering 'bear' sales. About 100 tons fine hard and soft up to 4s 3d, distant delivery at 4s 3¼d; large sales of scrappy negroheads at 3s 7d and buyers, Cameta negroheads 3s 0½d per lb.

At auction to-day:—

Pará.—20 packages sold, coarse enterfine 3s 10d to 4s 0¾d, scrappy negroheads with some virgin at 3s 8d.

Molledo higher; 7 packages sold, fine at 4s 1½d, enterfine at 4s 0¾d, negroheads at 3s 6¾d.

Mattogrosso sells readily. 375 packages sold—virgin slab at 3s 10d, negroheads, ordinary to good 3s 2½d to 3s 4¼d.

Mangabeira.—In active demand. 39 packages sold—fair middling sheet 2s 5½d to 2s 6¾d.

Bahia—Fair to good 2s 5¼d to 2s 5¼d, ditto inferior 2s per lb.

Mozambique sells readily at high prices. 119 bags sold—good red ball at 3s 7¼d, mixed white ball 2s 6d, fine niggers at 3s 4½d. Lamu ball, fair to good 3s 3½d to 3s 4¼d per lb.

Nyassaland.—Good clean red ball 3s 5½d, ditto a little sandy 3s 3½d.

Penang.—188 packages offered and 55 sold—selected red firsts 2s 11½d to 3s 2¾d, ordinary white firsts 1s 11d, very good pickings 1s 4¾d, ordinary pickings 1s.

Borneo held too high. 48 packages offered and a little fair but mixed sold at 1s 10d per lb.

CINCHONA BARK.

2,608 pkgs. were catalogued at yesterday's auctions, divided as follows: 443 bales Ceylon (335 sold); 1,241 bales 55 cases East Indian (794 bales sold); 380 bags 40 bales Java (all sold); 208 pkgs. South American (102 sold), and 235 bales African (all sold)

There was a strong demand, and much higher prices were realized, the advance on last London sales being fully 50 per cent; we now quote the unit value at 1⅜d. to 1 7/16d., against 1 5/16d. to 1d. at the January sale. The shipments of Java Bark for February are only 539,000 lbs.

At the second London auctions of the year held on Tuesday nine brokers offered supplies amounting to 2,608 packages (1,911 in January), made up as follows:—

	Packages offered.		Packages.
East Indian cinchona...	1,296	of which	828 were sold.
Ceylon cinchona ...	442	„	334 „
Java cinchona... ...	420	„	420 „
African cinchona ...	235	„	235 „
Cuprea cinchona ...	140	„	54 „
Bolivian-Calisaya cinchona	42	„	42 „
Cartagena cinchona ...	26	„	26 „
	2,601		1,939

There was a good competition, and the prices obtained were about 10 per cent. above the recent Amsterdam sales. The average unit was 1¼*d.* to 1⅜*d.* per lb., against 1 5/16*d.* to 1*d.* at the last London sale. Cinchonidine-yielding barks realised in some instances much higher prices than those paid in Amsterdam, and 1½*d.* may be put down as the unit for good Succirubra.

The following figures represent the approximate amounts of bark purchased by the principal buyers:—

	Lbs.
Mannheim and Amsterdam factories	221,966
Messrs. Howards & Sons	69,143
Brunswick factory	68,980
American and Italian works	31,864
Frankfort and Stuttgart factories	13,030
Imperial Quinine factory	3,172
Druggists, &c.	8,830
Total quantity sold	416,985
Bought in or withdrawn ...	160,297
Total quantity offered	577,282

The following prices were paid:—

South American.—Bolivian cultivated calisaya, fine quill, 7⅝*d.* per lb. Cartagena, bold flat, 4½*d.*; damages, 4*d.* to 4⅜*d.* Cuprea (imported August, 1884), 1¾*d.* to 1⅞*d.* per lb.; ditto (imported August, 1884), 2*d.* For 6 bales of soft Colombian 2⅜*d.* per lb. was bid and refused, the parcel being bought in at 3¼*d.*

Java.—Good rich natural Ledgeriana stem chips, 8⅛*d.* to 8¾*d.*; fair to good, 6¾*d.* to 7½*d.*; fair, 4⅞*d.* to 6¼*d.*; branch at 3¼*d.* to 3¾*d.*, root at 5½*d.* to 7¼*d.* per lb.

African, fair bold chips, 6⅝*d.* to 7¼*d.*; broken quill and chips, 5⅜*d.* to 6⅜*d.* per lb.

Ceylon.—Officinalis, good renewed quilly chips and shavings, 4¼*d.* to 5¼*d.* per lb. Succirubra stem chips, 3*d.*; renewed ditto, 3⅜*d.* to 4¾*d.*; good root, 4*d.*; Ledgeriana original stem chips, 6⅝*d.*; and hybrid renewed chips at 4⅝*d.* per lb.

East Indian.—Ledgeriana, fair to good chips, 4⅛*d.* to 5*d.*; ditto renewed, 5⅜*d.*; good broken quill and chips, 3⅛*d.* to 3¼*d.*; stem and chips, 5*d.* to 6¾*d.*; and root, 5½*d.* Crown chips, 5⅛*d.*; renewed ditto 3¼*d.* to 6⅛*d.*; stem and chips, 1⅝*d.* to 4⅛*d.* per lb.

The highest price ever paid for bark in the London market, according to Messrs. Woodhouse, was in 1877, when some renewed officinalis bark from the Nilgiris plantations was sold at 15*s.* 8*d.* per lb.; supposing this parcel to have contained 6 per cent. of crystallised sulphate of quinine the value of the unit would have been at that time over 2*s.* 6*d.* per lb.! As late, however, as the year 1880 considerable quantities of bark were sold at about 2*s.* per unit per lb. From that time the market has been steadily declining until the lowest point was reached in January, 1897, when the public sales in Holland sold at an average unit of 2.12c. per ½-kilo (equivalent to under ½*d.* per lb.). In 1877 Howard's quinine (in bottles) was sold at 15*s.* per oz.; on December 31, 1878, their quotation was 12*s* 6*d.* per oz.; on December 31, 1886, 2*s.* 6*d.* per oz; falling by degrees in sympathy with bark till the lowest point was touched in 1897, when business was done at 10*d.* per oz.; at this time sales of German quinine (best marks) were made at 7½*d.* to 8*d.* per oz.—the lowest price on record.

The arrivals of Java bark in Amsterdam last week amounted to 1,1•8 packages; and the total shipments from Java during February were 539,000 Amsterdam lbs., making a shortage for the two months of 700,000 lbs, compared with last year. The following are the totals in Amst. lbs. for the last four years (January and February):—

1899	1898	1897	1896	1895
1,048,800	1,656,000	876,000	1,516,000	1,413,000

Since the auction there has been rather eager buying by manufacturers (especially B. & S.), who have paid from 10 to 20 per cent. above Tuesday's prices for bark on the spot. In all cases immediate delivery has been stipulated. The Amsterdam sales to be held on March 23 will be small; the offers being 4,293 packages of Ledgeriana and other manufacturing barks, and 2,553 of druggists' barks. These 6,846 packages are part of the total stock of 9,231 packages held in Amsterdam on March 1 (2,738 Government bark, and 6,498 private) The deliveries during February amounted to 4,700, and the imports 3,000 packages. In regard to the stock in London (19,257 bales) only 6,766 bales are manufacturing bark, and more than 8,000 of the balance are fit for manure.

Amsterdam Bark Market.—At the bark auctions to be held on the 23rd inst. a total of 6,846 packages will be offered. Including this amount the Amsterdam stock of bark in first-hands, on the 1st inst., was 2,738 packages of Government bark, and 6,493 packages of private bark, or a total of 9,231 packages. We give the shipments from Java for the month of February, and the two months January, February, of the last seven years, stated in English pounds.

	1893.	1894.	1895.	1896.	1897.	1898.	1899.
Feb., lbs.	388,255	500,920	826,875	597,170	498,750	765,625	589,505
Jan.-Feb.	1,153,880	1,484,210	1,545,460	1,669,045	925,995	1,811,220	1,147,125

CINCHONIDINE.

Firm, as is to be expected from the state of the quinine market. Holders of what small supplies are available on the spot are inclined to refuse business until the market warrants materially higher prices. As a rough quotation 8*d.* is given as representing the value to-day. It is not likely that any buyers will pay this price at the moment.

QUININE.

Firm, with sales of 30,000 ozs. best German makes—at 1s to 1s 3¼d spot, and 1s 3½d May delivery.

The *Chemists and Druggist* of 4th instant remarks:—Quinine h recovered from the inactivity of last week, and on Monday t market opened with a good speculative demand, about 30,000 changing hands on that day at 1*s.* 1⅞*d.* per oz on the spot, Ap at 1*s* 1⅞*d.*, and May at 1*s.* 2*d.* After the London bark-sales Tuesday the market was again animated, and about 70 000 oz. so at 1*s.* 1⅝*d.* to 1*s.* 2½*d.*, and May delivery at 1*s.* 2¼*d.* to 1*s.* 2⅝ Yesterday 1*s* 3*d.* spot and 1*s* 3⅛*d.* to 1*s.* 3½*d.* May-June were pa the sales and resales amounting to about 200,000 oz., and B. & advanced their price by 1*d.* to 1*s.* 3*d.*, which is also Brunswick a Zimmer's price. Whiffen is selling to consumers at 1*s* 2*d.* Freu quinine sulphate (guaranteed B. P.) is selling at 1*s.* 1*d.* Busine has been done to-day at 1*s.* 3⅜*d.* for May, and 1*s.* 3½*d.* is n wanted. Spot has sold at 1*s.* 3¼*d.* The operations of speculato this week have come to 500,000 oz, or thereabouts. It will noticed that the imports of quinine during February and the sto on February 28 were exceptionally large—in fact, there is mo quinine in the warehouses just now than there has been for fo years.

Movements of Tea in London (in lbs.) during February from Tea Brokers' Association figures.

	Imports.			Deliveries.		
	1899.	1898.	1897.	1899.	1898.	1897.
Indian ...	9,723,847	9,672,378	10,302,366	11,930,766	11,063,461	10,981,048
Ceylon ...	6,117,758	7,849,644	8,037,412	6,731,522	6,871,704	6,975,894
Java ...	332,500	181,230	253,960	277,130	245,700	159,390
China, etc. ...	346,246	1,327,437	1,166,311	2,353,731	2,907,092	3,350,999
Total lbs. ...	16,520,351	19,030,689	19,760,049	21,293,149	21,087,957	21,467,331

From 1st June to end of February.

	Imports.				Deliveries.		Stock.		
	1898-9.	1897-8.	1896-7.	1898-9.	1897-8.	1896-7.	1899.	1898.	1897.
Indian ..	128,123,454	126,700,648	122,799,386	106,737,331	94,855,581	94,125,298	59,459,911	64,080,279	55,424,6
Ceylon ...	69,076,186	70,908,142	68,569,628	68,843,106	72,565,748	68,048,636	17,226,374	11,295,574	16,078,5
Java ...	2,578,090	2,467,220	2,537,640	2,507,050	2,689,470	2,856,140	718,620	529,970	669,2
China, etc. ...	26,260,627	30,447,219	32,142,221	22,551,237	25,279,308	30,792,902	15,560,654	18,171,250	20,988,9
Total lbs. ...	226,038,357	230,523,229	226,048,875	200,638,724	195,390,107	195,822,976	92,965,559	101,077,073	96,161,3

(Average for all India 8·97d.) *March 3rd.*

Garden.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dus and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price
Neilgherry ...	**262**	**7·69**												
Dunsandle ...	75½c	6½	...	...	.	...	..	...	75½c	6¼ 6½	...	...	...	...
Pykara Falls ...	135	8¼	...	..	57	8	35	9½	27	7	.	...	16	8
„	52	7	...	...	...	...	...	...	52	7	...	...	..	..
Travancore ...	**1928 p**	**7·23**												
BonAccord ...	123 p	7½	...	...	44	7½	44	8	18	6¾	...	...	17 p	5½ 7
Braemore ...	108 p	7¼	...	...	49	7¼	27	7¾	...	...	18	6¾	14½c	5¾ 6
Cherian Malay ...	117 p	7	21	7½	36 p	7 7½			10	6¾	...	...	50½c	5 6
Fairfield ...	85	7¾	...	..	37	7¾	26	8¾	7	7	10	6¾	5	6
Glenmary ...	80	8¼	49	8¼ 9¼	22	7¼	...		...	...	...	...	9	8
Goatfell	135	6¾	..	...	69	6¾ 7	36	7½	29	6	...	...	1	4
Great Valley ...	78½c	6½	...	...	43½c	6½	29½c	6¾	...	...	4½c	5½	2½c	4
Kanan Dev. Hil. An.	83½c	9¼	...	...	30½c	8½	53½c	9½	..	...	...	...	...	
Kinmylies ...	34½c	7	..	..	31½c	7		...	2½c	6¼	...	...	1½c	4
Mahandragherry	45½c	6¾	...	.	35½c	7	...	...	8½c	6¼	1½c	5½	1½c	4
Merchiston ...	53 p	7¼	16½c	8½	24	7	9½c	7¾	...	...	...	...	4½c	5
Penshurst .	144	7½	72	7¾ + 8¾	38	7¼	...	...	20	7	...	...	14	6
Poonmudi ...	133 p	7¼	34	7¾	52	7	18	8	22	6½	..	...	7½c	5
Riviera ..	72 p	6¾	..	...	41	6½	20	7¼	...	...	6	6	5½c	4
Stagbrook ...	24 b	10	24 b	10	.	...	...	...	...	...	...	...	...	...
Sth. Trav. Co. Ven L.	123	7¾	..	...	50	7¾	42	8¼	23	7	...	...	8	6
„ „ M.	100	7¾	...	...	51	7¾	27	8½	22	6½	.	...	...	...
S.I.T.Co. Kuduwa K.	80 p	8	58	8 8¾	...	...	...	..	3	6¼	...	...	19 p	6 +
Trav. T. Est. Bon. A.	120 p	7¾	...	...	48	7¾	30	8¼	...	...	...	...	42	5½
Vembenard ...	95	8	...	...	31	8	37	8¼	12	7½	8	7¼	7	
Wallardie ...	96	7½	...	...	23	7	50	8¼	15	6¾	2	6	6	

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SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 7th instant. Season reports should be sent direct to the Printers, Messrs. HIGGINBOTHAM & Co.

BRAZILIAN COFFEE.

Mr. R. E. Johnston writes to the *Grocer*, that though there is no doubt about the abundant supply of coffee, nor about its cheapness, he is afraid that there is small chance that the United Kingdom will share in the anticipated increase in consumption, so long as the retail prices for pure coffee remain what they are, and so long as people are repelled from drinking coffee by the mixtures which are sold in its place. The fact is that Brazilian coffee goes in comparatively small quantities to the United Kingdom, the United States taking the bulk. Nevertheless the price of Brazilian coffee is a factor of the utmost importance, as it regulates the price of all low-grade coffees, and no doubt affects the value of some of the medium-to-good grades also. The following table shows the production of coffee in Brazil and in the world since 1874, and the average price taken at Havre:—

Crop.	Brazil.	Other.	Total.	Per 50 kilos.
1874-75 (bags of 60 kilos.)	3,843,600	4,295,400	8,139,000	103 fr.
1875-76	3,505,800	3,679,200	7,185,000	106
1876-77	3,294.000	4 520,000	7,814 000	101
1877-78	3,498,200	4,017.800	7,516,000	96
1878-79	4,718,000	4,20 ,000	8,918,000	76
1879-80	3,172,000	5,413,000	8,585,000	84
1880-81	5,553,000	4,205,000	9 758,00	75
1881-82	5,562,000	4,829,000	10,391,000	57
1882-83	6,711,000	5,369,000	11,080,000	50
1883-84	5,056,000	4,711,000	9,767,000	62
1884-85	6 211,000	5,229 000	11,440,000	52
1885 86	5,532,000	3,956,000	9 488,000	48
1886-87	6,129,000	4,183,900	10 312,000	81
1887-88	3,006,000	4,071 000	7,077,000	94
1888-89	6,735,000	3,863,200	10,598,300	97
1889-90	4.220,000	4 438 200	8,658 200	103
1890-91	5,308,000	3,989 000	9 297.000	109
1891-92	7,376,000	4,482,000	11,858,000	91
1892-93	6,193,000	5,090,000	11,283,000	97
1893-94	4,307.000	4 895,000	9.202,000	103
1894 95	6.689,000	4,947,000	11,636,000	94
1895-96	6,250.000	3,944,000	10,194,000	90
1896 97	8,680,000	3.928,000	12,608,000	61
1897-98	11,110,000	4,600,000	15,710,000	39

The average price in April, 1898, was 35 fr. 50c.; in May 36 fr. 25c.; in June, 36 fr. The highest prices ever reached, were 123 fr. and 120 fr. at the end of 1887, and the lowest monthly average previous to 1897-98 was 46 fr. during 1885-86. Of the other coffee-producing countries the production of the East Indies, including Ceylon, has fallen off from 1,079,000 bags in 1895-96 to 972,000 bags in 1896-97. Central America shows a slight increase from 2,865,000 bags in 1895-96 to 2,956,000 bags in 1896-97.

A consular report issued a little time ago said:—"The crop of 1898 promises to be smaller than that of 1897, but the stocks in Europe and in Brazil being so exceptionally large, it may be many months before, owing to diminished production, prices can recover." Since then, however, estimates have been 'growing' and though the Brazilian estimates appear to be lower for 1898-99 than for 1897-98, outsiders are beginning to fear that large supplies are being held by Brazilian producers "up their sleeves." Statistics of export up to February 3rd, 1899, are as follows:—

	Crop to February 3rd			
	No. of bags.		Value.	
	1897-98.	1898-99.	1897-98.	1898-99.
			£	£
Rio	2,870,647	2.105,945	4,803,877	3,284,487
Santos ...	4,206,846	3,935,325	7,619,032	6,506,335
Total ..	7,077,493	6,041,270	12,422,909	9,790,822

Deliveries in the United States have fallen off from the high figures of 1897-98, and prices in that market have taken a downward turn. The total visible supply of the world on February 1 was 6.558,114 bags, against 6,031,474 bags at corresponding date in 1898—an increase of 526,640 bags.

The *American Grocer* remarks:—"From the present outlook the Brazil crop of 1898-99 will yield 8,500,000 to 9,000,000 bags, making a total in three years of about 28,000,000 bags, or an average of 9,333,000 bags. During this period the visible supply or reserve of the world has risen from 2,588,193 bags on July 1, 1896, to 6,558,114 bags on February 1, 1899; so that a deficiency of 2,000,000 bags in the 1898–99 crop, as compared with 1897–98 is more than made good by the increase in the world's supply." The *cause* of the recent drop in values of 'futures' in New York can scarcely be the statistical position of the commodity and nothing more. Latest advices from Brazil lead us to fear that exporters there are again reaping a harvest from a slump in exchange. So long as they are thus favoured production will be stimulated and prices will have a tendency to fall. It is worth noting that in the face of low prices, in the face, too, of statistics as to an abnormal 'world's supply' and an almost stationary level of consumption, the *Reporter of Ribeirão Preto* considers the future of the coffee industry hopeful and incites planters, especially those of the district of Ribeirão Preto in the following terms:—"We advise planters of Ribeirão Preto to courageously continue the cultivation of coffee in this district, more especially as the soil here is more adapted for it than elsewhere and for this reason will be the last place to suffer by the fall in prices. It would be folly, therefore, to abandon such a profitable culture for others which are here generally inferior to those produced elsewhere"

INDIAN TEA IN THE UNITED STATES.

The interim report of the American and Foreign Tea Committee of the Indian Tea Association (London), which is given on another page, derives its chief interest from the reference it makes to Mr. Richard Blechynden's report, dated 10th January 1899. This report was given in our last issue. It showed that excellent work had been done, that not only the sympathies but also the practical co-operation of various firms in America had been secured, and that Mr. Blechynden was sanguine that Indian and Ceylon teas might expect to meet with increasing demand in the States. There is certainly nothing in the report that would lead us to suppose that Mr. Blechynden considers that he has accomplished the work he set his hand to. Hopeful as he is, the whole tenor of his remarks leads us to the belief that he considers there is still a great deal of hard work to be done. However, the American and Foreign Tea Committee of the I. T. A. holds that "a trade has now been established which may be expected to continue to increase." In the opinion of the Committee, the work Mr. Blechynden has been engaged in during the last five years has been productive of much benefit to the industry and has been well performed, *but*,—"there are now so many well-established and powerful agencies at work in the United States and Canada, whose interest it is to push British grown tea . . . that the Committee consider the further expansion of the trade may safely be left in their hands, and that it is not necessary to continue a special agency for the propose." The Committee intends, in fact, to give more attention in future to the other new markets for British teas that are opening out on the Continent, particularly in Russia and France, and especially in connection with the Paris Exhibition in 1900. Money will still be required, so the Committee recommends "that a levy be raised in Calcutta on the same lines as before,

but on the understanding that the funds shall be employed to push Indian teas in any part of the world and not in the United States only.

No doubt, the Association knows its own business best, and if it adopts the report of the above Committee, we must assume that it has good reason for doing so. Yet it is only fair to say that there is absolutely nothing in the reports hitherto published that, in our opinion, justifies the proposed cessation of a special campaign in America, especially at a time when people interested in Japan teas are beginning to manifest special activity. We neither think that Indian tea has established a permanent connection in the States on a sufficiently broad and sound basis, nor that the new plan of pushing in various markets simultaneously will meet with the success that has attended concentration of effort. Time alone can show, however, whether this view is a correct one, or if the Committee referred to is right in recommending that Mr. Blechynden's services in America be dispensed with at the close of his present agreement, in (we believe) May next.

TEA IN CANADA.

Mr. R. G. Pineo has returned to Colombo after several years' absence, part of the time having been spent in Canada. He has been promptly interviewed, and what he says may be summarised thus:—He is representing tea buyers in Canada, and will buy solely for the Canadian market. He is the first Canadian representative in Colombo, and contemplates staying in the island permanently. Ceylon tea is coming largely into consumption in what are known as the maritime provinces of Canada. The consumption there is much larger than in the upper part of Canada, where they are accustomed to drinking Japan and China teas, which are pushed in the upper provinces through British Columbia. Around Montreal and Quebec a great deal of coffee is drunk, there being so many people of French descent in that district. The consumption of Ceylon tea is increasing very considerably in the lower provinces. Generally speaking, Ceylon tea is used alone, and they go in for the lower grades. Their taste is changing, however, and he thinks that in time they will prefer medium grades. They like leafy teas best, such as Pekoes and Pekoe Souchongs. The traders are very reluctant to let Ceylon become popular amongst the people, considering that the profits on China and Japan are greater than on Ceylon. The idea is that one pound of Indian tea displaces two and a half pounds of China and Japan tea, as it goes so much further, and so here the trade suffered a loss.

While on this subject, we may remark that Mr. Wm. Dallas, of New York, has challenged a statement of the "Salada" Tea Company to which reference was made in our last issue He says that the statement that there is no system of bonded warehouses in the United States and that, consequently, American importers have had to store teas in Canada, is 'a gross misstatement of fact.' Up to the time teas were declared free by the United States Government, there was, he states, a perfect system of bonded warehouses at all ports of entry in the United States, and this system still continues, as there is a large import to the United States of dutiable goods, which, on arrival, is entered in bond and held in bond until the importers desire to pay the duty. When the duty was imposed last June, and up to date, the United States tea importers had the same privilege as other importers of dutiable goods. They can either pay duty on arrival or warehouse in bond and withdraw the teas by paying the duty as desired, and they are not compelled to pay the duty on the entire lot, but in quantities to suit their sale.

THE SELANGOR PLANTERS' ASSOCIATION.

Extracts from the 6th Annual report of this Association appear in our present issue. They show that in the matter of coffee prices the S. P. A. has arrived at much the same conclusion as the coffee planters of South India have lately given practical effect to. The report says:—"the lower price which our coffee has been fetching, without, as far as we have been able to ascertain, any appreciable corresponding advantage to the consumer, has naturally led planters to consider the possibility of supplying the public with the prepared article 'direct from the plantations' and appropriating to themselves some of the profits of the middleman." If we mistake not, it was, indirectly, on the initiative of a member of the Selangor Planters' Association that action was taken in South India, though the object of the new movement here is not so much to appropriate some of the profits of the middleman, as to stimulate the consumption of coffee. Another section of the Selangor report deserves to be specially noted. Every word of the following should be well weighed by local planters:—"The maintenance of a high standard of excellence, combined with the greatest economy in production, are questions of vital importance if the coffee industry in this country is to successfully battle with the present crisis, and, realizing the necessity for a much closer acquaintance than you now have with the position of affairs in the Brazils, the crops from which country exercise so omnipotent an influence upon the markets of the world, your Committee propose to make immediate arrangements for the supply of regular and reliable information as to the prospects of the coffee enterprize in that country." We can but say, "Hear, hear."

OUR READERS' WISHES.

We issued blank post-cards to our readers, and received back a sufficient number to enable us to gauge the desires of the majority. The ballot resulted in a strong preference being given to our "Group A," the "order of merit" working out as follows:—

1. Practical papers on Planting.
2. Season and crop reports.
3. Scientific papers on Planting.
4. Correspondence.
5. Statistics, Market Reports.

As regards 'Group B,' short and serial stories and a section for ladies received hardly any support. "District affairs" found favor with a few, and Sporting with others, while some of our subscribers wrote very emphatically saying that these matters should not be within the scope of a planting journal. Sporting, it may be remarked, could only be properly treated if considerable expense were incurred. Reprints or paraphrases from the dailies would be useless; special reports, to be accurate and interesting,

would involve heavy expense, and this could only be met by an enhancement of the rate of subscription. Seeing that the voters for "sporting" are in a minority and that this matter really is beyond the range of *Planting Opinion*, we have decided not to touch it. District affairs will be taken in hand whenever reliable correspondents favor us with letters on the subject.

It is appropriate to mention here that we have arranged with a very well known South Indian planter to write for us a special series of papers treating of

Tea, from seed to cup.

We do not say that this is the title the papers will bear, but an attempt is to be made to give practical hints that would serve the beginner and enable him to take tea cultivation and manufacture in hand with the teachings of experience before him. It is hoped that when the details of cultivation and manufacture are touched upon, experienced planters will review and criticise and submit notes for comparison, so that a really useful record of Tea planting and manufacture in Southern India may be evolved. This is a matter in regard to which it will pay planters to be liberal. From one point of view it may seem as if we are asking men to assist in teaching men who are, or will be, their competitors. From another standpoint, it will be seen that anything that tends, directly or indirectly, to improve the quality, and thus to enhance the reputation, of South Indian teas will in the long run confer a benefit on all tea-planters in these parts. The strength of the planting community will always lie in union and co-operation.

PRIZE ESSAY.

THE LABOUR QUESTION.

The Past, Present, and Future Supply of Labour in the Wynaad.

THE PAST.

Whatever differences of opinion may obtain amongst the Planting community in Wynaad with reference to general questions relating to various branches of the Planting industry, absolutely none exist as to the paramount importance of a regular and sufficient labour supply upon coffee and tea estates, more especially on the latter, where any deficiency in this respect, would entail irreparable loss.

During the past fifty years, the conditions of the labour market have undergone various modifications in the Wynaad District.

From 1848—1858, but few estates were opened, these were generally scattered apart. roads, and communications were imperfect or non-existent, there were no local grain markets, hospitals or dispensaries, and but few Europeans had settled in the taluq, while the lands cleared for coffee plantations consisted almost entirely of blocks of heavy forest, in close proximity to the edges of the ghat range, or in the vicinity of the various passes connecting the tracks leading from the adjacent low country in Malabar, into the contiguous Mysore Province.

In the early half of this decade, the class of labour available for all the pioneer, as well as for the bulk of the other, work on estates, was mainly local, and consisted of the jungle tribes, or hill men, forming the aboriginal inhabitants of the plateau; known as Kooroombers, Kooreehas, Kardars, Moopers, Naikers, and Painers, with a sprinkling of Moplahs, from the low country: these people usually lived near, but not upon, an estate, while—more particularly during the latter half—Mysore-Canarese who were housed on the properties where they were employed, contributed their contingent to each estate's labour supply.

The style of culture on coffee estates up to the end of the Fifties, was less elaborate than at the present date, and excepting during the planting and crop picking months, the numerical strength of the labour employed on coffee estates was, relatively, far below the number which is deemed necessary to cultivate on modern lines.

As a rule, the "Hill men" were paid weekly, care being taken to conciliate them as much as possible by presents of tobacco, salt, &c., with an occasional sheep on high days and holidays; the daily wages then in vogue being two annas per man, and one and a half annas per woman for all classes, and, excepting in the cases of Canarese, advances to recruit such labour were not essential.

But about the year 1856 the daily wages paid to all labourers was increased to four and two and a half annas respectively.

With the rapid extension of the coffee industry, towards the close of "the Fifties", it became necessary in order to meet estate requirements, to enlist much larger gangs of Canarese from Mysore as well as Tamils from Coimbatore and Salem, together with "Coast labour"—comprising Cherumas, Kanakas, Nairs and Tiers, from Malabar; the Canarese having always shown a greater aptitude for ordinary estate work than the "Hill men", Tamils or "Coast labourers" the rates of daily pay earned by each class being identical, *viz.*, 4 as. by men and 2½ to 3 as. by women—and such was the condition of the labour market up to the year 1875. As was natural, with the increased demand for Mysore labour, the Canarese cooly acquired a sense of his own importance, and maistries and Kanganis who had for years previously recruited sufficient of such labour with a comparatively low advance (under a contract) without much trouble, realized that it had become a growing difficulty to fill up their gangs, unless by offering higher inducements to coolies than heretofore. It should be here noted that a Canarese maistry was usually an individual of superior intelligence, influence and physique to the average run of cooly, and when these traits were associated with honesty towards his employers such a character in time worked himself into the lucrative and responsible position of "Head maistry" upon an estate, carrying an emolument of from Rs.30 to Rs.80 per mensem.

Synchronizing with these changes, it became apparent that the Labour Contract Law known as Act XIII. of 1859, which had been framed more especially to define the respective status of employers and employees, and to guard against loss to the former from unscrupulous action by the latter, was practically inoperative both in its general scope, and in the manner in which the various tribunals before whom prosecutions were launched within its provisions interpreted their powers: hence dishonest maistries and coolies gradually become aware of the impunity with which they could ignore their engagements, and this unsatisfactory condition of the law has aggravated the evil referred to, year by year.

At about this period, *viz* in 1875, Messrs. Parry & Co. made an effort to introduce fresh blocks into the Wynaad

Labour Market from the East Coast, but though the experiment, under the *ægis* of the late E. S. S. Thompson. of Vellara Mulla, was given a full and fair trial, it proved a complete failure—for the reason already adduced.

In the years 1876-77 the Mysore Province was devastated by Famine, during which it has been computed on competent authority that upwards of three-quarters of a million of the population perished—with, as a result, a serious decline in the proportion of able-bodied labourers heretofore available for engagement on coffee estates—though for a few months (during the famine crisis) the supply of Canarese in the district was unprecentedly large.

Mysore is now assumed to have repaired the population lost 20 years ago, and with recurring seasons of prosperity the Mysore ryot cooly has acquired property, and grown, comparatively speaking, independent of the savings he formerly found it necessary to accumulate (upon coffee or tea estates) in order to meet payment of his land tax (Kandya), the purchase of seed grain, ploughing cattle, and so forth; with the result that whereas he formerly came in for work on Estates in May or June, and remained till the end of the ensuing March, he is now difficult to allure away from his village, except under much higher inducements as to advance—than formerly (amounting now-a-days to as much as Rs.20 per cooly), and even then he remains a much shorter time on an estate.

Fortunately, an ample supply of *Tamil* labour has been attracted to the district, and though this class of labourer is distinctly inferior to Canarese the Tamil works with tolerable regularity from June to February, under similar conditions and for the same wages as the Canarese, the recruiting maistry being usually paid 10% commission on the gross earnings of his gang, while cooly contracts are entered into under far more reasonable advances than was practicable with Mysore labour.

Within the past 3 years the scale of Canarese maistries' pay has on some estates been increased from 10 to 15% in the belief that with such additional commission these men will be induced to enlist large gangs of Mysore coolies.

The supply of low country or coast labour, has also largely increased during the past 20 years, no difficulty having been hitherto experienced in recruiting labourers of this class, under much lower advances than has been the practice with either Mysore or Tamil coolies. The drawback associated with such people is, their disinclination or inability to remain on estates above the ghats for more than a few weeks at a stretch, the ostensible excuse pleaded being, that they are under permanent engagements to serve their landlords in the low country; hence a condition bordering on slavery obtains with the bulk of these labourers, and until Government introduces an Act, abolishing such servitude in Malabar, these drawbacks will continue to handicap planters.

It may be held therefore, that during the past 40 years the scale of daily wages paid in Wynaad, to all the classes of labour on estates, has undergone no material alteration.

The Present.

The present position of the Labour Question in Wynaad may be summarized as follows: The best class of labourer, is the *Canarese* cooly; he is, however, more difficult to recruit than formerly, and works for a shorter time than he used to do—his daily wages having undergone no alteration for many years—though that of his maistry has, in some instances, been raised from a monthly commission of ten to fifteen per cent.—He is moreover well housed, provided with medical attendance when sick, and furnished with a weekly subsistence allowance of 8 as. as also with a woollen cumbly in the S. West monsoons, his pay account being liquidated at regular intervals.

The *Tamils* on most estates outnumber the Canarese: they are, however, as already specified less efficient as labourers, but are treated in all essential details on a par with Canarese—except that the recruiting maistry decrees a more reasonable advance on executing his labour contract, as he is able to enlist his labour at from 3 to 5 Rs. per head, he himself being remunerated with 10% commission on the gross monthly earnings of his gang.

Coast labour contractors recruit their gangs with, as a rule, an advance not exceeding Re.1 to Rs.2 per head; they either execute agreements to find labour for employment on daily wages at 4 as. per man or they undertake contracts for the accomplishment of piece work, at special rates. Under the former arrangement, the coolies are paid up weekly, the contractor receiving 10% commission; while under the latter, the account is settled up on termination of the contract undertaken.

Locals or *Hillmen*—work irregularly—rarely putting in an appearance on more than 3 days in each week. They usually live at some distance from estates, apply for employment without an advance, and are paid the same rates of daily wages as other labour, their balances being liquidated weekly; this class are especially expert in executing temporary buildings, in the manufacture of baskets and in felling and clearing jungle.

With the close of the year 1898 therefore, the labour available in the district may be deemed to be amply sufficient to meet all existing demands on estates hitherto developed and under cultivation.

The Future.

During the ensuing quinquennium, the existing area under Coffee and Tea, more especially the latter, will probably be largely increased, and the problem confronting investors, irrespective of the "Currency Question"—the future of exchange—and the financial position of both staples in the Home markets, is, how the increasing demands for labour can be successfully met.

In the judgment of those in the best position to form a sound opinion on these subjects, the most important essentials to enable the Wynaad planting community to conduct their enterprize successfully in the near future are:—i. An improved *Labour Ordinance*—facilitating the prosecution and punishment of defaulting maistries and coolies. ii. An Act for the abolition of slavery in Malabar. iii. The completion of, and thorough maintenance in good repair, of all the existing main lines of roads leading into and through the taluq. iv. Absolute unanimity amongst the planters to abstain from raising the current daily scale of wages, to all classes of labour.

Given these desiderata, the future uncertainty connected with the labour difficulty, would be minimized, and the popularity of the district enhanced, not merely as the most accessible, salubrious and picturesque hill plateau in

South India, but as the most profitable tea and coffee district in the tropics.

(Signed) W. V. HUDDLESTON,

December 17th, 1898. *Kalpatty, S. Wynaad.*

APPENDIX.

Authorities from which the opinions and facts quoted in this Essay were collected;—

1. The Mysore Census Report of 1891.
2. Information given to the author, by the late Herbert Richardson. Deputy Collector of Wynaad in 1864, and for some years following,
3. Do. do. do. from the late James Gordon, a leading Ceylon Planter, from 1848—1858, and in S. India, from 1858—78.
4. The writer's own experiences of the district, and of the Mysore labour districts, during an unbroken residence of nearly 34½ years.

THE HON. MR. J. D. REES ON EXTRADITION.

We are glad to learn that the Hon. Mr. J. D. Rees has spoken boldly in favor of Extradition, or some arrangement of the like nature, in behalf of the planters of the South. At the meeting of the Imperial Legislative Council on Monday, during the debate on the Financial Statement, Mr. Rees remarked :—

Your Excellency has already stated how important you deem it that European capital should be attracted to this country. I venture to say that if the Government of India can see its way to allowing extradition or making some arrangement of the like nature between the Madras Government and the neighbouring Protected States in regard to breach of contract, a useful step in that direction will have been taken. Since I endeavoured in vain to bring this about when the Extradition Act was under amendment in 1896, the planters have been proved by the publication of the report of the South India Planters' Enquiry Committee to be, as down South we all knew them to be, just and generous employers of labour, and they really suffer undeserved and, in some localities, not inconsiderable loss under the existing law. Whether or not the far greater loss they suffer from the appreciation of silver is merely temporary, this loss at least is constant and preventible. The planters are confident that they, like other producers, will receive the sympathetic attention of Your Excellency's Government.

This is a very clear, concise, statement, and should do a good deal to help planters to secure an amendment of the law on the lines of justice.

TELEGRAPHIC QUOTATIONS.

London —	Mar. 24	25	27	28
Bar Silver	27½	27⅛	27 7/16	27 7/16
Bank Rate	3%	3%	3%	3%
Coffee	[dull]	...	...	...
Mysore ave. (B) size.	64s. 6d.	..	64s.	64s.
Ceylon Plantation, Mid	105s.	...	105s.	...
Stock, tons	...	...	...	15,442
F'night's ldgs.	...	...	...	2,700
,, del. ...	...		...	1,600
Cinchona per unit	1⅜d.	...	...	2¼d.
Cocoa ...	79s.	...	...	2,200
Sales, month, pkg.	...		..	...
New York.–				
Coffee—Fair Rio ...	6¼	6¼	6¼	6¼
Futures, June ...	5·95	5·99	5·94	5.99
Silver—Comml. Bars	59⅛	59⅛	59⅛	59⅛

NOTES.

Wanted—Tea that will keep. Both Russian and Canadian buyers refer to Ceylon tea as not keeping well. In this respect there is something to be learnt from Japanese methods of manufacture.

Japanese Coffee in futuro. The Governor of the Loochoo Islands wishes to learn all about coffee cultivation, as the shrub already grows on one of the Islands.

Para Rubber Statistics.

Entries of rubber at Pará during the month of January ...	2,980	tons.
Shipments do for Pará do ...	2,698	,,
Value of ditto ...	£ 917.300	
Stock on 1st February ...	995	,,

They do these things better in France. As long ago as 1879 a law was passed in France rendering instruction in agriculture compulsory in all training schools for teachers. The teaching of agriculture became compulsory in the primary schools of all rural commerce in 1882.

Coffee According to Messrs. G. Duuring and Zoon, the stocks at the European ports on the 1st March shewed a decrease of 3,800 tons, and the visible supply a decrease of 3,800 tons, being estimated respectively at 222,600 tons and 386,080 tons against 226,400 tons and 388,270 tons on the 1st February.

Tea in Germany. It is reported that tea is making steady progress amongst the mass of the people in Germany, especially towards the North. "Where you approach the sea coast," says Mr. James Ryan, "and the boundary of Russia and Austria in Germany, there you find that the consumption of Ceylon tea is increasing."

Tea for Russia. It is rumoured that the Russian Government has under consideration an increase of the tax on caravan tea. Ceylon tea is said to be used in Russia for blending alone Darjeeling teas are liked because of their soft flavour. The grades of tea in most demand are cheap and medium sorts, from 6d to 8d.—not a large leaf.

The London Tea Market. Cabling to Colombo on the 23rd ult. Messrs. Gow, Wilson and Stanton reported a steady market, with Pekoes for price dearer. Average 8¾d. (¼d. up), price of Pekoe Souchong ½d. (¼d. up). Reuter quoted 8⅞, average (⅛d. up) and said that 20,000 packages Ceylon had been sold out of 21,000 offered; 28,000 Indian out of 31,000 offered.

Pepper. *The London Commercial Record* of 10th ultimo says :—"Pepper has once more assumed its waiting and watching policy, so irritating and discouraging to holders and bull operators. The downward tendency of black Singapore has cast a gloom over the whole Pepper market; business has practically come to a standstill, but it is generally accepted that the statistical position of Pepper will shortly reassert itself."

The Manuring of Tea. Mr. John Hughes writes from London to the *Ceylon Observer* that, in common with many others, he is looking out for some report from Mr. Bamber in reference to an improved manufacture of tea or a new system of manuring. To Mr. Hughes's mind judicious manuring is specially important, because with poor leaf it must be impossible to make good tea; but good leaf may be spoilt in the manufacture. He has been very busy with soil analyses lately and states that much more manure is being sent out from England than formerly.

Tea Statistics. We are glad to see the *Planter* commenting on the unreliability of the statistics at present supplied regarding the area and outturn of tea in India. Our contemporary gives a comparative table of area of tea throughout India in 1897 (under mature and immature plants, which shows the following widely different figures :—

Statistical Ddeartment	...	493	710¾.
Indian Tea Association	...	389	319.
"Home and Colonial Mail"	...	477	491½.

Surely when "½" and "¾" are entered so carefully we might expect some approach to accuracy ?

The Canadian Tea Market. The *Canadian Grocer* of 24th February states :—"There appears to be quite a scarcity of cheap China black teas for a price on the Canadian market. The scarcity is particularly pronounced in the Eastern Provinces, and Toronto has been pretty well cleaned out of these teas for shipment to Montreal. As a result, there has been quite an appreciation in prices, teas that were selling at 8½c. being now held at 10½ to 11c. in Montreal. A scarcity also prevails in Japan teas at 12½c. per lb. downward. There has been quite a little buying in both Toronto and Montreal of Japan tea dust. It is presumed that it is on speculative account."

Tea in Austria, &c. Mr. James Ryan, of Ceylon, who has lately returned from Europe, states that though nothing official has been said in Austria it is understood that the Imperial authorities are sympathetically considering the proposal to reduce the tea duty by nearly 50 per cent., as recommended, and are disposed to grant it. As to other parts of the continent, Mr. Ryan found tea, and Ceylon tea was being talked about everywhere. In Roumania, for example, tea was obtainable in all the restaurants—tea of a very good quality, too. The drawback was that it was invariably called *thee von China*, irrespective of whether it was a blend or even entirely British-grown. In spite of such drawbacks, there was no doubt that Ceylon tea was rapidly passing into consumption in Europe, and the markets of the continent were most promising.

The Adulteration of Food and Drugs. Section 12 of the new English Bill reads as follows :—

12. The label referred to in section eight of the Sale of Food and Drugs Act, 1875, shall not be deemed to be distinctly and legibly written or printed within the meaning of that section unless it is so written or printed that the notice of mixture given by the label is not obscured. Provided that nothing in this enactment shall hinder or affect the use of any registered trade mark, or of any label which has been continuously in use for at least seven years before the commencement of this Act; but the Comptroller-General of Patents, Designs, and Trade Marks shall not register any trade mark purporting to describe a mixture unless it complies with the requirements of this enactment.

As the *Grocer* observes :—This practically leaves the labelling of mixtures where it is, except that a written or printed notice must not be obscured, and that in future no trade mark can be registered unless it complies with this section; but those of seven years' standing at the passing of the Act will be allowed to remain as they are.

A Contrast. In the Report on the working of the Department of Land Records and Agriculture in the Province of Coorg for 1897-98, we read :—"The comparative value of the coffee crop during the year, made the planters very desirous for an enquiry into the cultivation and the causes of 'borer' and 'leaf diseases' by a Scientific Expert; and should Government send one to this province temporarily, he will be eagerly welcomed by the planting community." The Government referred to is that yclept "India." Yet to the *Mysore* Government is due the fact that the want referred to has been met, and the report of the expert selected actually issued *before the want was officially recorded in the above annual report* relating to the province concerned. No blame attaches to the sympathetic Commissioner of Coorg, of course, but the contrast between the enterprise of the Mysore Durbar and the sluggishness of "India" is very marked.

Ceylon's Present to the German Emperor. Mr. James Ryan, Ceylon's representative in this matter, has returned to the island, and briefly described what occurred at the now historical interview. Mr. Ryan was very much pleased with the interview, as His Imperial Majesty took some little trouble to see him. The Kaiser arrived from Kiel on Saturday night, but notwithstanding this, knowing that Mr Ryan wished to leave next day for Ceylon, granted him an audience on the Sunday morning at the Imperial Palace at Berlin. The presents were forwarded beforehand and Mr. Ryan was ushered into an anteroom, and on the arrival of the Emperor and Empress he was introduced by an aide de-camp into the imperial presence, the only other person who was in the room being the Chamberlain. The conversation, which was conducted in English, lasted between ten minutes and a quarter of an hour, and Their Majesties appeared to be interested; but Mr. Ryan does not feel at liberty to disclose what took place, as he has to report to the 'Thirty Committee,' and probably not all that occurred will be made public.

Colombo Tea Sales. The *Times of Ceylon* reports that there was a fair supply and good demand for all grades at the last tea sale. The higher grades of tea were well competed for, and leafy teas (pekoes and pekoe souchongs, were in good demand, with an increase in some cases of from one to two cents. Broken pekoes were firm, but dusts were slightly easier than last week. The drought up-country is having some effect upon the supply, which will probably be less and less each week till there is a fall of rain. Our contemporary's sale correspondent reports as follows :—At to-day's public sale of tea at the Chamber of Commerce Rooms about 10,767 pkgs. = 872,043 lbs.

were offered, of which about 8,870 pkgs. = 725,243 lbs. were sold. The sale passed off with good competition at firm rates for all kinds. Pekoes and Pekoe Souchongs of all descriptions were in strong demand at about previous rates. Broken Pekoes were rather irregular. The finest teas in the sale were:—Devonford, Middleton, High Forest, Naseby, Glasgow and Mocha. In the low-grown teas, good invoices were offered from:—Perth, Eila, Glencorse, Chesterford, Arapolakande. Vogan, Pallagodda, and Razeen.

Mexican Coffee. In an interview with a representative of a Colombo paper, Mr. R. G. Pineo stated in regard to Mexican coffee, "I was not at all satisfied with the conditions, and did not think them favourable to coffee cultivation, because of the uncertainty of labour and the lowness of prices then prevailing for coffee. The people did not care much for work, and if you got them to work there was no way of keeping them, as they were in no way under control. One might get up in the morning and find that all his labourers had disappeared. I did not go in for coffee there. I saw it was in the same condition as it was here. It was of an almost uncultivated and practically wild growth." He also attended to Mexican coffee as "rank stuff, more like Brazil coffee than anything else." Whatever the coffee may be, this kind of talk is "wild" enough. Seeing that Brazilian coffee rules the markets of the world, it is nonsense to classify it as "rank stuff," and as for Mexican coffee the conditions of cultivation in that country are so varied that it is impossible to treat all the product as of one quality. We have samples of Mexican coffee in the parchment and cured, and while we certainly prefer best Coorg, we should not term the samples either "rank" or "stuff" or even "rank stuff."

Java Quinine. A meeting of the shareholders of the Java Bandoeng Quinine-works was held on January 23, Baron van Heeckeren (director of the company) occupying the chair. The first point of the agenda, the election of a director, was quickly disposed of, after which the terms of dismissal of Mr. H. J. Van Prehn were considered. Until December 14 last the management of the company had been vested in Mr. Van Prehn, as technical director, jointly with the commercial director, Baron von Heeckeren, but on that date, at a general meeting, Mr. Van Prehn was removed and the office of technical director abolished. A committee of shareholders was appointed to report on the subject, and it was now proposed—

1. That the dismissal of Mr. Van Prehn should take effect from December 14 last.
2. That the conditions of his dismissal should be definitely settled only after the balance-sheet had been dealt with.

The articles of association required alteration in accordance with the committee's report, and after an amendment increasing the maximum number of directors on the board from four to five had been adopted the whole proposal was carried unanimously. As, however, pending the approval of the alteration of the articles of association by the Government, the office of technical director, vacated by Mr. Van Prehn, had to be filled temporarily, the meeting appointed to this post Mr. Smit Sybinga, who had acted since Mr. Van Prehn's removal.

A new Tea Company. The Abbotsleigh Tea Company (1899), Ltd., was Registered in London on February 24th, by Ingram and Co., 67, Lincoln's-inn-fields, with a capital of £50,000 in £10 shares. Object, to adopt and carry into effect an agreement expressed to be made between G. Pargiter Fuller and N. Rowsell of the one part and this Company of the other part for the purchase of the estates and assets in Ceylon of the Abbotsleigh Tea Estate Company, Limited, to develop and extend the same, and generally to carry on in the island of Ceylon, or elsewhere, the business of tea planters or growers of tea, coffee, cinchona, or other vegetable products, &c., to acquire, for the purposes of the Company, and turn to account any buildings, livestock, easements, rights, privileges, works, machinery, plant, and other property, real or personal.

LETTERS TO THE EDITOR.

"CHEESY TEAS."

SIR,—*Re* "Cheesy tea" packages, myself in common with others have been a sufferer through purchasing local packages this season, and the appended extract from Messrs. Sanderson & Co.'s report on one lot of same may perhaps serve to induce the principle manufacturers at Cochin, Quilon, and other large tea-chest manufacturing centres, to take steps to prevent the evil—which if it continues will kill their business. Even now I have been importing Japan packages from Ceylon rather than run the risk of further loss from the cheesiness complained of.

The remedy, I believe, is simple, *viz.*, to erect a "kiln" and thoroughly kiln dry the wood after seasoning and before making into shooks.

Some twelve years ago I was in Japan and while there inspected the chest manufactory of Messrs. Fraser, Farley & Varnum, and I was the first to initiate the importation of Japan-made chests to Ceylon and India. In the former country three-fourths probably of the tea shipped is sent home in these packages, and in India the trade is considerable, and such a complaint as cheesiness is, I believe, unknown. Now all these "Japan" packages are kiln dried with special kilns erected for the purpose. At the same time I am bound to say that packages I have seen and used turned out in Cochin and Quilon compare favorably with the Japanese article in strength and neatness and have a fairly equal tare and are considerably cheaper. If then our chest manufacturers would start *kilns* and advertise that they guaranteed their packages kiln dried, there would be no need to go further afield.

At present my experience is that if one tells a manufacturer his packages are "cheesy" he looks on it as an insult and probably explains it as carelessness of the superintendent or that the packages have got wet. I hold myself the latter is a bad argument in this country of long transits by cart and boat and bad facilities for shipping, as if it is true that on the wood being slightly wetted on the outside the package will give out the cheesy smell complained of, the sooner we go for Japanese or some of the other patent chests the better. In Japan there being no patent laws all special machinery is, or was, jealously

guarded, and I did not therefore see the apparatus used; but I believe they are common enough in America and Norway.

H. DRUMMOND DEANE.

Stagbrook, Peermaad,
Travancore.

[Inclosure].

Extract from Messrs. Sanderson & Co.'s report, 25th Nov. 1898.

"*Re* "Stagbrook" Or. Pekoe—we offered this tea again yesterday "in Public sale and the market would not bid for it at all. On in- "specting it to-day the taint is clearly more noticeable than it was "a month ago, and the smell of the wood used in making the chest "is more pronounced—in our opinion the wood used could not "have been properly seasoned and it appears to us that the wood "is still drying and this produces the 'cheesy' taint complained "of; the tea if untainted would have realized ½*d* per lb. more."

GENERAL ARTICLES.

CEYLON PLANTERS IN THE WYNAAD.

The *Times of Ceylon* says:—

As our readers know, there have been many Ceylon men who, in the course of the last seven or eight years, have turned their attention to the Wynaad as a planting country, and we have been at some pains to get the following account of their work and welfare. The notes are from the Wynaad itself, and we think will be found interesting:—

Mr. J. S. Nicolls was, I believe,

THE FIRST CEYLON TEA PLANTER WHO REACHED SOUTH WYNAAD.

and his appointment to the Errawacullee estate, Mappady, was quickly followed by the teas shipped home from that property realising most satisfactory prices in the London market. For some considerable period after Mr. Nicolls took charge of the Errawacullee factory, teas from other estates were sent to Errawacullee for treatment, as from its central position this factory offered special advantages for the preparation of their produce, the Chulika and Kanombyle gardens having their leaf prepared under Mr. Nicolls' auspices. During the year 1896 these teas all averaged over 10d. per pound, and an excellent system was inaugurated. Shortly after taking up the appointment referred to, Mr. Nicolls invested in the Poothacoollee property at Meppady. Poothacoollee consists of

A FINE BLOCK OF OVER 400 ACRES

of land, having a wide frontage in the hamlet of Mappady itself, nearly half the tenements in Mappady being situated within the estate boundaries, which also enjoys the further advantages of being traversed by the Government high road, connecting Calicut with the Nilgiri district, while about half a mile from Mappady, the Government travellers' bungalow, church, reading-room and club, —attached to which latter are several excellent lawn tennis courts —all stand within the confines of the property and enhance its value. The greater portion of Poothacoollee estate was originally under Arabica coffee; but Mr. Nicolls has devoted his attention to

THE ESTABLISHMENT OF TEA

on his holding, and a considerable area has been opened with the latter. Irrespective of his reputation as a first-class tea-maker, Mr. Nicolls excels both at lawn tennis and cricket, and is exceedingly popular in the district. About two years ago the subject of these notes resigned the management of Errawacullee, and took up the supervision of a tea estate in the Nilgiri district; but in 1898 he returned to South Wynaad, and assumed charge of the Wynaad Tea Company's new factory at Perrengodda, Vayitri, which was then being completed. The teas from the Company's garden have already

AVERAGED OVER 8D.,

and as the factory has been equipped with the most recent up-to-date machinery, and is calculated for curing 250,000 lbs. of tea per annum, there can be little doubt that its produce will have the best possible treatment while under the present superintendent's control. In the early half of the year 1896 Mr. Nicolls married a daughter of Mr. J. R. Malcolm, of Vellera Mulla estate, South Wynaad, and he now resides at Colloor estate, South Wynaad.

Mr. A. L. Glennie succeeded Mr. Nicolls at Errawacullee, and the teas shipped home from that factory maintain their favourable reputation. Mr. Glennie's address is Errawacullee, Mappady.

Mr. E. de Fonblanque is so well known as your champion lawn tennis player that his friends will be peculiarly interested at learning something of his movements in this district. Mr. de Fonblanque purchased the Perrindotty tea estate from Messrs. Parry and Co., Madras, in 1896, and since he settled in Wynaad, he has made that property his headquarters. Perrindotty was the first garden opened in the district, and the first factory erected in Wynaad was on this property. The block is nearly

800 ACRES IN EXTENT

about one-third, or rather more, being now under tea; and it enjoy various advantages, water-power being available at the factory, while the Government high roads leading from Calicut to the Nilgiri district, as well as from Choondale to Suitan's Battery and Mysore, either traverse or skirt the holding, which has moreover always been popular with Canarese, Tamil, and Coast labour, the well-stocked grain markets of Kalpatty and Vayiter on the east and west being within two or three miles In addition to Perrindotty, Mr. de Fonblanque, about two years ago, purchased

THE NELLANOOR ARABICA AND LIBERIAN ESTATES,

situated three-and-a-half miles from and east of Mappady. This estate contains some of the finest Liberian in Wynaad. It is over 300 acres in extent, about one-third being under cultivation; and the first Liberian-Arabica coffee hybrid discovered in Wynaad was upon Nellanoor. As this original hybrid coffee tree is considered, by those most competent to judge, to be one of if not the finest tree of the species in the district, it being doubtful whether any other original hybrid anywhere in South India is comparable with it, the following details connected with its history should prove interesting. The tree was first observed in a nursery of Liberian seedlings on Nellanoor nine years ago, the nursery having been sown with seed gathered off Liberian trees growing upon the Anda Tode estate, Vayiter, these Liberians having been planted 10 feet apart in Arabica coffee about the year 1882. The hybrid under reference so far outstripped the Liberian seedlings in the same beds that especial care was bestowed upon it, and in due course the young tree was put upon the estate amongst the Arabica and Liberians.

Up to date of the acquisition of the property by present owner, this hybrid tree has yielded the following crops of parchment seed:—

In 1893 when	2½	years old,	¼	of a seer sound parchment.	
„ 1894	„ 3½	„	„ 3	seers	„
„ 1895	„ 4½	„	„ 8	„	„
„ 1896	„ 5½	„	„ 4½	„	„

or 15¾ seers for the 4 years. Eliminating the virgin crop, the yield for the last three years, particularized above, aggregated 15½ seers, or upwards of 5 seers per annum average! Liberian-Arabica hybrids should be planted 8 × 8 wide, at which distance there are 680 trees in each acre approximately, so that a yield of 5 seers per tree (there being 28 of such seers in a cut standard bushel) works out to over 121 bushels parchment per acre, or say 1¼ tons. In calculating the probable value of similar hybrids, the fact should be borne in mind that the crop gathered from trees raised from the seed of the original hybrids consists entirely of A. and P. B., and that the cherry is as easily treated in an ordinary Walker's disc pulper as that of Arabica cherry. There can be little doubt but that, under a system of careful selection of the progeny of this original hybrid,

A GREAT FUTURE

awaits the lucky owners of the first hybrid coffee estates in Wynaad opened with such seed. Mr. de Fonblanque has already planted 20 acres with his hybrids upon Nellanoor. Messrs. Parry and Co. have opened a hybrid coffee estate in their magnificent Vellera Mulla forest land; while the owner has also planted 12 acres with the same variety of coffee upon a block of 250 acres of land he has acquired adjacent to Perrindotty. Mr. de Fonblanque is now interested in over 1,300 acres of land in Wynaad and that his hand has not "lost its cunning" upon the tennis court was marked a few weeks ago by his winning the Open Singles Handicap, from the—40 mark!

MR. STEWART ROBINSON

first settled about 2½ years since on the York estate at Vellera Mulla, the property of Messrs. Parry and Co., which had been planted entirely with Liberian, protected by silver oak as a shade. But after

a time Mr. Robinson relinquished York, and acquired a fine block of land from the same firm at Kalpatty, where he has opened both coffee, arabica, and tea, the former upon virgin forest, the latter upon a tract which, thirty years ago, was covered with very fine coffee (having been originally bamboo land). Both clearings have been most successful up to date; and as Mr. Robinson resides upon his own property, it receives the best possible treatment. His address is "Elton, Kalpatty, South Wynaad."

MR. W. Q. WRIGHT

was, I believe, but a short time in Ceylon, and is related to Mr. Parry, of our island. He took up a fine block of forest from Messrs. Parry & Co., Madras, at Vellera Mulla, where he is opening for arabica coffee, his address being "Scutwel Rock, Vellera Mulla, South Wynaad."

MR. E. H. F. DAY,

after having for some time in charge of the tea factory upon Chulika garden, purchased the "Neli Munday" estate from the Wynaad Tea Company last year, and purposes substituting tea for the fine coffee hitherto cultivated there, as well as opening the reminder of the block in tea. At the commencement of this year, Mr. Day initiated an experiment which is likely to be watched with much interest in Wynaad and the adjoining Coorg and Nilgiri districts. Being impressed with the superiority of

"SINHALESE" LABOUR UPON A TEA ESTATE

over Canarese, Tamils, and Coast coolies, he has succeeded in introducing a gang of these people from Ceylon upon Neli Munda, one important advantage in connection with the Sinhalese, assuming that they fulfil their labour engagements satisfactorily, being that Mr. Day hopes to have them continuously employed on his property—a *sine quá non* upon a tea garden, though upon a coffee estate, during the hot weather, a diminished labour-supply is not fraught with the same loss and inconvenience. These Sinhalese have been recruited at a higher scale of daily wages than the other labour in the district.

The writer of these "notes" has always retained the pleasantest recollections of Ceylon men, and dates back his introduction to them to the late Messrs. A. C. Vertue and "Jack" Tyndall, the trio having been fellow-voyagers on the old P. & O. "Nubiani" May, 1864!

COCOA PLANTING IN SAMOA.

According to a British Foreign Office report, it appears that a potential commercial future has at length arisen for the Samoa group, after years of depression owing to the fall in price of copra, and the apparent unsuitability of the climate for other cultivations, such as rice, sugar, tea, or cotton.

Small capitalists ($2,500 to $10,000) going to Samoa and purchasing or leasing land for the purpose of cocoa planting, would stand a good chance of making a fair income after the first three or four years, provided they possess a practical knowledge of tropical planting or will take advice from those in Samoa who have experience in the matter. The number of small plantations is rapidly increasing, and it is estimated that 75 acres are now planted with cocoa trees. The tree is robust and hardy, growing luxuriantly in Samoa, and yielding abundant crops after trifling cultivation. The quality is considered good, the price varying, according to reports from Hamburg, San Francisco, and Sydney, between $290 and $390 per ton. A small plantation of 6 acres holds about 1,200 trees, and these in the third year produce some 140,000 pods; and it is apparent that even with the liberal allowance of 15 pods to the pound of marketable bean each tree would produce from 6 to 8 pounds of prepared cocoa bean per annum. The trees are in full yield after the fifth year, and there is apparently no age limit to their bearing.

The cost of land near Apia, continues the British consul, is from $7 to $14 per acre if purchased from whites, and from $1 to $2 per acre if leased from the natives on a twenty or forty years' lease. The soil is rocky and volcanic. Although labor in large masses is practically unobtainable and the native Samoan is by no means energetic, sufficient floating labor for small plantations is to be had. The price is from $6 to $8 per month. for a labourer, his food costing about $4 per month. One man ought to look after 6 acres of well-grown cocoa in the dry season, but two are required during the wet season-from December to May.

TEA, &c., COMPANIES.

The Putupaula Tea Estate Company, Ld.—At a meeting of the Directors of the Putupaula Tea Estate Company, Ld., it was resolved that an interim dividend at the rate of three per cent. per annum for the six months ending 31st December last be declared and paid forthwith.

Portmore Tea of Ceylon.—It is proposed to pay a final dividend of 7 per cent. (making 12 per cent. in all), which will absorb £2,800, and to carry forward a balance of £367. The yield of tea has been 241,635 lbs., being at the rate of 509 lbs. per acre. The cost of production has been £4,349, being at the rate 4·319d per pound, and the crop has netted £9,878, being 9·80d per pound, equal to a profit of 13·83 per cent. on the capital of the Company. The average rate of exchange for year has been 1s 4·5-64d, against 1s 3·29-64d during 1897. The estates, buildings, and machinery are stated to be in good order, and the estimates of crop and expenditure for the current year gives promise of continued satisfactory results.

Leesn River Tea Company, Limited.—Outturn and net prices of the past three years:—Outturn: 1896, 4,648 maunds; 1897, 4,358 maunds; 1898, 5,103 maunds. Not prices: 1896, 5a. 6p.; 1897, 5a; 1898, 4a. 6p. Estimate for 1899, 4,700 maunds. A satisfactory increase in the outturn is shown. The prices obtained are, however, disappointing. The acreage under cultivation is 738·92. The profit and loss account shows a balance (inclusive of £18 carried forward from last year) of £411, which the directors recommend should be carried forward.

Ankande Estate Company.—The general meeting of this Company was held on 24th ultimo at Colombo when the report was submitted and adopted. It stated:—Tea 175 acres, Cocoa and Liberian Coffee 106 acres, Cardamoms 96 acres, Jungle 232 acres. Total 609 acres.

The total crops harvested during the years were as follows:—

38,450 lb. Tea and 4,81[illegible] lb. Green Leaf
4,113 lb. Cardamoms
136,3·15 cwts. Cocoa

a small quantity of minor products (sold for R6,295)—the whole realising the nett sum of R24,519 85.

Interest on the loan of £1,500 stg. has been paid to 31st December last and depreciation on buildings at 10 per cent absorbing R344·21 has been written off It will be seen that the additions to capital account amount to R5,069·26, and the balance at credit of Profit and Loss it is proposed to carry forward.

The Glenury & Alwood Estates have fulfilled expectations, but the deficiency of crop of Ankande which gave lb. 69,987 of made tea during 1897, against lb. 38,450 for 1898 is much to be deplored. The Visiting Agent reports that the Estates promise well for 1899.

The Ceylon Tea and Cocoanut Estates Company, Limited. The Annual Meeting of the Shareholders of the above Company was held at Colombo on 18th instant, Mr. W. H. Figg in the Chair. The report stated:—Tea.—In partial bearing, 293 acres; (planted in 1895, 146 acres; and in 1896, 147 acres); not in bearing, 137 acres. Cocoanuts, 558 acres; Rubber, 35 acres; Grass, Forest and Chena, 213 acres; Cinnamon. 21 acres. Total 1,257 acres. The total crop of tea harvested in 1898 was 32,371 lbs., which realised a nett average price of 37·34 cts. per pound.

The Uvakellie Tea Company of Ceylon, Limited.—A General Meeting of this Company was held at Colombo on 20th instant. Mr. W. D. Gibbon presided. The report stated:—The amount of tea secured was 139,000 lbs. costing 30·83 cents per lb. against 29·89 cents per lb. for 1897. On the other hand the tea after estimating that still unsold at a low figure has realized 45·10 cents per lb as against 42¼ cents. for the previous year. In view of the low prices ruling for teas during the year just ended the Directors think the increase of price reflects a good deal of credit on the Superintendent. After writing off 7½ per cent. for depreciation on buildings and machinery the profit amounts to R17,251·41. Out of this an interim dividend of 3 per cent. was paid absorbing R7,200, leaving R10,051·41 to be dealt with. The Directors recommend that this amount be disposed of as follows:—That a final dividend be paid of 3 per cent. (making 6 per cent. for the year) absorbing R7,200; that a sum be carried to Reserve of R2,000; that a bonus be paid the Superintendent of R350; and that the balance of R501·41 be carried forward.—Total R10,051·41. The estimate for the current year is 144,000 lb. tea to cost R46,091·50.

The Kelani Tea Garden Co., Limited. The General Meeting of this Company was held at Colombo, on 20th instant, Mr. C. L. Davis presided. The report stated:—

282	Acres	Tea in full bearing
52	„	„ planted in 1896.
30	„	„ „ 1897.
34	„	„ „ 1898.
398		
179	„	Reserve
11	„	Ravines, Waste and Grass
158	„	New Purchase
746	Acres	

The crop secured amounted to 150,510 lbs. made tea, realizing R51,339·44, or an average price of cents 34·11 per lb., as against an expenditure, exclusive of item under Capital Account of R37,526·09, or an average cost of cents 24·93, including R2,644·74 spent on manure. The balance at credit of Profit and Loss Account, after allowing for depreciation on buildings and machinery, is R6,301·94. The Directors suggest that a dividend at the rate of 2 per cent. per annum be declared, absorbing R6,000, and that the balance R301·94 be carried forward to next account. The estimate for the current season is 185,000 lbs. made tea. A small return is expected from the 1896 clearing of 52 acres. The Directors propose during this season to open 10 acres to afford employment to the coolies during the dry months. The application of manure during the last two years has improved the constitution of the bushes, where applied, to an appreciable extent, but the abnormal weather during the last season, together with the attack of helopeltis, resulted in a short crop.

COFFEE IMPORTS IN THE UNITED STATES.

The *American Grocer* has the following interesting remarks:—with the point in the tail!—concerning imports of coffee into the United States:—

The last Treasury statement of imports, corrected to January 30, makes the total imports of coffee for the calendar year, 1898, compared with those for 1897 and 1896, as follows:

	Imports.	Value.	Cost per pound, Cents.
1898	804,250,988	$53,652,313	6.7
1897	806,048,539	75,687,676	9.4
1896	629,901,602	79,999,590	12 7

The above shows a decline in the average annual cost of imports of six cents per pound since 1896, and an enlarged consumption, which compares with 1897 and 1896, as follows:

	Pounds.
Imports, 1898	804,250,988
Exports, 1898	23,231,141
Net imports	781,019,847
Net imports, 1897	787,561,385
Net imports, 1896	621,429,664

The above shows a per capita consumption in 1898 of 10.7 pounds, against 10.9 pounds in 1897, and 8.7 pounds in 1896. Bringing the two years 1897-98 together, and taking the New York Coffee exchange record of stocks, we have the following exhibit of consumption:

	Pounds.
Stock, January 1, 1898 (917, 946 bags) ...	121,168,872
Imports, 1897 and 1898	1,568,581,232
Total supply two years	1,689,750,104
Less stock, January 1, 1899 (917,720 bags) ...	121,139.040
Consumption, two years	1,558,611,064
Average per year	784,305,532

This shows a very heavy increase, for there was no gain in stocks during 1898. Allowing for a shrinkage of 16 per cent. in roasting, we have an annual consumption of 658,816,647 pounds of roasted coffee, which, on a basis of two gallons of infusion to one pound of coffee, gives a total consumption of 1,317,633,294 gallons, which quantity exceeds the total consumption of beer and spirituous liquors by about 200,000,000 gallons. Coffee is the nation's favorite beverage.

The sources of supply are indicated by the following table:

	Pounds.
Brazil	607,842,784
Central America	36,110,939
Mexico	30,620,071
Venezuela and other South American countries ...	85.807,732
East Indies	17,781,307
West Indies	8,076,800
Germany	5,278,179
Other Asia and Oceanica	4,197,848
United Kingdom	2 921,752
Netherlands	2,234,736
Other Europe	1,306,014
France	599,523
Africa	67,977
Other countries	1,405,326
	804,250,988

Brazil furnishes 75.6 per cent. of the total; Mexico, Central America and all other South American countries and the West Indies, 20 per cent.; leaving 4 4 per cent. for all other countries. And yet Java and Mocha coffee are sold everywhere!

A WARNING TO TEA-PLANTERS.

An ex-Ceylon Resident writes from London to the *Ceylon Observer*:—

There are rumours current in Mincing Lane and its neighbourhood, that recommendations and orders from the big tea planting distributors (which is the new name for retailers) have gone out to pluck coarser, with the view of increasing the yield of common tea, whilst prices are high. You know very well that nothing could be more disastrous to the tea industry than for planters to increase the production in this way.

It is the falling-off of supplies to England, owing to the expansion of exports to other countries, that has caused the sudden change in the prospects of bewailing tea planters. The bug-bear of over-production has vanished, but it may soon be raised again if they carry out the advice given to them by the blenders and increase the exports artificially over the estimate. If they do so, they will lose all the benefits they derive from the sacrifices they have made and are making to increase consumption in other countries.

The recent advance in prices of common tea does not fall on consumers, but it seriously affects the pockets of the distributors who advertise the finest tea the world produces under cost price.

I need scarcely tell you that when the finer qualities advanced some time ago, distributors, who, owing to severe competition, cannot raise their prices, were forced to put less fine tea in their blends and more common. In this way they worked off the surplus stocks of the lower grades to such an extent as to lead them to think they might be cornered in them. They then rushed into the market and bought all that could be obtained at an advance of a penny per pound. Whether this advance is of long or short duration, depends upon the action of planters during the next two or three months, when the big flushes generally take place. If they send home a large increase in the quantity of pekoe souchongs, down will go the price to 5d per pound. If they tell their tempters to get behind them, there is a very fair prospect of the Ceylon tea industry having a good long innings of prosperity.

For the last few months I have been preaching to all who would listen to me, that the slap in the face the Indian and Ceylon tea planters got last year or two, was the best thing that could have happened for their permanent interests. It put a stop to the extensive increases in Indian planting at one time contemplated, and compelled planters, especially in Ceylon, to reduce the cost of production to the lowest point. They have been so far successful that at least three-fourths of the tea grown in Ceylon do not cost more than 25 cents per pound f. o. b. or at 16d exchange 4d per lb. With a considerable knowledge of the circumstances of every tea-producing country, I do not hesitate to say that no country in the world can produce tea below that figure. Therefore, in any future struggle for existence, it need not be Ceylon that will go to the wall, if the planters do not lose their heads.

SELANGOR PLANTERS' ASSOCIATION.

The following are Extracts from the Annual Report for 1898:—

Owing to various causes, extensions during the past year have not been upon the same scale as in previous seasons, to new members have, however, been enrolled upon the books of the Association and the attached statistics show an increase under cultivation of 1,676 but of labourers of all nationalities a decrease of 1,166.

Planting Products.—**Coffee.**—Whilst estimates have for the most part been realized and in some cases considerably exceeded, the depression in prices has continued throughout the year, except in the months of November and December, when, no doubt owing to short deliveries, the market hardened and as much a $25 per pikul was secured for the best No. 1; as soon, however, as the heavy pickings recommenced, values receded, and the year closed, as in 1897, with quotations in the neighbourhood of $19 per pikul, a price at which, except in very favoured localities, it becomes a difficult matter to do much more than cover expenses. A feature of this year's transactions has been the growing disinclination on the part of planters to sell their coffee in outside markets, the prices ruling in Singapore having compared very favourably with anything obtainable elsewhere. Your Committee think that a distinct improvement in quality has been effected during the year under review, and hope that no efforts will be spared, on the part of those who have stores, to turn out a sample which will hold its own with the best produced anywhere. The maintenance of a high standard of excellence, combined with the greatest economy in production, are questions of vital importance if the coffee industry in this country is to successfully battle with the present crisis, and realizing the necessity for a much closer acquaintance than you now have with the position of affairs in the Brazils, the crops from which country exercise so omnipotent an influence upon the markets of the world, your Committee propose to make immediate arrangements for the supply of regular and reliable information as to the prospects of the coffee enterprize in that country.

Para Rubber.—Probably no more important evidence, that planters are at last realizing the futility of risking their all on any one product, has been afforded during the past year than the energy with which large areas have been planted up with para rubber. Had it not been for the shipments of seed which were received from Ceylon, operations would have been considerably restricted, as the local supply was nothing like sufficient to meet the demand. The vitality of para seed is so dependent upon immediate planting that it was feared the long journey from Ceylon would prevent a large proportion of the seeds from germinating; happily, however where proper precautions were taken, from 50 to 60 per cent. of plants resulted on an average from the Ceylon seed, and in consequences this product, which does so well here, and which has to all appearance so prosperous a future before it, has become established in the State with every prospect of large extensions in the coming season. The young plants are reported on all sides to be growing satisfactorily, but on most places heavy losses have been occasionedby rats, lizards, mole crickets and other pests, and the problem now to be solved is, how to best stave off such attacks until the plants are able to take care of themselves. Your Committee, therefore, hope that members will communicate to the Association particulars of any experiments that have been attended with successful results. 389,500 ParaRubber trees have been planted in Selangor during1898.

Minor Products.—A considerable acreage has been brought under plantations on two estates in Klang, and it appears probable that far more attention will, in future, be paid to catch crops generally in conjunction with permanent products, than has hitherto been the case. This is a matter which your Committee consider well worthy of serious consideration. An object lesson is afforded in the customs of the people of the country, who aided by the produce from the few badly planted and badly tended fruit trees in their small gardens, manage with their wives and families not only so support existence, but in many cases to attain their ideal,—a life of absolute idleness. What is possible on a small scale for thousands of natives, even though the ultimate object be not the same, should be equally feasible on wider lines for a comparatively small community of Europeans The successful cultivation of catch crops means a proportionate reduction in the capital cost of estates, when the permanent products begin to be remunerative, and a less severe loss to face in times of depression.

Curing Establishment at Klang. The want of a store to which planters could send their parchment to be peeled having been supplied by Messrs. Barlow & Co's curing establishment in Singapore, and there being apparently no disposition on the part of any of the Ceylon or other firms who were approached, to start in Klang, this project has, for the present, been abandoned. On several properties stores have been erected during the year, and it now appears probable that if estates are to join issue in connection with the curing of their coffee, it will be a matter rather of private arrangement than of any combination under the auspices of the Association.

Retail Sales of Coffee.—The low prices which our coffee has been fetching, without, as far as we have been able to ascertain, any appreciable corresponding advantage to the consumer, has naturally led planters to consider the possibility of supplying the public with the prepared article "direct from the plantations" and appropriating to themselves some of the profits of the middleman.

Statistics of Acreage.—Under Cultivation, estimated crop and labour employed on the European estates in Selangor:—

No. of Estates.		Acreage under cultivation at end of 1898.	Estimated Crop in Pikuls for 1899.	Labour. Tamil.	Chinese.	Malays and Javanese.	Total.
70	Total for 1898 ...	14,361¾	18,715	2,937	627	898	4,462
68	Return for 1897 ...	12,689	13,503	3,285	1,249	1,094	5,628
2	Increase and Decrease in 1898	pl. 1,675¾	+5,212	— 348	— 622	— 196	—1,169

TEA CULTURE IN JAPAN.

Japan Tea is a favourite in the United States. The following extract from an American Consular report regarding the cultivation and manufacture of tea in the provinces of Kiushiu may perhaps interest our tea-planting readers:—

Fukuoku Ken (district.)—The product was 2,450,000 catties of (1·31 lbs. each) Tea is usually planted on hillsides, rarely on level ground. The plant is mostly of natural growth; but the ground is cultivated twice a year—in spring and in autumn. Manure is used only on the level ground. The manufactured tea consists of the lowest class The leaves are dried in an iron pan. A small quantity of good, green, and black tea is produced. The places of export were Nagasaki, Kobe, and Yokohama.

Oita Ken.—The product in 1894 was 356,959 catties, viz: Best fine tea. 6,115 catties; green tea, 227,717 catties; leaves manipulated in iron pan, 93,110 catties; black tea 5,000 catties; common tea, 25,017 catties.

Kagoshima Ken. The product was 1,250,000 catties. No manure is used in the cultivation, and the growth is natural. At certain seasons, grasses that hurt the plant are removed. Tea was formerly manufactured by very simple methods, but great improvements have been made. The course of manufacture is now as follows: (1) The leaves are stirred, as in the ordinary method; (2) tested over a fire in an iron pot and separated; (3) rubbed and rolled transversely; (4) rubbed and rolled in test jars; (5) stirred up to dry; (6) carefully and fully dried; (7) sorted, by sifting with different sieves, and prepared for market.

Nagasaki Ken.—The cultivation in this ken is conducted as follows: On inclined ground, the tea is planted in furrows, but on level ground, the plants are grown separately. The space between each row is about 3½ feet. On the hillside, it is planted in rows, but on the plain, near houses, circularly. After the first and second leaves are picked, the branches are cut with shears. The object in cutting is mostly to make the plant round or semi-circular. Formerly, the plant was cut down nearly to the ground every three years.

The ground is cultivated three or four times in the spring, summer, and autumn The grasses are cut and manure applied twice a year—in spring and in autumn. For manure, nightsoil, green weeds, accumulated soil, oil cakes, and fish are used. These manures are used only for plants near people's residences; for those on the hillsides, weedings are performed twice a year—in spring and in autumn—and the weeds are used as manure.

The season for gathering first tea buds or leaves begins on the 1st or 2nd of May, but, in some localities, first leaves are gathered about the 20th of May. Second buds or leaves are generally

allowed to grow, unless the market price is very high or the first leaves gathered are found much less than usual. In the vicinity of Omura and Hirado, however, they gather both first and second leaves. In picking leaves for the best tea, three tender leaves are picked together; for the middle and lower classes of tea, five leaves are picked at once; and for the lowest, all the young leaves are gathered.

For picking leaves, women are usually employed. The average quantity of the three leaves picked by a woman is from 10 to 13 catties a day, and her wages are from 4 to 5 sen (say 1d. to 2½d. for picking 6¼ catties. 8⅓lb.) For picking five or more leaves, the daily quantity for a woman is about 31¼ catties, (41⅔lb.) and the wages per 6¼ catties are 2 to 2½ sen. 1d to 1¼d.

The manufacture was formerly conducted in two ways, *viz*: By drying in an iron pan or in the sun; then drying in paper utensils was introduced, and more recently, drying in bamboo baskets came into vogue. The method of drying in the iron pan is still extensively used. For manufacturing black tea, the Indian method was formerly used, but at present the Chinese method is adopted.

For sorting tea leaves, heated in paper utensils, round and square sieves are used, and for rolling utensils either case or bag is used.

Nightsoil, oil cake, dried fish, green grass, and weeds are considered the best manure for tea plants.

The hours of labor are from 5 A.M. till 6 P.M The daily product per day per man is as follows:—With the iron pan, about 30 catties (nearly 40 lbs.); with the paper utensil, about 20 catties (26 lbs.); with the bamboo basket, about 45 catties (59lbs). The women are employed only at steaming the tea leaves, and are paid only half the rate paid men.

When the manufacturing season arrives, the workmen are hired daily, the farmers helping each other. In Omura, contracts are made beforehand by advancing money about January or February.

For renting a tea field, the landlord lends to his tenants without fixing the term, it being customary to rent the field after the tea is planted. The rent standard is rice, at the rate of 1½ to 2 bushels per one-fourth of an acre (300 tsubo) for the first three or four years after planting. Wheat or beans are sometimes used in place of rice. The rent is somewhat increased from the fifth year. In lieu of rent, the landlord sometimes takes half of the crop.

PRODUCE AND PLANTING.

Tea Drinking in Russia.—While perhaps the greatest tea-drinking nation in the world is still under the spell of the Chinese grower, the planters of India and Ceylon cannot say that there are no more markets for them to conquer. Possibly it is prejudice, or may be it is simple cussedness, but the Russians will have China tea, and a writer in the *Anglo-Russian* tells us that the chances are they will continue in their obstinate course for a long time, although that remains to be seen. This writer, however, tells us something of the habits of the Russian, who, he says, drinks enormous quantities of tea, sufficient to frighten any Englishman. The poor Russian, he says, uses the so-called "brick" tea. This is the cheapest sort, being mixed with the stems, and compressed by some adhesive gum into dry cakes of various sizes, resembling in its appearance "plug" tobacco. This tea, which would probably prove poisonous to any one else, is consumed by the Russian working man at the average rate of about 20 stakans (or tumblers) a day, the Russian stakan being quite equal to five of the little thimbles of cups used in England at afternoon teas. Indeed, a Russian won't be satisfied until "sedmoi pot proshibyot," or "the seventh perspiration breaks out," according to the popular saying. Taking into consideration that black, sour or bitter, brick-like bread, raw onions, garlic, dried leather-like fish, and strongly salted herrings are usually the chief articles of food of the people at large, one must not wonder at the enormous quantity of hot tea needed to still a Russian's thirst and help on his digestion. The inferior sort of tea is, besides, very cheap, but, of course, it is not the "brick" tea as used by the poor moujik that enjoys a world-wide reputation, but that in use among the middle and upper classes. In such households tea at the price of 5s. or 6s. per pound (0.90 of the English pound avoirdupois) is quite an ordinary thing, while in wealthier families 10s. to 12s. per pound is frequently paid, There are choice sorts of teas which are sold even at twenty roubles per pound, but of these only a few leaves are used to add an extra delicious aroma to the ordinary tea. Thus the high quality of the tea itself, brought overland and most carefully packed, is the chief reason of its superiority over the teas in use in Western Europe. But apart from the tea itself, the Russian method of preparing it goes a long way to contribute to the fine taste of the beverage. In this process the famous "samovar" plays the principal part, and a word or two of explanation will not be amiss.

The Preparation of Tea in Russia.—The "samovar" is the utensil used only for boiling the water. They are usually made of brass or copper, but there are also silver samovars, the inside being lined with another metal. In the middle there is a kind of chimney or fire receptacle, around which fresh cold water is poured into the samovar. Burning charcoal or wood is thrown into the chimney, and it usually takes about a quarter of an hour before the water begins to boil, this being announced by a volume of steam from under the cover Then the boiling water is poured upon the tea in the pot, and the latter placed on the top of the samovar to keep warm, as tea-cosies are unknown in Russia. The infusion is made very strong, but only about a fifth or quarter of a glass is filled with it, the rest being filled up with the boiling water. A slice of lemon or milk is added according to taste, and sugar is put into the glass, or used "v prikusku," as described above. There is no "respectable" household in Russia without one or more samovars. The utensil is turned out by the million. Tula, the Russian Sheffield, is particularly famous for the production of this article. The samovar is in use three or four times a day, in some houses indeed it is kept boiling the whole day long. The samovar may be really termed the Russian hearth and fireside. Around it the family and guests assemble drinking tea and chatting for hours. Its steaming and cheerful humming are as music to the Russian ear, accustomed as it is to the sound from earliest childhood. Even when leaving their native soil for far distant lands, when luggage has to be reduced to a minimum, the indispensable samovar is rarely left behind, and in the new countries of their adoption it forms frequently a melancholy link with the past.—*Home and Colonial Mail.*

THE INDIAN TEA ASSOCIATION (LONDON.)

The following is the interim report of the American and Foreign Tea Committee:—

The Committee now have the pleasure to lay before the members, as is usual at this time of the year, a review of the work undertaken during the period that has elapsed since the annual meeting, which was held in July last.

The subscriptions to the fund raised for exploiting new markets during the year amounted to Rs. 1,02.031 collected in Calcutta, as compared with 1,02,029 in 1897 and 1,03,674 in 1896. The planters in Southern India have, as before, contributed liberally to the fund, and a subscription of £200 from a London subscriber was again received last year.

A war tax of 10 cents per lb of tea imported was imposed last year by the United States Government towards meeting the cost of hostilities with Spain. This has had the effect for the time of seriously curtailing the importation of all tea, and has been a great hindrance to business. On the other hand, it has served as a useful advertisement, enabling attention to be called to the economy effected by using British-grown teas in preference to those of other countries

It is gratifying to learn that the prospects of India and Ceylon tea are much brighter in consequence of the strictness with which the law excluding poor tea is enforced in America. This falls heavily on the low class tea of other countries, although the recent sharp rise in the value of common tea must have a tendency for a time to check the expansion of the trade.

The Committee refer members to the accompanying report received from Mr. Blechynden, under date New York, January 10, in which he reviews the work for the year 1898. The Commissioners for India and Ceylon have continued to co-operate to the mutual advantage of both associations.

Fewer demonstrations have been organized during the year, as this work is being done by packet firms and others engaged in selling tea, but more money has been spent in subsidies and grants to those doing the work of educating the public and pushing our teas.

Advertisements have continued to be inserted in the principal papers, and are followed by those of houses dealing in British-grown tea.

The Committee call attention to Mr. Blechynden's remarks in his report on unfermented or Oolong tea, for which a demand exists,

although it must be borne in mind that this is a distinct class of tea for consumption in America alone, and failing a sale there, cannot be diverted to other markets.

The Committee have to thank Messrs. Gow, Wilson and Stanton for the following figures, which show concisely the progress made in the use of India and Ceylon teas in North America:—

India and Ceylon tea taken by the United States and Canada during each of the last seven years:—

	1898.	1897.	1896.
	lb.	lb.	lb.
Indian	5,972,000	5,663,000	5,259,000
Ceylon	7,637,000	5,699,000	4,365,000
Totals ..	13,609 000	11,362,000	9,624,000

	1895.	1894.	1893.	1892.
	lb.	lb.	lb.	lb.
Indian	4,072,000	2,428,000	2,111,000	1,586,000
Ceylon	3,745,000	2,295,000	1,871,000	1,490,000
Totals ...	7,817,000	4,723,000	3,982,000	3,076,000

The above figures show that a trade has now been established which may be expected to continue to increase. Your Committee are of opinion that the work Mr. Blechynden has been engaged in during the last five years, since his return to America in May, 1894, has been productive of much benefit to the industry and has been well performed, but there are now so many well-established and powerful agencies at work in the United States and Canada, whose interest it is to push British-grown tea, both by means of travellers and by the distribution of samples through the post and otherwise, that the Committee consider the further expansion of the trade may safely be left in their hands, and that it is not necessary for the Association to continue a special agency for the purpose. Any further assistance that may be required should, your Committee think, take the form of subsidies.

Your Committee hope to give more attention in future to the other new markets for our teas that are opening out on the Continent, particularly in Russia and France, and especially in connection with the forthcoming Paris Exhibition in 1900, where it is hoped that a good impression may be made by the arrangements that are in contemplation for serving Indian tea in connection with the building for Indian imperial exhibits. It is expected that 38 millions of persons will visit Paris next year.

Funds will be needed for these purposes and for assisting in the work of pushing the sale of our teas in France, Russia, Germany, Turkey, South Arica, or elsewhere.

Your Committee therefore recommend that a levy be raised in Calcutta on the same lines as before, but on the understanding that the funds shall be employed to push Indian teas in any part of the world and not in the United States only.

A. Bryans, G. W. Christison. D. Cruickshank, R. Lyell. J. Riddell, A. G. Stanton, J. N. Stuart. W. H. Verner, C. W. Wallace, Members of the Committee.

ERNEST TYE,
Secretary.

14, St. Mary-axe, E.C.
February 24, 1899.

THE NEW AMERICAN TEA LAW.

We take the following from the *American Grocer*:—

The new tea law goes further than the exclusion of impure or adulterated tea, and makes a quality standard. The result has been a general improvement of quality, but the question has been raised, and not without reason, that it is beyond the province of the United States Government to establish standards of quality. Naturally, some will ask, if the United States Government fixes a quality standard for tea, why not for sardines, spices, or coffee, of which some very inferior and trashy lots are imported? The chairman of the Board of Tea Experts, Mr. Phelan, in a letter to the Assistant Secretary of the Treasury, makes answer to this and says:

The reason for the incorporation of "quality" in the present law is because of the failure of the original tea law on account of not having "quality" established as a test. Under the old law "quality" was not mentioned, but the tea examiners were instructed to exclude teas which had "an adulterated, spurious or exhausted leaf, or such an admixture of chemicals or deleterious substances as to render them unfit for use."

After ten years' trial it was proven conclusively that no two tea men could agree on what was adulterated, spurious or exhausted leaf, or what constituted what was unfit for use. This law resulted in two evils—first, wild inconsistency and constant injustice; and second, the gradual admission of any thing that had the appearance of tea, until the country became deluged with the trash of the world to such an extent that the very existence of tea as an article of consumption became jeopardized.

To remedy all this and establish the most certain guide known to tea men the term "quality" was, with great care, incorporated in the new law as the only test which could be used with a minimum amount of uncertainty and inconsistency.

Mr. Phelan attributes the reduced imports to former importations of trash. This is true in part, but another cause is the narrowing of the difference between the relative cost of tea and coffee. One pound of tea at 50c, would make six gallons of infusion, costing 8⅓c per gallon; while one pound of coffee at 15c, would make two gallons of infusion, costing 8½c, and if the coffee cost only 9 or 10c per pound, the infusion would cost only 4½ @ 5c per gallon, while a 35c tea would make the beverage cost about 6c per gallon. If, however, a Ceylon or India tea is used, one gallon of infusion will cost from 5 @ 8c per gallon, making it a cheaper beverage than if Japan or China sorts are used, as one pound makes 10 to 16 gallons of infusion. The decline in the cost of coffee makes it relatively the cheaper beverage, and that, in part, accounts for the increased imports of coffee since 1896, and the decreased imports of tea. The net imports of the two articles compare as follows:

	1896	1898
Tea	83,549,331	66,290,691
Coffee	621,429,664	781,028,847

Trashy coffee is freely imported, but it does not seem to reduce consumption. Regarding the workings of the tea law, Mr. Phelan says:

After only one season and a half we have had almost all the evils of fifty years abolished from the trade and the country. The millions of pounds of decayed and spurious leaves with which we were inundated have been at last eliminated, as well as all the trashy and worthless flavors which have been so unfit for use as almost to drive tea out of consumption. This has been accomplished without any advance of price, excepting on the very trash which it was desirable to exclude. Until a recent advance, on account of the imposition of a duty which deterred importation, all the teas which had any substantial merit were sold at a lower price than ever before in the history of the tea trade. Good flavored Oolongs are procurable in large quantities for 14c per pound in bond, and good sweet young Hysons at 13½c per pound, the same quality of Congous (English breakfast) at 14c per pound, and Japans from 15 to 16c per pound. There is hardly an impure leaf in the entire importations of teas to America during the present season, and we go on record as receiving the finest crop of teas, not only in our own history, but in the history of any other nation.

The consumer has been thoroughly and absolutely protected without increase in price for fair quality, excepting by the recent duty imposed by Congress. The representation, therefore, made in the brief that great injustice has been done to the poor man is entirely at variance with the universally acknowledged facts.

In this connection we republish the statement from last week's market report, showing the importations of tea in 1898, and the sources of supply, as follows:—

FROM	Quantity lbs.	Value Dollars.
Japan	30,923,813	4,403,121
China	30,591,506	4,065,145
United Kingdom	2,537,671	506,554
East Indies	1,976,968	298,199
British North America ...	1,437,772	226,400
Other Asia and Oceanica ...	1,327,156	43,150
Other Countries	9,077	2,390
Total imports 1898	68,803,963	9,544,976
„ „ 1897	99,708,183	13,445,080

The above shows that Japan furnished 45 per cent. of the total imports; China, 4·44 per cent.

Before the 10c per pound duty, a very good tea was retailed at 20 @ 25c per pound furnishing a wholesome and palatable beverage at $3\frac{1}{3}$ @ $4\frac{1}{4}$c per gallon, but now coffee is the cheaper drink, for which and beer the American people seem to have a decided preference. The value of the 1898 imports of tea was $9,608,252, against imports of coffee valued at $62,674,241.

CINCHONA BARK AND QUININE.

The *Chemist and Druggist* of 11th ultimo has the following interesting remarks on these products:—

During the past five weeks, fully one-and-a-half million ounces of quinine have been bought and sold in London. Five or six buyers have been concerned in the speculation, and they have bought and sold "spot" and "forward" stuff. May-June delivery has been the favourite, but even November-December has been bought at 1*s.* $4\frac{1}{4}$*d.* per oz. These half-dozen speculators set themselves against the wisdom of all the sellers when they estimate that quinine is bound to be dearer at the end of the year than it is now. It is admitted all round that they are well advised, and the advice in some cases has been so excellent that some after making their bit have quietly retired. Something like 250*l.* profit a day has been made during the past month by sellers; what buyers will make remains to be seen. We have endeavoured to make it quite clear in our market reports that the quinine boom is fictitious in its scope. Two German brands of quinine alone have been greatly involved in the boom. Speculators have a fancy for these—why they cannot tell; but since so much of the "quinine" exists on paper only, one is as good as another for speculative purposes, provided the speculators agree to recognise specific articles. It is interesting to note the immediate effects of the speculation upon production. In the first place, there is no doubt whatever that the German makers have been buying every scrap of bark they can lay their hands on, and they want it urgently, which means that they have orders for quinine to fill. Professedly they do not supply speculators, and actually speculation stimulates production. That seems undeniable. But how much stimulus? The quinine landed in London last month amounted to 112,176 oz., against speculative sales of over a million, some of which were "forward." The January-February importations and stocks (at the end of February) of quinine sulphate for the last five years are as follows (in lbs.):—

	1899	1898	1897	1896	1895
Imports ...	15,402	10,811	4,556	5,293	2,750
Stocks ...	105,766	87,502	120,648	163,063	200,483

These figures show that there is enough stock in London to meet the transactions of speculators, which, though totalling a million and a half ounces, do not leave much in excess of half a million to be provided. A good deal of old quinine has changed hands. Various suggestions are put forward to strengthen the position, such as the statement that America will be buying soon; America is always buying, and could not afford to do otherwise seeing that she is the largest and steadiest consumer. The substantial justification of a rise in quinine is the fall in bark imports, which are very low, the Board of Trade figures for the past three years being:—

	1899	1898	1897
Imported ...	4,186	10,493	2,984 cwt.
Exported ...	4,754	2,503	799 „

These export figures substantiate our statement regarding exceptional German purchases this year, which have been as four to one by our other foreign buyers. The exports are also greater than the imports, which would be bad, were our stock on February 28 (20,061 bales) not better than on February 28, 1898 (19,293 bales) but that is not much to boast about in view of the decrease in the Java shipments. The latter decrease is too sudden to be natural. As far as we know, cinchona cultivation is not on the decline in Java, and it is actually extending in Ceylon, whose shipments this year are much better than they have been for four years, so that, although the supplies of bark at present look scanty, they are not so famine-stricken as to justify the extremely pessimistic views which obtain in some quarters. There is an all-round feeling that quinine has been too cheap for the bark-producer, quinine manufacturer, wholesaler, retailer, and consumer, and if it is not made too dear—*i.e.*, much above 1*s.* 4*d.* per oz.—it will be of benefit all round.

THE RISE IN INDIAN TEA.

Periods of abnormal cheapness are not infrequently followed by intervals of exceptional dearness, and such, says the *Grocer*, is the experience of those in the Indian tea trade just now. Several seasons of abundant and increasing crops following close upon one another had, up to the end of last year, so flattened the market that prices were forced down to an extremely low point, so low indeed as to make it almost impossible to produce tea at a remunerative figure; and many of the companies in India, considerable distances apart, were, as growers or importers of tea, beginning to find the industry an unprofitable one, so far as they were concerned. The wholesale dealers were also said to be losing money in the article by holding larger stocks than were supposed to be necessary, and buying brokers had more parcels on hand than they seemed to have any prospect of turning over at a profit. This was the state of affairs up to the close for the Christmas holidays, and nobody had the courage to initiate an upward move in prices, which would have paid them handsomely for their trouble

Everything was left to chance, and it was the opinion of the majority of the trade that, because Indian tea had been exceedingly cheap, it was going to continue so far an indefinite term. Meanwhile there were certain forces in operation which were calculated to bring about quite opposite results, and chief among these was the expanding use of the article, not only in this country, but in places abroad. British-grown tea is evidently an especial favourite with most classes of consumers, its merits in yielding a good, strong liquor in cup, and likewise in possessing a peculiar pungency of flavour, ensuring for it a ready reception wherever it is introduced; and every year a widening out of the consumption has been seen Marked as this was last year, when 133,430 350 lbs. Indian tea were consumed in the United Kingdom, in opposition to 124,534,194 lbs. in 1897, it has been even more so since; and during the past two months the London clearances alone of the same kind of tea for home use and exportation have been augmented by 2,191,200 lbs., the total a mounting up to 24,847,200 lbs., in contrast with 22,656,000 lbs in 1898. Whilst this expansion in the deliveries for general purposes has been going on, all surplus stocks in the hands of holders have been gradually worked off, and the stock of Indian tea here, which at the end of February, 1898, embraced 64,080,300 lbs., against only 55,424,700 lbs. in 1897, was by the 1st inst. shrunk to 59,460,000 lbs. It therefore now shows a deficiency of 4,620,300 lbs, instead of an excess of 8,655,600 lbs. as it did a twelvemonth ago

The recent advance in prices for common sorts—equalling from the lowest point $1\frac{1}{2}$d. to 2d. per lb. on all Indian teas below 8d.—has naturally caused quite a commotion amongst the blenders and purveyors of packet teas, which are a great speciality with the trade; and so increasingly difficult has it become to execute orders since the commencement of the year that purchasers in urgent need of stock have been compelled to enter the market for Ceylon and China descriptions, to pick up there such kinds as might suit them as substitutes for the familiar and useful varieties of Indian growths. Nor is there any alternative to this mode of dealing, which must be more or less cramped while the available supplies in first hands are diminishing, without the least prospect of an increase until the opening of a new season, and that is a long way off at present. The rise in prices, not having been brought about by over-speculation, is a perfectly genuine one, and it is because most parties are convinced of the soundness of its position, that they incline to the opinion that the recent advance in Indian tea is likely to be well maintained.

TWO OF A TRADE.

That two of a trade seldom agree is a common saying. Its weakness, however, resides in the fact that it is a cavilling, sneering saying. The idea sought to be conveyed is that the disagreement is the outcome of reciprocal jealousy While that is likely, it is not a necessary, or even a philosophical, inference. Two of a trade may easily see reasons for an honest difference of opinion to which the outsider is blind. Again, two of a trade may agree and both be wrong—on a point, of course, connected with their own industry. Some years ago there was high debate over the question whether a painting, exhibited in Paris, was an original Velasquez or a copy. Half the artists and *connoisseurs* in Europe got hot under the collar about it. It was one or the other—so they said. Later on the

fact came out. It was neither an original nor a copy; it was a *replica*. The experts were mistaken. And so runs speculative judgment in everything.

Here is the case of two doctors; both, doubtless, competent men. If they were wrong, or if only one was wrong,—but let us have the story first. It comes from a reputable source, and is well corroborated.

"In March, 1891," says the relater, "I had a severe attack of influenza, which prostrated me for two months. After this I could not get up my strength. My appetite was poor, and what little I did eat gave me much pain at the chest and around the heart. Sharp, cutting pains in the region of the heart seized me every now and again, sometimes so bad I feared I was going to die. At night I got little or no sleep on account of wind, which rose into my throat until I fairly gasped for breath. During the painful attacks of my complaint, perspiration would stand in beads upon my face.

"I soon lost strength to that extent I could not stand. Indeed, I was weak as a child. I was often so dizzy I had to catch hold of something to keep me from falling. Several times these attacks have come upon me at concerts, obliging my friends to conduct me home. As time passed on, I grew more and more feeble and abandoned all hope of ever being well and strong again.

"I had two doctors attending me who prescribed medicines; which, however, eased me only for a time and then I was as bad as ever.

"*One doctor said I had pleurisy; the other said I had heart disease.*

"For two and one-half years I lingered along, nearly as much dead as alive, all my relatives and friends thinking I would not recover. In November 1893, a book was left at my house in which I read of a case like mine having been cured by Mother Seigel's Syrup. My wife procured me a bottle from the Provincial Drug Stores in West-gate Street, and the first bottle gave so much relief that I continued with the medicine. I could then eat well and the food agreed with me; the pain around the heart soon ceasing.

"In a short time my strength returned and I got back to my work well and vigorous. Since then I have been *in the best of health.*) You are at liberty to publish this statement and refer to me."—Signed) William Henry Jervis, 48, Rendlesham Road, All Saints, Ipswich, November 13th, 1897.

One of Mr. Jervis' doctors pronounced his complaint to be pleurisy; the other said it was heart disease. Were they both right, or both wrong? Or was one right, and the other wrong? In the latter case—which one? Judging from the symptoms as set forth by Mr. Jervis the probability is that both were right—*as far as they went.*

The sac or bag which surrounds the heart (called the pericardium), and the sac in which the lungs rest (called the pleuræ), are parts of the lymphatic system; which is the especial abiding place and stamping ground of the kind of poison, produced by the diseased digestive system, and the cause of rheumatism, gout, pleurisy, and heart disease. Now, after (if not before) his attack of influenza Mr. Jervis suffered from acute dyspepsia with torpid liver, which engendered the poison that set up a mild form of both pleurisy and heart disorder. When the real and underlying ailment of all—the *dyspepsia*—was cured by Mother Seigel's Syrup these supplementary or consequential troubles vanished, as might be expected.

So we see that—strange as it may seem—two of a trade can differ and both be right.

MARKET REPORT.

By Mail advices of 10th March 1899.

COFFEE.

The *Commercial Record* says: The depression in this market continues, and the moderate supplies at auction barely half placed. A small proportion of fine colory Ceylon found buyers at about previous rates, but greyish low-grown was cheaper. Only a small qnantity of East India was offered and was all withdrawn. Medium qualities of Foreign origin moved off very slowly at a depreciation of 2s. to 3s. per cwt., whilst good ordinary to common were practically unsaleable. "Futures" show a further decline, brought about by continued large receipts and a fall in Exchange, but business is brisk and at the close there is a little steadier tone at the reduction.

London	... Santos	.. July delivery		... 29s. 9d.
New York	... No. 7 Rio	... „	„	... 5.40 cents.
Hamburg	... Santos	... „	„	... 29¾ pf.
Havre	... Santos	... „	„	... 35¾ francs.
Holland	... Good ordinary Java		„	... 27 cents.

At the Dutch Trading Company's public sale held in Rotterdam on Tuesday, 21,620 bags Java, &c., were offered and sold at an irregular decline, good ordinary Java realising 27 cents (or 3½ cents below valuation), against 31 cents last sale. The following are some of the particulars:—

	Lying in Rotterdam. Bags.	Valued at, Cents.	Result. Cents.
No. 1 ...	1,750	30	27 @ 27¼
2 ...	1,373	46	40½ „ 40¾
3 ...	949	47	41 „ 41¼
4 ...	638	46½	40¾ „ 41
11 ...	688	32	28 „ —
12 ...	218	34	31¼ „ —
14 ...	1,301	30	27 „ 27½
19 ...	455	30½	27½ „ —
21 ...	404	30½	27½ „ —

Imports; Deliveries and Stock of Coffee in London are as follows:—

		Stock. 1899.	Stock. 1898.	Imports. 1899.	Imports. 1898.
West India	tons.	754	655	571	678
Ceylon	...	137	108	131	52
East India	...	1,481	1,314	1,267	1,066
Mocha	...	446	433	101	102
Brazil	...	3,365	3,131	204	922
Other Foreign	...	6,766	4,800	2,453	3,846
Total tons ..		12,949	10,441	4,727	6,666

		Home Consumption. 1899.	Home Consumption. 1898.	Export. 1899.	Export. 1898.
West India	tons.	61	73	156	266
Ceylon	...	24	31	36	30
East India	...	351	451	362	404
Mocha	...	137	150	27	17
Brazil	...	229	277	268	391
Other Foreign	...	1,815	1,522	2,719	2,195
Total tons...		2,617	2,504	3,568	3,303

The preceding figures exhibit—

In the Imports a decrease this year of	1,939	tons.
Home Consumption an increase of	113	„
Export an increase of ...	265	„
Stock an increase of ...	2,508	„

Auctions this week have gone off as under:—

Ceylon—*Plantation.*—27 casks 17 tierces 8 barrels partly sold, smalls 56s to 60s, low middling nipped colory 80s, bold to extra bold 97s to 111s, pea-berry 121s.

East India.—113 bags withdrawn.

Jamaica.—Of 28 barrels 103 bags offered 30 packages sold—fine ordinary 38s 6d to 40s.

Costa Rica.—6,143 bags catalogued and a small part sold, smalls 26s to 54s, fine colory smalls 62s, fine to fine fine ordinary greenish colory 45s 6d to 48s 6d, low middling to middling colory 53s to 64s 6d, good middling 68s to 76s 6d, bold pale greenish 75s 6d, good bold smooth green 78s to 85s, fine middling blue 93s, good to fine bold blue 82s to 97s 6d. very fine 103s to 106s 6d. pea berry, 41s 6d to 120s.

Guatemala.—2,101 bags offered and 1,300 bags sold—small ordinary dull green 32s 6d to 36s 6d, fine to fine fine ordinary greenish 41s to 43s, low middling colory 47s 6d to 49s, middling 50s 6d to 58s, good middling to bold blue 60s to 74s 6d, fine bold 87s. pea-berry 48s to 84s.

Vera Paz.—73 bags partly sold, small 25s 6d, fine ordinary dull green 44s. low middling at 45s. bold 63s. pea-berry 44s to 50s.

Salvador.—Of 568 bags 125 bags sold—bold dingy gray 52s, pea-berry 55s.

Savanilla.—150 bags bought in.

Mexican.—Of 144 bags offered 80 bags sold. low middling brownish colory 53s, bold 62s 6d, pea-berry 52s.

Columbian.—Of 1,324 bags offered 550 bags sold, smalls 28s to 39s 6d. good to fine ordinary dull gray 32s 6d to 40s, low middling to middling greenish 53s 6d to 59s. middling dull grayish to colory 60s to 6 s. bold faded greenish 63s to 69s 6d, good to fine bold greenish colory 72s to 79s, pea-berry 55s to 64s.

Peruvian.—43 bags low middling blue sold at 48s.

Eucador.—572 bags withdrawn.

Brazil.—420 bags Santos retired unsold.

At to-day's public sales 1,486 bags East India 207 barrels 71 bags Jamaica, 2,031 bags Costa Rica, 167 bags Mexican, 1,369 bags Gautemala, 317 bags Columbian, 179 bags Salvador, 579 bags Porto Rico, 205 bags New Granada, and 112 bags Cuban were offered. A better tone in the market, and all Coffee at all merchantable sold with fair competition at full rates and more sold, but low mixed grades were irregular.

Prices realized at auctions for the principal Mark of East India :—

COORG.

		O	A	B	PB	T
Binny's Coorg, Siddapur	...	82-0 bid	60-0 bid	48-0 bid	95-0 bid	40-0

TEA.

China.—Congous are fairly steady, but Oolongs tend in buyers' favour 2,973 packages offered at auction this week and about half sold as under :—

boxes new make Congou 6¾d to 7d.
ditto Caper 5¾d to 8d.
half-chests Oolong 6d to 9½d.
ditto Moning 8¼d to 10d.
half-chests Moyune Green Gunpowder 4¾d to 11¼d, fine 1s 3½d to 1s 6½d. Imperial 3½d, Hyson 4½d, Young Hyson 4⅜d to 7½d, Sow Mee 6¼d to 1½d, Foong Mee 9d to 11¼d.
boxes Ping Suey 5¼d to 8d.

Indian. The auctions were lighter, comprising 35,000 packages against 45,400 packages last week, and 31,400 packages for the corresponding period of 1898.

In contra-distinction to this time in the previous year, when business both at home and abroad was quiet, the strong enquiry prevalent lately for the lower grades of leaf and also Broken Teas has continued, fully former rates to an occasional advance having been paid. The upward tendency in these has, however, somewhat detrimentally affected medium to fine kinds, aud although the attractive lines still commanded prior quotations, others were more or less neglected and in many instances easier. Quality of most of the arrivals was of useful character, but in some cases the appearance was brownish and mixed

Exports from London to the Continent, &c., as will be seen by the figures below, are progressing satisfactorily, nowithstanding that on account of the rise in values it was not practicable to execute a portion of the orders coming to hand recently.

For 27,000 packages on Estate account 9¼d. per lb. was realised. versus 8d. per lb. for 20,400 packages and 9d. per lb. for 19,500 packages in the two preceding seasons.

Ceylon.—Public sales were heavier. including 27,400 packages., compared with 20.400 packages on the 28th ulto., and 19.200 packages a year ago.

Common to fair Pekoe Souchongs, Pekoes, as also brokens and dusts were in strong request and very firm to ¼d. per lb. dearer. Medium Pekoes and Orange Pekoes showed some irregularity, but on the whole were unchanged. Broken Pekoes between 5d. and 11d. per lb. as a rule favoured buyers, but from 1s. per lb. upwards there was better competition and more money was often given to secure the choicest, among the best broken orange Pekoes being the following: Talawakelle 1s. 4¾d., Ingestre 1s. 4½d , Diyanilakelle 1s. 4d., Elgin and Lippakelle 1s. 3¾d., Wootton 1s. 3¼d., Hauteville and Lindoola 1s. 3d., Abbotsford, Campion, Goatfel and Taurus 1s 2½d., per lb.

February exports from the United Kingdom to other countries shew considerable expansion contrasted with the same month in the foregoing year, the higher range of prices current not having apparently checked this branch of the business.

The average is 8¾d per lb. On the 2nd inst. it was nearly 8¾d per lb., and 7¼d per lb. in 1898.

Java.—Nearly 1,200 packages passed the hammer, most descriptions meeting with a good reception and favouring sellers.

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns, were :—

From 1st to 7th March, 1899 ... 4.345,736 lbs.
" " " 1898 ... 4,075,120 "

During the week the following have been printed for sale by public auction :—

	Sold. Pkgs.	Withdrawn. Pkgs.	Total offered. Pkgs.
India ...	32 099	2,949	35,048
Ceylon ..	25.555	1,808	27,363
Java ...	1,087	50	1,137
Total...	58,741	4,807	33,548

Also 831 packages from second hands.

Pimento firm but quiet. 305 bags offered and 78 bags sold, fully fair 4 1/16d per lb.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated March 10th, 1899, says :—

QUANTITY BROUGHT TO AUCTION IN LONDON
From 1st June to Date.

	Indian	Ceylon.	Java.
1898-1899.	1,370,739 pkgs.	876,697 pkgs.	36,731 pkgs.
1897-1898.	1,328,871 "	928,422 "	32,611 "

35,492 pkgs. Indian
27,714 " Ceylon
1,165 " Java
} Total 64,371 packages were offered in public auction this week.

Some 18 million pounds of Indian Tea were diverted from London to countries outside the United Kingdom during 1898, thus affording considerable relief to the market. The quantity of Tea sent direct from Calcutta to these external markets has steadily progressed during many years past.

Indian. The late activity in bidding for Teas under 7½d. was obually pronounced this week, hardly any whole leaf Tea being now obtainable under 7d per lb. Medium to fair descriptions were still slightly irregular, although with a somewhat firmer tendency. The Autumn crop, taken as a whole, is distinctly preferable to last year, and many of the Teas now arriving have very good liquoring qualities. The following averages are worthy of note :—"British Darjeeling Co. Thurbo," 1/10½; "Assam Frontier Co. Khobong," 1/5½; "Jokai T. Co. Subansiri B," 1/5¼

Ceylon. With keen competition Teas under 7½d. were again slightly dearer. Teas above this price were somewhat overlooked and in many cases suffered in value. Hardly any whole leaf Tea can now be obtained under 7d. According to the Official wire the quantity available for shipment to the United Kingdom during March is expected to be 8 to 8½ millions. against actual shipments of 9,500,000 during March, 1898. Avgs. :—"Carolina T. Co., Gortfell," 1/1¼; "Dimbula Valley Elgin," & "Lippakelle," 1/-; "Associated T Co Silver Kandy," 11¾; "Taurus," 11½.

Average for week 8·66d., against 7·12d. same week 1898.

Ceylon Tea sold on Garden Account, 1st Jan. to date 1899, 201,726 pkgs., av., 8·26d. 1898, 227,298 pkgs., av., 7·70d.

		1899.	1898.	1897.	1896.
Pekoe Soug.	(Ordinary leaf; fair liquor)	7¼d.	5¾d.	6½d.	6¼d.
Pekoe	(Ordinary leaf, little twist; fair liquor)	8¼d.	6½d.	7½d.	7½d.
Pekoe Soug.	(Rather bold leaf; indifferent liquor)	6¾d.	4½d.	5¼d	5d.
Pekoe	(Somewhat bold leaf; indifferent liquor)	7¼d.	5d.	6d.	5½d.

Java. Sales reflected the conditions noted above in Indian and Ceylon Teas, competition being very strong and prices if anything slightly dearer.

The stock of Ceylon Tea for 1898 was erroneously printed in our last week's circular as 11,295,574 instead of 18,295,574; the total stock of all Teas in that year being correct, viz. :—101,077,073 lbs.

IN AUSTRALIA.

Sydney, March 6th.—30 half-chests of common Indians sold at 7¼d. in bond; 20 chests of Ceylon pekoe, 7¾d.; 25 chests of Ceylon broken pekoe, 8½d.; 40 heavyweight common panyong, 5d.; 100 ¾-chests of panyong at 8½d., and 150 ditto at 7½d. in bond. All teas "for price" were in keen request, other descriptions being more or less neglected.

Melbourne, March 3rd.—There has been a good demand for China tea at late advanced rates, and sales include 900 original half-chests at 5½d. Of Ceylon teas 200 packages have been placed at prices ranging up to 9d. Supplies of Ceylon now on the water are restricted. The "Darius," which is expected to arrive at Adelaide on Monday next, and at Port Philip towards the end of the week,

brings 4,982 packages Indian tea for Melbourne. *Later.*—At the tea auction, 450 packages Ceylon were offered, and 58 chests pekoe sold at 7¼d. to 7¾d. Importers' reserves were generally ¼d. to ¾d. over bids. Private tea sales cover 1,200 half-chests panyong at 5¼d. to 5½d., 250half-chests kooloo, 100 chests Indian at 6½d., 50 chests Ceylon at 6½d. to 7¼d.

COCOA

Supplies brought to the hammer on Tuesday were moderate, the total amounting to only 4,932 bags. The tone was firm, and on occasional movement in favour of holders was again observable, notably in the case of African and Ceylon. Of 896 bags Trinidad offered 440 bags sold at 76s to 77s for fine red, and 74s to 75s for fair to good 13 bags fine fermented Jamaica brought 72s 6d. 45 bags Grenada and 213 bags Dominica retired unsold. 15 bags Surinam—fine red—sold "without reserve" at 73s 6d. Of 251 bags Guayaquil 50 bags of good Winter Arriba were placed at 73s. 5 bags Samana sold, out of 427 bags catalogued, at 55s for sea-damaged. Of 517 bags African 140 bags fine red sold at 73s 6d, being rather dearer. Ceylon's offering was almost a record one—2,455 bags being brought forward—and, with a good demand, 1,200 bags sold at here and there improved values, viz., fine to superior bold and medium red 76s to 82s 6d, fair to good ditto 73s to 75s, medium and small 60s to 67s, pieces 72s, smalls 57s 6d to 65s, and black to good pickings 40s 6d to 64s per cwt. Privately sales are restricted to 200 bags Guayaquil-Caraquez at 72s, and red Arriba at 78s per cwt.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

		1899.	1898	1897.	1896
Imports, B.P.	bags.	32,440	43,055	33,810	34,778
Foreign	...	10,262	34,357	14,473	15,816
Home Con., B P.	...	17,701	23,121	17,457	15,619
Foreign	...	12,132	11,957	14,215	12,162
Exports, B.P.	...	10,145	5,920	9,226	7,186
Foreign	...	9,162	8,492	9,289	4,012
Stock, B.P.	...	50,177	74,053	86,403	77,650
Foreign	..	41,542	47,408	52,388	76,007

PEPPER.

Black.—A very quiet market this week, with prices in buyers favor. Singapore has been sold at $5\frac{5}{16}$d for fair on the spot (closing sellers at the price) at $5\frac{21}{32}$d down to $5\frac{9}{16}$d April-June (s.), and at $5\frac{5}{8}$d May-July. About 200 tons sold

At auction on the 8th inst. 506 bags Penang were offered, of which 48 bags sold, sea damaged class I, 4 lbs. 8 ozs. weight, 4·38% dust per gallon 5d per lb.

White.—The market has also been very quiet, but is a shade firmer at the close. For arrival about 50 tons Singapore have been sold—near at hand at $8\frac{3}{4}$d, and April-June (s.) $8\frac{7}{8}$d. On the spot a small business has been done in fair Singapore at $8\frac{3}{4}$d, and fair Penang at $7\frac{7}{8}$d per lb.

At public sale on Wednesday of 334 bags Singapore catalogued 14 bags sold, fully fair $8\frac{1}{4}$d 328 bags Siam retired at $8\frac{3}{4}$d to 9d. 68 bags Penang offered and 10 bags fair sold at $7\frac{7}{8}$d per lb., average re-weights.

Market closes dull and weaker. Singapore on the spot 5¼d sellers for fair. May-July shipment 5⅝d sellers

50 tons Tellicherry June-August shipment have been sold at 5¼d per lb. landed terms London.

GINGER.

Cochin.—Offerings were very small, the total being only 26 cases, 173 bags, but this proved more than sufficient for the extremely limited demand. The market seems to have fallen on evil days, and it was necessary to again submit to a reduction of 2s. per cwt. on washed rough. 5 cases 93 bags sold—small and ends lean cut limed (1896 import) 27s, good medium and small, partly bold, bright washed rough 26s, leaner and brownish ditto 23s per cwt

Japan.—69 bags slightly mouldy, dull limed sold "without reserve" at 18s 6d to 19s per cwt, being lower.

Jamaica,—92 barrels were bought in at 70s to 82s. 2 bags *St. Lucia* realised 60s per cwt

A parcel of Cochin D's has been sold to arrive at 17s per cwt. c.i.f. London ex ship afloat.

CINCHONA.

The amount exported from Ceylon during the whole month of January was 16,164 lbs., against 66,101 lbs. for January, 1898. The United Kingdom received the total amount in January this year.

The shipments from January 1 to February 14 were:

	1899	1898	1897	1896
Lbs. ...	98,675	92,477	20.826	70,677

For the week ending February 14, 82,511 lbs. were exported—to London 73.373 lbs., and to New York 9,138 lbs. Buying of second-hand and other parcels has been going on steadily this week at the advance noted in our last (about 10 per cent.). Little now remains in second hands, and brokers are strong holders.

QUININE.

There has been another very active week, and the second-hand market has advanced from 1s. 3d. to 1s 3¾d. for good German in bulk on the spot, and to 1s. 4⅛d. for May delivery of the same. Last week closed with second-hand sales amounting to about 500,000 ounces, and this week the sales amount to about 250,000 ounces. The market to-day is very strong. Apparently no manufacturer, English or German, would sell to-day at last week's figures, and the Amsterdam factory have made a distinct move to 1s. 4½d.

CARDAMOMS.

There has been a fairly good business in all sorts this week, but chiefly in *Malabar*, small light fruit in which have sold at 1s. 8d., and barely fair quality at 2s. 3d. There were exported 35.060 lbs. from Ceylon in January last, of which the United Kingdom received 23,522 lbs., and India 11,158 lbs. The exports from January 1 to February 14 were:—

	1899	1898	1897	1896
Lbs ..	64,647	40,146	41,853	30,024

The shipments for the week ending February 14 were 17,892 lbs., destined as follows: London, 6,926; Hamburg, 5,424; Copenhagen, 2.016; Bombay, 1,998; and New York, 1,518 lbs. Business on this market proceeds steadily, at unchanged rates

Export of Indian Tea from Calcutta, during the last six years, as shown by figures of the Indian Tea Association.

	1898.	1897.	1896.	1895.	1894.	1893.
Australia and New Zealand ...	6,257,281	7,093,948	5,864,558	6,113.365	5,559,518	5.778.147
America	3,162,440	2,537,857	2,390,686	1,134,432	532,291	187,798
Other Places	8,902,320	6,159,067	5,795,426	4,397,836	4,143,079	3,225,713
Total outside the U. K.	18.322,041	15,790,872	14,050,670	11,646,633	10.234,888	9,191,658
United Kingdom	135,346,361	134,420,550	128,549,356	121,948,015	116,076,878	111,853 934
Total lbs. ...	153,668,402	150,211,422	142,600,026	133,594,648	126,311,766	121.045.592

(Average for all India 9·25d.) *March 10th.*

Garden.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust, and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price.
Travancore ... Home... ...	160 p	6¾	—	—	98½c	6¾	53½c	7¼	—	—	4½c	6	5	5

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

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N. B.—Remittance, should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 14th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

S. E. Wynaad.

Saint Catherine's Estate.—Davala, *5th April* 1899. *Weather.*—On the 31st March, 1st, 2nd, 3rd and 4th instant, we had good evening showers, to-day clouds are overhanging, and we expect a heavy shower. *Crop.*—Gleaning and despatching of crop finished on most of the estates, on some estates still current. *Plant Disease*—nil. *Interesting Items.*—The ryots are very busy in ploughing and sowing paddy, etc.

Coorg.

Polli Betta.—Heavy rain on Sunday and Monday, the 2nd and 3rd instant, amounting in several cases to over 3 inches; and sufficient in all. *Crops.*—This rain has been most seasonable, and crops ought to be fairly good. Where, however, trees have been overbearing, any amount of rain won't help matters. *Interesting items.*—Camp of instruction here a great success. Mercara camp now on.

TRICHINOPOLY PHOSPHATES.

The latest number of *The Agricultural Ledger* deals with the Phosphatic Nodules of Trichinopoly and the Use of Mineral Phosphates in Agriculture. It is from the pen of Mr D. Hooper, F. I. C., F. C. S., and is written "with a view to draw attention to the possibilities of an extensive bed of phosphatic nodules in Southern India in placing within reach of planters and native cultivators a useful fertiliser for improving their crops." We need not trace the history of the discovery of these phosphates. We are informed by Mr. Hooper that they are amorphous in their character and have no definite chemical composition, and hence cannot be regarded as purely mineral. In works on Mineralogy they are classified under the head of Apatites. The Trichinopoly phosphates are not coprolites, but "concretionary masses containing more or less calcium carbonate." They are of organic origin, and Mr. Hooper remarks that it will be difficult to apply to them any other more suitable term than that of mineral phosphates. "Their close association with mineral formations naturally leads one to regard them as inorganics, and the name mineral phosphate at once distinguishes them from bone phosphate, since it is well known that the osseous system of the animal kingdom consists largely of the same chemical constituents with varying proportions of other elements." The nodules contain for the most part a compound of lime, known as tricalcic or tribasic phosphate, with smaller quantities of iron, alumina. magnesia, silica and carbonic and sulphuric acids. The following analyses refer to 1 cwt. analysed by Mr. J. A. Voelcker in London and an average sample analysed by Mr. Hooper himself.

	Voelcker.	Hooper.
Moisture	1·53	1·53
Combined water and organic matter ...	2·85	2·66
Phosphoric acid ...	26 05	24·58
Lime	45·51	43·51
Oxide of Iron	3·14	8·62
Alumina	2·63	
Magnesia	34	·29
Sulphuric Acid	·60	·50
Carbonic Acid	7·23	7·38
Fluorine and alkalies	4·84	2 43
Insoluble siliceous matter ...	5·28	8·50
	100·00	100·00

For comparison with the above, Mr. Hooper cites some of the more important phosphatic deposits of the world and the percentages of phosphoric acid contained in them, as follows:—

Cambridge coprolites	26·6
Suffolk	25 2
Bedfordshire	21 0 to 25·0
German apatites	30·9 to 35 7
French phosphate	33·7 to 35·5
Norwegian chlor-apalite	35 6
Spanish phosphorites	36·3 to 39
Canadian apatite	33·5 to 41·5
West Indian phosphates	36·0 to 48 8
South Carolina (fossiliferous)	22·0 to 28·4

Turning to the question of what use can be made of the mineral phosphates of Trichinopoly, Mr Hooper observes that the chief use of coprolites and phosphorites is in the preparation of superphosphates or soluble phosphate of lime. As Dr. Voelcker remarked in his report on the Trichinopoly phosphates, the practical question for consideration is whether it would be profitable to reduce the nodules to superphosphate. The Secretary of State for India observed that the cost of machinery and chemicals for the treatment of 60,000 tons—the estimated yield of the Trichinopoly deposits—would probably more than equal that of the importation from the United Kingdom or the United States of America of any manufactured superphosphates required in India. Mr. Hooper evidently shares this view. Dr. Voelcker pointed out that the high percentage of iron and alumina was a drawback. The effect was, he said, to prevent a good nicely manufactured superphosphate being made. Besides, the soluble phosphate formed by treatment of the material with acid would be lower in amount, and likely to lessen still more on keeping.

As, however, mineral phosphate can be successfully employed in a raw state, provided it has been disintegrated, there remains this method of making use of the Trichinopoly deposits. The phosphate, even in a disintegrated state, is not soluble in water, but the action of the soil and the rootlets of plants render them in the course of time available to the crop. As Mr. Hooper observes, the question for the farmer is not one of water solubility, but of assimilability of the manure, and until we know more about the natural decomposition induced by the soil and the action of root hairs, before it is rendered available for the plant, artificial tests lead only to conjecture. Still, experiments that have been conducted elsewhere show that the possibilities of phosphatic deposits such as those of Trichinopoly are far-reaching. The nodules may be employed in one of three conditions: as a simple powder, as a high grade superphosphate, or as an intermediary product prepared by intimately mixing two parts of the super or acid phosphate with one part of the ground mineral. After referring to some interesting experiments conducted by himself, Mr. Hooper concludes that there is no question as to the benefits to be derived from the employment of mineral phosphate in Indian agriculture. It is known in regard to the Nilgiris, for instance, that there is a deficiency of lime and phosphoric acid in the soil. An addition of these two ingredients has always proved beneficial to the local tea, coffee and cinchona estates. Medicinal plants, in particular, would appear to benefit. It has been proved over and over again in cinchona culture that nitrogenous and phosphatic manures increase the amount of alkaloids in the bark, and Mr. Hooper evidently considers that Trichinopoly phosphates might be turned to good account, for the manuring of medicinal plants, at least.

COFFEE IN DISTANT LANDS.

V.

Bolivia.—Some of the best coffee in the world is grown in the province of Yungas, and though the quantity obtained is small, there is a likelihood of its increasing. At present most of the production is consumed in the country.

Ecuador.—The coffee crop of 1893 reached over 50,000 quintals, being considerably larger than for any previous year. As there was much more land in coffee the next year, a still larger crop was gathered, and since then the figures

have inereased still furthers. The information from the Daule, Boliche, and Zaguachi districts was very favorable. The new crop begins to come in during July and August. The attention of agriculturalists has been directed to the planting of coffee in the mountain districts, from 2,000 to 5,000 feet above sea level, and there is a vast extent of available land which can yet be utilized for the growth of coffee. When handled properly, the coffee grown in Ecuador is of superior quality. The American Consul reported in 1894 :—"I have no doubt but that, in a few years, it will deserve a separate classification in our markets as Guayaquil coffee. Besides the coffee lands tributary to Guayaquil, there is a large area of the very finest coffee lands in the upper provinces of Esmeraldas and Manoba. The British consular report for 1896 alludes to larger exports, but gives no figures.

Nicaragua.—From an American Consular report we learn that owing to the lack of rainfall in a portion of the coffee-growing section of the country—that portion nearest the Pacific Ocean—during the last three years, the crop of 1896-97 was not a full one. The quality also suffered in a slight degree. The planting of young trees went right along from year to year, so that with a good season and a full crop Nicaragua would have produced fully 50,000 bags or 5,000,000 pounds more than in any previous year. The Matagalpa region, in which is located the American colony, is in the interior of the country, and it is benefited by the rains which come up to it from the Caribbean Sea. Consequently the crop of that region was double that of 1895-96, the export reaching 1,000,000 pounds against about 500,000 pounds in 1895-96. The Consul remarks :—As going to illustrate the growth of this industry in that section, I note that when I came here four years ago there were but twenty-eight Americans—men, women and children ; there are now in the colony ninety Americans. One, and only one, American child has been born in the colony—a daughter to Isaac A. Manning and wife in June 1896. At that time (1893) the number of coffee-trees, but few yet in bearing, was reported to be less than 50,000 ; at this time the number exceeds 7,000,000. With a good season, it is estimated that the crop next year will, owing to the young trees coming into bearing, reach the amount of 4,000,000 pounds. The American capital represented about Matagalpa in 1893 did not exceed $50,000 (United States currency). At the present time, the investments in Coffee culture of American companies aggregate $405,000 and individual investments $155,000, making a total of $560,000 (gold) a gain of $510,000 within four years. The quality of the Matagalpa coffee is equal to the best Costa Rica and Guatemala article, which in the markets of the world, is "equaled by few and excelled by none." As to the healthfulness of that region, the Manning Bros., to whom I am indebted for the figures and general information in this despatch, say : "After a residence of four years here, we can testify as to the absolute absence of 'miasma' in this region. The general health of the colony is and has been very good. There has been no sickness among the members traceable to the climate. There have been but three deaths among the Americans in five years, none of which were due in any measure to climatic influences." The climate is agreeable, the thermometer ranging from 65° to 85° F. The principal population of the district is Indian, of whom there are believed to be more than 40,000. They furnish the principal and best labor. They are easily led, but can not be driven. As to wages, the Messrs. Manning write : "Common Laborers on the Coffee estates are paid from 30 to 50 cents. per day ; teamsters, $12 to $20 per month; plantation foremen $20 to $30 ; carpenters, $1 to $1·50 per day. We need a good machinist, with his tools and a set of job machinery,—a man who can turn his hand to any repair work and who is a blacksmith. Such a man would have about all he could do at good rates. There is a good opening here for a doctor, and he should open a fairly well-stocked drug store." Living expenses are not high—about the same cost here in silver as in the West of the United States in gold ; rents, about the same, but neither the houses nor the living are equal to what our citizens are accustomed to at home. Most of the vegetables we are accustomed to grow here ; cabbages, onions, tomatoes, and lettuce do well. Potatoes, do not completely mature, but are eatable. Tropical bulbs, yucca yams, and a sort of sweet potato are all relished. Such fruits as the orange, pineapple, banana, limes, etc., are extremely fine, but no successful attempt to raise the fruits of the temperate zone has been made. Cacao and rubber do well at an elevation anywhere up to 1,500 feet, and some attention is beginning to be paid to the cultivation of these crops in the lower lands between Matagalpa and the Atlantic. Cattle are extensively raised. Cows sell for from $10 to $20 ; oxen $30 to $40 ; mules $80 to $150 ; horses $20 to $50. The cattle are good, mules fair, and horses poor. The dairy business is quite extensive ; the product is cheese, which sells at .25 cents. per pound. Chickens are plentiful at $4 to $6 per dozen. Butter is scarcely known and of poor quality. Corn and beans flourish and are profitable crops. Wheat, oats, rye, and barley do not grow. The only mills in the country are old stone mills, without the bolting process. Lands can still be had from the Government for actual cultivation at a cost of about $3 (silver) per acre. Lands are covered with heavy, tropical forest and without roads to them.

Private advices dated as recently as 27th February 1899, state that the country is completely disorganized. The coffee is spoiling on the trees, as the labourers are drafted into the army. A war contribution of $200.000 has been levied on the inhabitants of Granada, and the export tax on coffee has been raised to $4 per quintal.

CEYLON BLENDED TEA.

Apropos of Mr. Blechynden's allusions to the desirability of bulking tea in Calcutta, we quote the following interesting remarks by a Ceylon planter, who writes to the Ceylon papers advocating the blending of tea at Colombo :—

With relation to teas, if there is one accepted fact more than another, it is that the British consumer has a preference for blended teas. The custom of the blender is to buy a certain quantity of various qualities and out of them to make a drinkable tea, for price, at the smallest cost to himself. This has resulted in the smaller country blender and dealer being almost thrown out of the market and the consequent larger London man acquiring an undue influence on the London market, and this looks as though it might go on until he has a monopoly altogether. Then, what will be the use of a Public Sales Auction mart? It will become simply "a knock out."

Surely it is time that the question of bonded warehouses and blending teas in Ceylon should be considered. There are buyers and there would be more, for they know what would re-sell best. Excepting perhaps some Chinas and some Darjilings, most Ceylon teas, more than others, can be drunk alone : yet few will be prepared to admit that any, even including the above, are so attractive as when judiciously blended ; and thus think the blender and consu-

mer: so it is no use bringing abstract ideas against practical conclusions.

Some years ago I proposed a scheme for introducing Ceylon teas into America and impressed my opinions fully on the necessity of the American dealer supplying blended teas to consumers. There is not the slightest doubt but that this is the line to be adopted. Americans have not hitherto proved themselves willing to drink either Ceylon or Indian tea, pure and simple; and this has been expressed by many writers, including our Commissioner, over and over again. I fear, however, Ceylon has lost the chance now of selling blended teas to America, if it ever possessed it, although other new countries are still assailable.

There are strong pungent flavoury teas grown in India, which if blended in inconsiderable proportions with many Ceylon light teas, would raise their values in the Colombo market, and besides make them more acceptable in other countries. In other words a judicious use of Indians would help the extension of four-fifths of the Ceylon-grown article. I do not say that Indians are superior to Ceylons: such would be treason, even if I thought it, which I do not; but I will, however, say that not using the geographical position of Colombo for this purpose, is neglecting one of the great advantages that the island possesses.

At present there are regular buyers in the Ceylon market and a fresh incentive would be established by those who, by blending a small proportion of foreign teas with Ceylons, would raise the value of those special kinds for which everyone would be pleased to meet with a better demand and price, resulting in obtaining help where most needed and producing qualities practically suited to the wants of the whole universe. At present Ceylon in adhering to sell not exactly what the buyers require, is injuring herself.

I doubt if requirements would be shipped from Calcutta or China to Colombo, cheaper than to London; so that the object in introducing would not be for the benefit of those countries, but to make the most of Ceylon teas. Neither is the importation likely to be overdone, as it would cost too much.

The consumption of tea is doubtless spreading over Europe; so if the merchants of Colombo could only adapt their samples to the wants of Southern Europe, saying nothing of the Persian Gulf and Egypt, a grand future is before them for the blended article. No country in the long-run could compete with them in the East. It does not much matter how the Ceylon planter is willing to view the question:—blending, if not done in Ceylon, will be done elsewhere; and if in Colombo the extra cost of extra shipment, carriage and landing will handicap the imported tea to such a degree that the object will be to use as little foreign, and as much locally-grown, as the blend will stand, and this always in a growing degree; so that in the long-run Ceylon teas will be most benefitted. Besides, from what I have seen, I believe it could be much better done in Ceylon than in London and as I have said its position seems to have been naturally chosen expressly for the purpose Indeed it is a great pity, that from the first, when Ceylon emerged into the world as a tea-growing country, it did not also start a universal market.

As I see blended teas winning their way everywhere, I write in no interest otherwise than that of a tea-grower, in whose basket most of my eggs are lying. As time goes on, Ceylon will be brought in closer competition with Assam, and perhaps Java: so I consider it is now acting unwisely in not using its best means of making the most of every chest of tea shipped from its shores. That is, no effort should be lost in making the tea attractive, and not have it cast aside as wanting, and so knocked down to the buyer almost at his own price. Nothing, I believe, would benefit the Ceylon grower more than shipping blended teas into London; as it might bring back the smaller buyers into competition with the larger who are gradually and effectually dominating the market. Again, probably four-fifths of the Ceylon tea shipped would be placed more attractive, if wisely blended with suitable teas of other growths, and which in time would find their own markets and help to prevent the heavy drops in prices experienced during the last two years.

Prices are now looking up again; yet, after my past experience, I am inclined to think that, if growers are most careful when times are good, they will have less to rue, when they go down again.

W. F. L.

INSECTICIDES *v.* TEA BLIGHTS.

Vol. IV. No. 3 of "Indian Museum Notes" contains a very interesting paper by Mr. W. J. Fleet. F.E.A.S., on "Some comparative trials of insecticide pumps in relation to the treatment of *Tea Blights*, and experiments in the treatment of Red Spider. All the machines used were of the knapsack form, and supported on the back by means of straps. When in working order they were placed in the hands of coolies, whose work, however, was under constant supervision. The machines used were:—

Powder Diffusers:—

1. Strawson's "Coronette."
2. Vermorel's "Torpille."

Liquid Sprayers:—

3. Vermorel's "Eclair"
4. Strawson's "Notus."
5. " "Improved Antipest."
6. Chiswick Co's Sprayer.

Mr. Fleet's description of the above pumps is as follows:—

1. Strawson's "*Coronette.*"—A well-constructed diffuser for sulphur and powdered preparations. The bellows are placed at base of the machine in a protected position and are worked by a side lever. The powder meets with the blast from the bellows after passing from the body of the knapsack through a fine grating on which oscillates a brush. The density of the spray can be regulated by a feed-slide.

2. Vermorel's "*Torpille.*"—This is very similar in principle to the preceding and did equally good work. The bellows are placed on the top of the knapsack. Three moving rods act instead of a brush to feed the material to the grating.

3. Vermorel's "*Eclair.*"—This sprayer did excellent work, working throughout all experiments without choking or any hitch. Power is applied by means of a side lever. The spray is fine, of considerable force and can be directed as desired by means of a moveable nozzle.

4. Strawson's "*Notus.*"—This sprayer, of a useful size, is specially suited to insecticides containing matter in suspension, as owing to the presence of two moving blades or stirrers the liquid is kept in a continual state of agitation. A series of nozzle caps permit of regulating the fineness of the spray.

5. Strawson's "*Improved Antipest*"—A well-constructed and finished sprayer. Possesses the advantage that all working parts are exterior to the knapsack containing insecticide. A side lever works an air-pump. Two tubes connecting the nozzle to the machine, carry the one the insecticide, the other the compressed air. The air acting on the liquid at the point of junction at the nozzle mouth, produces a spray of varying form. The latter is regulated by two stop-cocks, one controlling the flow of liquid, the other the supply of air. The sprayer, owing to the want of means for agitation, is only suited to insecticides in a state of solution.

6. Chiswick Co's "*Sprayer.*"—Gives a large and powerful spray, and can be used for insecticides both in states of solution and suspension. Worked by a top lever and handle on the thrust and pull principle. This was found to be much more fatiguing when in continuous use than machines fitted with side levers in which the weight of the arm is utilised in the stroke.

As to the experiments in the treatment of Red Spider (*Tetranychus bioculatus*) he says that they were commenced on the 29th April. Red spider came into existence later than usual, and then, also, the object of the experiments was not to prove the value of sulphur, or preparations containing sulphur in the treatment of Red Spider (this being now a generally acknowledged fact) but to make a comparative trial of several insecticides that have been recommended or suggested. It was necessary, therefore, to delay operations until a considerable area of garden was attacked, to allow of the selection of a series of plots of an even character. An extent of old tea,

heavily pruned some years previously was selected for the uniformity of the attack. The gar den immediately surrounding the plots was sprayed with soft soap and sulphur to prevent, as far as possible, the spread of Red Spider from the surrounding area to that of the plots. The insecticides used were :—

No. 1. Sulphur (on a fine powder.)
„ 2. Strawson's "Tea Velos" (a fine powder.)
„ 3. Soft soap and Emulsion.

Sulphur	... 2 lbs.
Soft soap	... 2 „
Water	3 gals.

No. 4. Kerosine Emulsion

Kerosine...	... 2 gals.
Soft soap	... 1 quart.
Water	... 1 gal.
Sulphur	... q. s.

No. 5. Chiswick Compound.
(1 to 10 of water.)
No. 6 Strawson's "M" Insecticides.
„ 7. „ "C. S." „

The powders (Nos. 1 and 2) were applied by means of diffusers in the early morning when the dew was on the foliage and so admitted of the appearance of the dressing. Dry weather favored the application of the insecticides, and no rain fell till 5th May.

Examined on 1st May, the plots were reported on as follows :—

No. 1. No live spider to be found.
„ 2. „ „ „
„ 3. About 90% dead; a few weak and struggling.
„ 4. Slightly superior to No. 3.
„ 5. Similar to No. 3.
„ 6. Inferior to Nos. 3 and 5.
„ 7. Similar to No. 6 except bushes that were rather literally sprayed.

Examined on 5th May, no rain having fallen, No. 4 seemed to have fallen behind. Nos. 3 and 5; otherwise no change.

Examined on 10th May, after heavy rain,
Nos. 1 to 4. Practically free from spider.
„ 5 & 6. Less so.
„ 7. Spider numerous.

Examined 15th May,
Nos. 1 & 2. Excellent.
„ 3,4 & 5. All good.
„ 6. Defective.
„ 7. Red Spider fairly noticeable.

Examined 15th June,
Nos. 1 & 2. Practically no Red Spider, only one or two leaves found by careful searching.
No. 3. Nearly as good.
„ 4 & 5. Bushes here and there showing little spider.
„ 6. Not so good as the two previous.
„ 7. Still more Red Spider visible.

The plots and surrounding four rows are described as "easily distinguished at a glance from rest of garden."

Examined 15th July, "Heavy rain has brought on vigorous flushing, and the plots and surrounding garden are uniform in appearance." Mr. Fleet's concluding remarks are as follows :—

"An interesting point brought forward in the foregoing experiments, is the success attending the application of such an inexpensive insecticide as dry sulphur. All preparing and mixing of ingredients is done away with, a great saving of labour is effected as water carriers are not required, and the sprayers are much less apt to choke and get out of order than those containing a liquid. Some extent of garden was dressed by women shaking bags of sulphur over the bushes. The bags were formed from squares of dammer. A large area can in this manner be rapidly got over, but very much more sulphur is required than when using the sprayers. Sulphuring to be effective should be done in the early morning when the dew is on the leaves. The sulphur then forms a thin coating over the surface of the leaf. This result is not so well secured after rain, as the latter tends to collect in drops on the smooth surface of the leaf, causing an unequal adhesion and distribution of the sulphur. With regard to liquid preparations of insecticides, allowing the drawbacks previously mentioned, they possess the advantage of being applicable throughout the day."

U. P. A., S. I. SECTION.

[Under the control of the Secretary, U.P.A. S. I.]

The Chairman has addressed a letter of thanks to the Hon. Mr. J. D. Rees for his remarks on the subject of Extradition, and his kindly allusions to the planting community of Southern India, at a recent meeting of the Imperial Legislative Council.

* * * *

Sir W. T. Thiselton Dyer, K.C.M.G., has forwarded for the information of the Madras Government a copy of Bulletin No. 18 (New Series), of the United States Department of Agriculture, Division of Entomology, which contains the following reference to the attempt made to import lady-birds into this Presidency for the purpose of destroying scales pests on coffee :—

Encouraged by the favourable results which have followed the introduction of certain beneficial lady-birds from Australia into California and later into Hawaii, the United Planters' Association of Southern India, an organization composed chiefly of tea and coffee growers, raised a fund late in 1897, amounting to something over Rs.7,500 (approximately $3,000), for the purpose of making an effort to introduce beneficial insects from Australia which should advantage their plantations.

Mr. Howard O. Newport, himself a planter, was commissioned by the Secretary of the Association early in January 1898, to proceed to Australia and to place himself in relations with the Department of Agriculture of Queensland and to make every effort to bring over to India living specimens of desirable species. Mr. Newport sailed on the 30th of January and returned on the 20th of June. His report, which is published in a journal called *Planting Opinion* of the 16th of July, indicates that he went about his work in a very intelligent and painstaking manner, that he had the hearty co-operation of the authorities of the department of agriculture of Brisbane, and especially the expert advice and assistance of the well known entomologist, Mr. Henry Tryon. He collected 2,540 specimens of *Orcus Australasiæ*, 1,500 *Cryptolæmus montrouzieri* and 246 *Rhizobius Ventralis*; in all some 4,300 odd insects. A special ice box was constructed and the journey was made without mishap 30 days elapsing from the day the last insects were placed in the box until the time of opening. The insects were kept at a reasonably uniform temperature of about 25° F., but when the box was opened the insects, although appearing fresh, were without exception dead. The expenses of the trip amounted to about $1,600.

Not discouraged by this unfortunate result the Association at latest advices intends to try it again. They have not, we understand, met with encouragement at the hands of the Indian Govern-

ment, and the venture is purely a private one It would not be at all surprising if the efforts should eventually succeed.

Theoretically, Australian lady-birds should flourish better in Southern India than in California, and it is very probable that *Rhizobius Ventralis* will feed with avidity upon the lecanium scales which affect the coffee and tea plants. The writer is inclined to believe that it will not be found necessary to go to the expense of keeping the insects on ice for a thirty days' journey, even in a tropical region With plenty of food and a comparatively small number of lady-birds in all stages of existence there is no reason why the insect should not breed during the entire journey. They have been sent in this way successfully in midsummer on a twenty-five days' journey from San Francisco to Portugal, and should certainly survive the trip from Sydney to Colombo in the same way.

* * * *

TELEGRAPHIC QUOTATIONS.

London.—	April 1	3	4	5
Bar Silver	27 7/16	...	27½	27⅛
Bank Rate	3%	...	3%	3%
Coffee	[dull]	...	[dull]	
Mysore ave. (B) size.	64*s.*	..	64*s.*	
Cinchona	...	...	...	[firm]
per unit	...	...	...	2¼*d.*
Stock, pkges. ...	...	...	...	19,000
New York.—				
Coffee—Fair Rio ...	6⅛	6⅛	6⅛	6¼
Futures, July ...	5·97	5·94	5·90	5·90
Silver—Comml. Bars ...	59¾	59¾	59¾	59¾

NOTES.

Sale of a Ceylon Estate. Beddewelle Estate in Kadugannawa North has been purchased by Messrs. Farquharson from Mr. D. W. Skrine. The property consists of 570 acres of which 112 are cultivated —73 with tea, 7 with coffee and 31 with cacao.

Caterpillars & Coffee. The *Singapore Free Press* observes that the Coffee estates in Selangor that have suffered most from caterpillars are those in which the plants are raised from Pengerang seed Mr. Bailey is reported to have a theory that there is something peculiarly sweet or attractive in trees raised from that seed.

Mechanical Tea Bulking. Having remodelled his machine, Mr. Apjohn gave a fresh demonstration on the 28th ultimo. We need not describe the machine, as altered, for it failed to work properly and did not produce a tea of uniform quality. When worked with only one grade of tea by Mr. Apjohn himself, it is said to have run smoothly; but when worked with two grades, some of the valves did not let the tea run smoothly, while others did, the result being, of course, irregular mixing.

The London Tea Market. Cabling to Colombo on 29th ultimo, Messrs. Gow, Wilson and Stanton reported a fractional advance in prices. Fair liquoring C. P Souchong 8*d.* and the average 9¼*d.* (with ½*d.* up). "Fractional advances" of this kind will be greatly appreciated by planters. Advices dated 3rd instant stated that 1,900 packages Ceylon tea had been sold out of 1,900 offered, and quoted Pekoe Souchong 7¾*d* (½*d.* up) and average 9¼*d.* (⅜*d.* up). The average of Indian tea was 9¾*d.* (¼*d* up).

Indian and Ceylon Tea in Canada. An advertisement in the *Canadian Grocer* says:—"In 1890, 14,000,000 pounds were consumed in Canada and the United States, while in 1898 the consumption in the same countries was over 61,000,000 pounds, showing the enormous increase of over 47,000,000 pounds. This marvellous and universal appreciation is due to merit alone, as it is an established fact that these are the purest, cleanest, tastiest and most economical teas the world produces."

Mexico's Coffee Exports. The 30,620,000 lbs. of coffee sent from Mexico to the United States in 1898 brought, on an average, 9·8 cents a pound in gold, or, approximately, 19·6 cents silver. Meantime, the Brazilian shipment of coffee to the United States fetched only 5·4 cents gold, or 10·8 in our money. The difference in the value of Mexican coffee the Mexican newspapers hope will be noted. There is said to be ample room for Mexican coffee-planters to increase their sales in the United States. They are not getting as good a price as the Costa Ricans and Nicaraguans, who have done about as well as the Java planters in price.

American Tea Standards. Samples of the new standards of tea, as agreed upon by the tea examiners, have been forwarded to Washington for confirmation. The *American Grocer* says:—"They compare with the present standards as follows: North China Congou, same; South China Congou, shade lower; Foochow, about same (an extra grade of Foochow was made, which is lighter drawing); country greens, higher; basket-fired Japans, slightly higher; pan-fired Japans, slightly lower; Japan dust, lower; no standard for sun-dried Japans; Formosas, slightly higher; Ping Suey, slightly lower; India and Ceylon about the same. The standard for Amoy will be selected later.

Cinchona & Quinine in the U. S. From a report issued by the U. S. Bureau of statistics, we gather the following statistics of imports of Barks (including Cinchona) and Quinine:

	1896.	1897.	1898.
Bark Imports	2,598,679 lbs.	2,696,366 lbs.	3,512,449 lbs.
Quinine Sulphate, &c., Imports ...	3,166,530 ozs.	4,364,823 ozs.	3,893,541 ozs.

Unfortunately, Cinchona statistics are not given separately.

The Florida Velvet Bean. Captain E. A. Wilson writes from Florida to *Indian Gardening*:—'Where oranges will grow the Velvet Bean and the Pineapple are thoroughly at home. Here, in Florida, we use the Velvet Bean crop—leaf and vine—as a fertilizer for our orange groves, and the bean ground up, pods and all, as a fertilizer for pineapples; and there is nothing in the world, yet discovered, that is better. As a quick money crop, there is nothing your farmers can grow that begin

to touch them, as they are both annuals, and can realize from them in 12 to 16 months. New South Wales are giving the Velvets a trial. I shipped 700 lbs. to Mr. G. Hemsley, Moss Vale, yesterday *viâ* New York and San Francisco, thence by steamer."

Attar of Roses (Limited).

Drugs have not expelled the sense of humour from the *Chemist and Druggist's* system. Our contemporary remarks:—"The *Financial News* makes a point of a press-cutting in regard to an alleged attempt which is to be made by a Madras company to plant an acre or two of Wynaad land with roses, with a view to the manufacture of "attar." This is a terrific plunge for the Madras company to make. It may upset the market as it has never been upset before, because it rarely happens that a whole acre—capable of producing about 10*l.* worth of otto—is laid bare at one fell swoop for such an odorous purpose." As it happens, it is a firm, not a company, that is to make the trial, and we imagine the firm does wisely in making only a small experiment at first until it "sees its way."

Coffee in South Sylhet.

A correspondent of the *Planter* writes:—"On a neighbouring garden they have commenced to pluck their Liberian coffee berries. The crop is a very heavy one, but, as I believe is the peculiarity of this species, the pulp (if the mesocarp of the Liberian coffee seed may be called by that name) is hard and does not nearly get so soft as that of the Arabian, and is much harder to pulp than that variety. The Arabian bushes seem to have set their berries well and are making good fruiting wood for next year: in most cases too much by more than half, which necessitates handling. The bushes to which I formerly alluded as having given 2 lbs. per bush have set an enormons crop again this season and they are making good wood for next year's crop, and not a single diseased leaf to be seen upon them."

Queensland Coffee in England.

Messrs. Henry Devitt and Co., offered a parcel of Queensland coffee at Mincing-lane—about a quarter of a hundred weight—but the smallness of the entry prevented bids, says the *British Australasian*. This is a pity, for the coffee has been carefully examined and tested by experts, who report most favorably. The coffee arrived unhusked, and is considerably superior to the berries grown in Figi, the nearest rival to Queensland in the cultivation of this article. A broker divided the beans into three lots, and then valued them at 50s. 55s. and 65s. per cwt Coffee plants take four years to arrive at bearing age. In the Mackay district of Queensland coffee has been grown for some years; it is sold locally. "Great Britons" drink very little coffee, the import looking quite infinitesimal alongside tea, but good qualities will always command a market.

New Quinine Contract Clause.

London brokers interested in the sale of sulphate of quinine held a meeting on the 10th ultimo, at which the following firms were represented. Messrs. G. T. Benton and Son, Dalton and Young, S. Figgis and Co., French and Plucknett, Jenkin and Phillips, Hicks and Ashmore, Lambert and Strong, Marshall and French, Wilson, Smithett and Co, C. M. and C Woodhouse, and Sanderson and Co. Mr. C. Woodhouse was in the chair, and a resolution proposed by Mr. Hicks, and seconded by Mr. Bates (S. Figgis and Co.) was unanimously carried. The effect of the resolution is to insert a clause in contracts for the sale of quinine, stipulating that any quinine tendered on contracts in future which arrived before January 1st, 1-90, shall, at buyers' option, be taken at average reweights or with 2 per cent. allowance in lieu of reweights (reweights to hold good for 10 years), but the buyer must declare his option on or before the Wednesday preceding the prompt.

"Coffee-Planting and Self-Help."

Is the title of a letter from Mr. W. R. Rowland, of "Lamquart, Port Dickson" to the *Singapore Free Press*, in which he mentions disadvantages of Malayan planters:—"1.—Having to dry our coffee more thoroughly before sending it to Singapore than to Port Dickson. 2.—Having to pay from Port Dickson to Singapore some 40 per cent. more for freight on parchment and water. 3.—Having no chance of making a profit on such an establishment and reduce working cost considerably later on, as would be if we had one on the Estate or if this co-operative mill were started. He urges the establishment of a coffee-curing store at Port Dickson, saying:—If we cure our coffee in Port Dickson, there is an end to it, but if we send it to Singapore to be milled, whatever amount of care we may bestow upon it, it will take a long time before establishing there a known mark—if ever—and probably others, who take much less care with their stuff, will earn the fruits of our toils."

Aloe Fibre.

A trial of "Selburn's Patent Decorticator" was made at Colombo the other day. The machine is described as consisting of two feed rollers and a revolving drum. The rollers are fixed in towers which are fitted with springs so that any thickness of leaf can be received. The "beaters," which are similar in appearance to the cutting apparatus in a hand mowing machine, revolve against the leaf as it leaves the rollers, and, beat all the vegetable substance out of the leaf as it passes, leaving only the fibre. The latter, as it appears at an opening at the bottom of the machine, is seized and drawn out by a cooly clad in leather and sacking, this being worn owing to the acid of the leaf producing an effect on the skin similar to prickly heat. This operator appears to have an unenviable job, seated as he is amongst the peculiar-smelling pasty-looking refuse, which consists of the pulp of the leaf; and this, we were told, was of no use whatever—not even for manuring purposes. Two practised operators can work the machine which will decorticate a ton of leaf every hour.

The Colombo Tea Sales.

The *Times of Ceylon*, of 28th ultimo, reports:—To-day's tea sale was the last before Easter, and there was a good all-round demand, but a somewhat smaller supply than last week, a quantity of tea printed in the lists not having arrived. There was a slightly improved demand for Broken Pekoes and Pekoe Souchongs, which were strong to advancing upon last week's prices. Common teas were firm, and other grades were about the same as last week. The prices upon the whole were well maintained. Mr. R. E. Pineo, the new buyer

for the Canadian market, attended the sale, and remained for about an hour, but did not purchase. Our sale correspondent reports:—At to-day's public sale of tea at the Chamber of Commerce Rooms about 7,895 pkgs. = 601,737 lbs. were offered, of which about 6,355 pkgs. = 480,736 lbs. were sold. There was good competition for all sorts at about previous rates. Medium broken pekoes were rather irregular in some cases, but without quotable change. Strong liquoring pekoes and pekoe souchongs were again in good demand

Tea in Canada. The *Canadian Grocer* of 3rd ultimo refers to the "excited tea market; and says:—The position of the Indian and Ceylon tea market is an unusually striking one. A private letter from London, under date of February 18, states that 6¾*d.* is the lowest price for common Indian and Ceylon leaf and that it was expected that within a few days this same tea would be selling at 7½ to 8*d.* per lb. This letter states that there is a regular boom on in England and that it looked as if a panic was developing on the market. Another letter from England states the market has not been in such a position since 1879. Apparently, the news had not had an immediate influence in Canada. From Toronto it is certainly reported:—"The feature of the market is a development of a stronger market in Indian and Ceylon teas," but from Quebec comes the news that there has been rather more business accomplished in teas during the week, though the market is far from what can be called an active one. Demand has been principally for Japans, ranging from 16 to 18½c., some 700 packages changing hands."

Indian Tea. "Merchant" writes to the *Grocer*:—In regard to the advance in Indian tea I believe that the market is getting excited in regard to the shortness of supply in Indian tea, under a somewhat mistaken notion. I notice in your last Saturday's issue you give the quantity of teas sent direct to America, Australia, &c., for the last two months, and for the same two months in previous years, and whereas last year there was practically no increase over the previous year this year there is a tremendous increase, amounting to millions of pounds of tea, which I am informed is entirely due to a direct line of ships having commenced this year, for the first time, to those countries, whereas in previous years those countries were supplied chiefly from the London market. The result is, therefore, that there will not be so much tea required from our London stock as was required in former years. My opinion, therefore, is that if the blenders and other buyers will buy from hand to mouth, the prices will not go up—indeed I believe they will come down. I hear also, on conclusive information, that a number of brokers bought largely on their own account, and that they are trying their best to drum into the blenders the alleged fact of shortness of stock, whereas, as I have shown above, it is chiefly caused by tea being sent direct to countries, instead of their being supplied, as in former years through London.

Mr. Cameron's Report. The *Ceylon Observer* sought the opinion of Mr. E. E. Green, on the very full Report furnished by Mr. Cameron, F.L.S., to the planters of Coorg on their coffee and its enemies, particularly *hemileia vastatrix*. The Editor wanted the opinion of a *expert* on "the practical point—whether he should reproduce the whole of the Report in the *Tropical Agriculturist!*" Mr. Green wrote:—"It is a most interesting Report and is certainly worth a place in the *T. A.* The remarks on the use of shade trees are of particular interest to Ceylon planters. I believe that we should have more coffee remaining in Ceylon if partial shade *of the right sort* had been more systematically employed. And I think that most planters are beginning to realize that a light shade will be equally a necessity for tea, if it is to go on indefinitely. Mr. Cameron points out that one of the most important properties of partial shade is the conservation of fertility in the soil. Speaking of forest soil, Mr. Cameron writes:—When fully exposed by the entire removal of shade, land of the latter class exhibits extraordinary fertility *for a time*; but under the influence of full sun-light it gradually becomes less fertile. . . . . The influence of intense light induces denitrification and hence a state of at least partial sterility. My own idea of the right kind of shelter for tea is a light shade—such as given by a judicious admixture of *Erythrina* (Dadap), *Albizzia moluccana* and *Grevillea*—high up; the stems bare up to at least 30 feet—preferably 40; and the branches first meeting at that height, leaving plenty of air space below, with an evenly diffused chequered shade. Mr. Cameron's suggestions on the hybridization of coffee are of great importance to coffee planters. Some of the natural hybrids seem to show a marked immunity from leaf-disease. The pity is, that systematic work in this direction was not commenced on the first appearance of leaf-disease."

LETTERS TO THE EDITOR.

NOTES ON BUILDING.

One of your correspondents asks for notes on buildings, and I am going to give a few that may be useful and interesting. Building with bricks or stone on the Nilgiris, is generally reckoned by the "Sutheram" or 100 cubic feet.

The cost of such is as follows:—		Rs.	A.	P.
1,500 bricks at Rs.4...	=	6	0	0
Building a *sutheram*, all helps included (with mud)		4	0	0
Building with lime...		6	0	0
9 bushels or 3 *salagays* lime		3	12	0
3 cart loads or 27 bushels of sand ...		1	0	0
Thus a *sutheram* of brick and mud will cost ...		10	0	0
Brick and lime		16	12	0

The Coonoor rates are Rs.14 and Rs.20 lowest, owing to the cost of carriage of bricks which is Rs.4 per *sutheram*.

A cart carries 350 bricks, and the hire is from 8 annas to 1 Rupee per trip, according to the distance to carry.

Planters usually cut their bricks at the place where the building is to be, and so save carriage.

In measuring up, the practice on these Hills is to include door and window spaces. It is fair to do this, for the mason, who loses time plumbing and squaring a door or window space; but it appears to me to be hardly correct to allow it to a Contractor, who gets large sums for the (supposed) supply of material.

Foundation work is paid for @ Rs.6-4 per 100 c. feet, (1 anna a foot) including the supply of stone, when this is plentiful on the situation, as is most generally the case.

Plastering costs as follows:—	Rs.	A.	P.
Mud and sand per 100 s. feet	1	8	0
Lime and sand (labour alone)	2	8	0
1½ bushel or ½ *salagay* lime, @ Rs.1/4 =	0	10	0
Now the Coonoor Contractors' rate for lime-plastering is	4	8	0
Against the actual cost	3	8	0

(*i.e.*, labour Rs.2-8; lime 10 as; sand 6 as).

The Contractor will contend that he puts it on ¾ in. thick, while he puts about half inch on, in practice.

(To be continued.)

Thos. Brown.

Coonoor,
29*th March* 1899.

PEARL BARLEY COFFEE.

The heading will arrest attention, so will the sample I am sending you by to-day's post. Such is the effect of adverse weather and I have seen the same about the year 1886-87 when leaf disease first began to have most serious results on the Nilgiris. One gentleman at that time started "Roasted and Ground Coffee" to secure better value for his produce but gave it up, upon adverse reports from London and the improvement in prices that then set in.

Thos. Brown.

Glendale,
28*th March* 1899.

[The name accurately describes the size of the Coffee. The last mail advices are to the effect that the London market demands a large berry. The irony of circumstances puts this pearl-barley berry under our notice at the very time when a *bold* berry is wanted.—Ed. *P. O.*]

ERYTHRINA LITHOSPERMA.

Dear Sir,—I have seen Mr. B. Nelson's letter *re Erythrina Lithosperma* in your issue of the 25th ult., and am sorry if my unguarded remark should cast the slightest blame on that gentleman's probity in the matter of selecting seed for estates. Mr. Nelson has done so much for the acclimatisation of this valuable tree that he deserves the warmest support of every planter.

In some parts visited, while in Coorg, I found saplings growing together of at least three species of *Erythrina (E. indica, E. stricta,* and *E. lithosperma)*. They varied in height from about 6 to 15 feet, and many had shed their leaves. Such being the case, I was possibly misled in recognising what appeared to be occasional specimens of the exotic tree. The latter, as Mr. Nelson explains, is subject to considerable change under varying conditions of treatment and exposure, so that in the absence of fruit (the most constant character of the species) identification is almost impossible.

The appended description from the "Flora of British India" will show that the same difficulty has been experienced by the highest authorities. With this word of apology to Mr. Nelson for my hasty remark,

J. Cameron.

Extract from Flora of British India, Vol. II.

E. lithosperma, Blume, ex Miq. Flor. Ind. Bat. i. 209. E. Secundiflora, Hassk. Pl. Jav. Rar. 378, Benth. Pl. Jungh. 237, non Brotero.

Rangoon McClelland.—Distrib. Java; Philippines, Cuming, 1161.

A tall tree, with branchlets often unarmed.

Leaflets membranous, glabrous, greenish, the end one roundish, acute, 4 6 in. long. Racemes pillose, contemporaneous with the leaves. Calyx velvety, ¼—⅜ in. long; finally splitting down nearly to the base in two lips. Standard 1¼—1½ in. long; the limb oblong, obtuse, keel and wings subequal, ½ in. long. Pod much recurved, 4—5 in. long, broader in lower half, with a stalk reaching 1½—1¾ in. long.—Kurz (Journ. Asiat. Soc. Beng. xlii. 2, 69) says Miquel's plant is not Blume's, and that it is *E. sumatrana*, Miq. Fl. Ind. Bat. Suppl. 304. I cannot, without specimens, clearly distinguish *E. holosericea*, Kurz loc. cit. from this; its pod is unknown.

GENERAL ARTICLES.

DECORTICATION OF PEPPER.

In regard to the inquiry of a Baltimore correspondent, a U.S. Department instruction was sent to the consular officers of London, Amsterdam, Batavia, and Singapore, requesting information as to the hulling of pepper. Consul-General Osborne wrote from London:—I have made inquiries through Messrs. W H. Cole & Co., a large and well-known firm of colonial brokers in this city, and append herewith the information given by them on the subject:—Peppen shells and their attending dust, &c., are the so-called "refuse" arising from the turning of the natural black-pepper berry into white pepper and this is effected by various methods, such as soaking, liming, and by machinery, both in the Eastern markets of production and after shipment thence. The so-called "Singapore" white, as shipped from that port, is made from the fully ripened black berries as cultivated in the neighbouring islands, and the hull is removed in Singapore by hand and friction before the berries are fully dried. So-called "Penang" white, as shipped from there, is made from black berries really grown in Sumatra, but imported into the Island of Penang in a dried condition. There the berries are soaked in lime and water for some weeks, until the hull is soft, when it is removed by rubbing and washing, by both feet and hands, and is finally slightly coated with lime before shipment. Siam white is manufactured on much the same lines as Singapore, and from black berries grown in Siam. From this it will be seen that a large quantity of hulls and broken berries may and do accumulate, and they are shipped from the East in considerable quantities to the consuming markets during each season, and are used for making ground black pepper, which, though darker in colour, is not necessarily impure. In Europe, a certain quantity of the finest grade of white pepper has for years been made by hulling the Singapore and Penang black peppers, shipped in a perfectly dried state, by soaking and with the aid of decorticating machinery. It may also be desirable to point out that pepper berries left on the vines till overripe lose their hull entirely by a natural course of decay (or decortication), and become actually white pepper, which, after all, is simply the kernel of the black berry.

Consul Corey, of Amsterdam, says:—The following information as to pepper was kindly given me by a broker:—There exist in England and America a couple of factories where, more or less successfully, black pepper is transformed into white pepper. The process is unknown to me. Hulling, however, will be required, and will take place at the port of importation. At the place of production (the Dutch colonies) the pepper shrub produces both black and white pepper. After gathering, the less ripe fruits are sold as black pepper; whereas the riper ones, after being soaked and washed, are exported separately as white pepper.

The following was received from Consul Everett (Batavia):—Pepper here is hulled shortly after it is picked, at the place of production; but there is absolutely no reason why it should be so. It could be done just as well in America, and probably better. The pepper is soaked for about ten days in water; it is then taken out and trodden with bare feet until the hull separates from the seed, which it does very easily, as by that time it is soft and pulpy. American ingenuity could easily invent some less primitive way of

pressing out the seed than by treading with the feet. The pepper, when freshly picked, is red, and when hulled, the seed is quite white. If kept some time, the pepper becomes black and tends to shrivel, and when hulled the seed is gray. Sometimes this gray seed is artificially polished and treated with a solution of lime, in order to make it look white, as though hulled from fresh pepper. The sooner the pepper is treated after being picked the easier and cleaner it is hulled; but pepper can be hulled months after picking and be none the worse. It is singular that it has never been done, and it would doubtless save American importers much expense to hull their pepper in America.

Consul-General Pratt, of Singapore wrote:—The fruit grows in masses of twenty or thirty on a spike. The harvest takes place before the berries are quite ripe, on account of their greater contingency at that period. Those found ripe are set apart, to be converted into white pepper. The berries are hand picked and are detached from the stem by rubbing with the hands. They are dried by the sun or artificially on heated iron plates, and afterwards, packed in bags, are ready for market. The hulling of the berry is performed to produce white pepper, and the fresh, ripe, or almost ripe fruit is used for the purpose—the removal of the outer skin being the only difference between the two varieties. This is done by the planters at the place of production. The process is simple: the fresh-plucked berries are put in vats and allowed to steep in water until the outer skin becomes soft, when coolies tread them out, after which it is dried and bleached in the sun, and is then ready for market. Some years ago a process was patented by a pepper merchant at Penang to remove the outer skin of the dried black pepper and bleach it white by means of chemicals; but, as it was found that the price obtained (say $2 higher than that cured in the ordinary way) did not cover the extra outlay for chemicals, the practice has been discontinued.

TEA, &c., COMPANIES.

East Indian Tea Company.—Crop. Assam, 375,780lb. Cachar 225,884lb. Loss Rs.14,461-8-3, which makes the Dr. balance of P. & L account Rs 22,23?-8-8. Estimated crop 1899—Assam 376,000 lb. Cachar 248,000 lb.

Darjiling Tea & Chinchona Association. | Outturn of tea 228,540lb. Average price 9as. 3½p.

Proceeds of bark Rs.4,277-13-3. Dividend of 5% recommended. Estimated current crop 2,900 maunds.

Hudibari Tea Association.—Crop 6,050 maunds, against a minimum estimate of 6,800 maunds. Cost per lb. as. 3·17 per lb., against as. 3·41 average price 5·40, as against 5·73. Estimates for current season, 6,500 maunds tea, 50 to 60 maunds seed.

Muir Tea Company.—Outturn 1007 maund, average price 10 as. per lb. net. Recommend a dividend of 2%.

South Cachar Tea Company.—Cutturn 4664 maunds, average price 4 as 3 p. Profit Rs. 3,958-1-10. Estimate for current season 5,000 maunds worth 4 as. 6 pies per lb.

Hoolmaree Tea Co.—Outturn 195,215 lbs or 35,215 lbs over original estimate. Average price (in Calcutta) 6as. 8p., as compared with 7as. 7p. the previous year. Profit Rs 8,683-15-7. Dividend of 5% recommended. Estimated crop for current season 176,000 lbs.

Bishvananth Tea.—Packed crop 940,397 lbs. or 100,307 lbs. over estimate! Sold in London at a gross average of 8⅛d nett = 6as. 9p. in Calcutta, as compared with 9⅜d = 8as. 9p. for the crop of the previous season. Profit Rs.18,655-1-3, credited to profit and loss account, which still shows a debit balance of Rs.22,809-13-10.

Hantapara Tea Co.—Outturn 2,185 maunds, against 1,762 maunds in 1897. Average price 7¼d = 5as. 11p., against 7d. = 5as. 9p. Estimated crop for 1899, 2,900 maunds.

Gungaram Tea Co.—Outturn 2,252 maunds or 248 less than estimate. Price 8¼d. (6as. 11p.) against 8d. (6as. 11p.) in 1897. Profit Rs. 5,570-10-2. Final dividend of 2 % recommended making 6 % for the year. Estimated crop for 1899, 2,500 maunds.

Nahalma Tea Estate.—The report of the directors for the twelve months ended December 31 states that the profit and loss account shows a debit, after providing for general expenses, directors' and auditors' fees, interests on debentures, &c., of £143, leaving a deficit of that amount to be carried forward against next year. The crop obtained was 234,917 lb., as against an estimate of 260,000 lb. This disastrous result is mainly attributable to a blight of Helopeltis ("mosquito blight," "tea bug" of India), which prevailed during the closing months of the year. The average cost per pound was 5·49d., and realised 5·91d. per pound, as against the cost in 1897 of 5·27d. per pound, and an average sale price of 6·04d. per pound. The increased rate of cost is due to shortness of crop and to the higher rate of exchange, which averaged 1s. 4⅛d. in 1898, as against 1s. 3¼d. in 1897, 1s. 2 1/16d. in 1896, and 1s, 1 5/16d. in 1895. The prevalence of the blight has also tended to lower quality. The latest advices from the estate are more hopeful, and had it not been for the blight the results for the year would have been more favourable. The crop for 1899 is estimated at 260 000 lb., to cost 24·94 cents per pound f.o.b. Colombo.

The Knavesmire Tea Estates Company, Limited.—The Third ordinary General Meeting of the shareholders of this Company was held at Colombo on the 29th instant. The chair was taken by Mr. H. O. Hoseason.

The report stated:—The accounts close with a balance of R21,335·26 at credit of profit and loss account after providing for the liquidation of the remaining preliminary and miscellaneous expenses, and the Directors recommend that a dividend of 2½ per cent. be paid.

The dividend will absorb Rs.10,375, and leave a sum of Rs.10,860·26 which, after providing for Directors' remuneration and a promised bonus to the Superintendent, the Directors propose carrying forward to the new season for the purpose of meeting doubtful coast advances and extra cost of the new factory, machinery, &c. Owing to a bad flushing season the year's tea crop amounted to 302,487 lbs. only, as against an estimate of 330,000 lbs., costing 23·33 cents in Colombo, and netting 31·16 cents, this including Rs. 4,591·15 spent on capital account. The estate is reported in good order and well supplied with labour, which previously has always been a trouble. The crop for 1899 is estimated at 330,000 lbs., and the cost of production at 21·05 cents, in Colombo.

The Nebodo Tea Company of Ceylon, Limited.—The Company held its Second Annual General Meeting at Colombo on 3rd instant. Mr. Joseph Fraser, Chairman. The annual report stated:—Acreage: Tea in full bearing, 157 acres; tea 4 years old 74 acres; tea 3 years old, 136 acres; tea 2 years old, 16 acres; tea 1 and rising 1 year old, 112 acres. Forest, Waste, &c., 171, acres. Total area 666 acres. The tea crop was estimated at 130,000 lbs., and the total crop amounted to 126,840 lbs., which was sold in Colombo at an average of 33·33 cents per lb., as against 34·43 cents per lb. for 1897. Including the cost of manuring, the effect of which will be mainly seen in the current year, the cost of production amounted to 24·42 cents per lb. of tea. The balance at credit of Profit and Loss account was R12,887·50, which sum the Directors recommend to be transferred to a Reserve or Extension Fund as a set-off against the Capital Expenditure of the year.

The Agra Tea Company of Ceylon, Limited.—The report submitted at the meeting of shareholders, held at Colombo on 3rd April, stated:—

The acreage of the Company's property was given in the last report. The estimated crop for 1898 was 155,000 lbs.; but, owing to the unfavourable weather that prevailed all over the planting districts, the outturn was only 151,887 lbs., showing a shortage of 3,113 lbs. This crop realized R68,244, or 45 cents per lb. The total expenditure on Sackarawatte, as shown in the accompanying accounts, was R42,060·17, or 27½ cents. per lb. The net profits on the working of Sackarawatte estate amounted to R27,348·83, which represents over 6½ per cent. on the value of that property, as shown in the balance sheet. The balance, after writing off the balance of preliminary expenses, interest on mortgage, etc., is R14,111·03; but as the expenditure on Kalkudah estate has not been provided for, the Directors propose to carry this forward to next year's accounts. The profits of the Company being much hampered by the expenditure on Kalkudah estate, the Directors recommend that the vendors be requested to take back the property for the price paid by the Company plus the amount expended on it with interest at 4 per cent. on the latter. The Directors propose to borrow the equivalent of £1,000 sterling at 8 per cent. interest to pay the Standard Life Assurance Company for the release of the mortgage held by that Company over Kalkudah estate; the interest on the loan to be paid half-yearly.

The Pitakande Tea Company of Ceylon, Limited.—The Second Annual Ordinary General Meeting of the Company was held at Colombo on 3rd instant. Mr. Joseph Fraser, Chairman. The report of the Directors stated:—Acreage: Tea in full bearing 500 acres;

tea in partial bearing 260 acres; tea not in bearing 240 acres; cardamoms in bearing 44 acres; cocoa in bearing 100 acres; fuel trees 40 acres; forest 20 acres; grass land 207 acres; waste land, buildings, &c., 30 acres. Total area 1,441 acres. The total crop of tea secured was 409,953 lbs, at a cost of cts. 26.4149 per lb; or cts. 24-20 per lb. f.o.b. when allowance is made for manure in stock charged against 1898. An interim dividend of 9 per cent. on the capital of the Company, viz., R280,000, as it stood in September, 1898, has already been paid, and taking the unsold 53,270 lbs. tea at the estimated value of cts. 34 per lb., there remains a further balance of R7,440·05, of which it is now proposed to carry R7,000 to the Reserve Fund, making this account R27,000 at the end of December, 1898, and to carry forward to next year's accounts the balance of R440·05.

WEST AFRICAN RUBBER.

THE "KICKXIA AFRICANA."

(*By an Occasional Correspondent.*)

Kickxia Africana is the botanical name of a rubber-yielding tree, erroneously known to many, even in West Africa, as the Lagos Rubber Tree, although its commercial utility was first recognised on the Gold Coast, where it was regarded as an important source of trade long before energetic little Lagos rubbed its half opened, sleepy commercial eyes, and fortunately for itself rediscovered it when the cycling craze set the world awheel and created a demand for rubber which has always overlapped the supply and will always continue to do so, considering the number of dormant industries involving its use that will leap into activity and outpace any additional supply.

I am almost tempted to digress into describing the marvels of the West African bush, where trees yielding rubber, incredibly long bark fibre valuable timber, gums, and various sorts of oil, &c., flourish side by side with others carrying lurking death in their wood, bark, flowers, leaves, and fruit—all joined together, as it were, in weird comradeship by interlacing creepers, including the world-famed *Strophanthus*, whose seeds are almost worth their weight in gold.

It is, I think, generally admitted that the coagulated milk of the Kickxia forms the principal rubber supply of West Africa. The economic value of this supply has progressed by leaps and bounds for a few years in each of our East African Colonies, Protectorates, etc', and declined as rapidly after reaching an unexpected climax that has puzzled colonial officials, particularly those immediately connected with revenue and financial departments. The diminution in the output has been brought about not by the diversion of this particular branch of trade industry to French or German spheres of commercial, competitive activity, but by

IGNORANT, WASTEFUL, AND DEPLORABLY SUICIDAL METHODS

adopted by the Aborigines in tapping the milk from the lactiferous inner bark in such a destructive way, and at such unreasonable times, that thousands of trees have died from exhaustion, deprivation of the chance of bark healing and recuperation by unreasonable tapping, and unnecessarily deep scorings through the barks into the wood of the tree, rendering it an invitingly easy prey to a destructive grub or maggot with a predilection for the wood of the Kickxia, and a prolific fecundity that is simply astounding. Whether the maggot is the progeny of a beetle in an entomologically transitional state like the coffee borer, palm weevil, &c, I have not determined from lack of opportunity for scrutinous observation; but that it attacks the exposed wood of the Kickxia, with fatal results is a certainty, preventable by judicious tapping, as I shall subsequently show.

Besides the supply from the Kickxia,

RUBBER IS ALSO OBTAINED FROM THREE SPECIES OF VINE,

principally Landolphia, forming, however, only a sixth or seventh of the total rubber output of West Africa. Three kinds of *Ficus* also yield a commercially unimportant supply of what is called paste rubber. This is capable, however, of vast improvement, while in a milky state, by the use of the proper coagulating fluid. The rubber from the vines and ficus being comparatively unimportant, I shall confine my descriptive attention to the Kickxia which is, must be, and is easily capable of being, not only the prop but the buttress of the fast declining West African Rubber Trade Industry. It is, moreover, an easily cultivable plantation rubber, and, being indigenous, possesses reproductive advantages it would be fatuously suicidal to overlook. There are certainly excellent species like the four kinds of *Hevea* of Brazil. The *Castilloa Elastica* of South America and Mexico, and the *Ficus Elastica* of Assam and India that imbue hopes of prosperous alternatives, but, alas, delusive hopes, because the seeds lose their vitality with such disappointing rapidity. Hence what is really urgently needed in West Africa is an indigenous, easily propagable rubber that will give bushmen the minimum of trouble in planting and growing from seed *in the bush* to continually supply substitutes, growing and mature, to replace trees killed by destructive taping.

It will thus be seen that the aboriginal bushman, the tapping producer, cannot be depended upon to conserve Kickxia from the destructive effects of bad tapping. It will be conclusively seen under the heading *Seed* that the Kickxia is easily and inexpensively propagable, although the peculiarity of its comparative isolation seems to militate against the fact.

Dr. Stapf's amplification of Bentham's description under the heading Apocynaceoe in the "Flora of Tropical of Africa," is in the main, accurate. The lithographed illustration of a pair of follicles forming a supplement to the Kew Bulletin No. 106, for October, 1895, is slightly misleading. The follicles I have plucked from the tree are on an average 8 inches long and planoconvex. They split open when perfectly mature in a straight line, equidistant from the longitudinal ridges, *on the plane face*

SEED.

The Kickxia flowers in the dry or Harmattan season, simultaneously shedding its seed from mature follicles developed from the previous year's flowering. Having often donned climbing spurs and a circumferential supporting rope, I have climbed the Kickxia, remaining amongst the branches for hours watching the seed fall. This they cannot possibly do till the follicle has entirely split from base to tip; even then they float down singly to the rhythmic movement of the trees' gigantic arms in the breeze, leaving the pod first in the centre. The follicles are tightly packed with seed pointing tipwards, the reversed silky hairs attached with the basal awn pointing in the same direction. On a slightly breezy day I have seen thousands parachute down—none perpendicularly; all point downwards with the basal awn and supporting silky hairs keeping the seed in an upright position for some time, as if nature desired the radicle point to penetrate the soil. Unfortunately this interesting provision of nature to assist germination is counteracted in the dense bush by preventing under-growth and the equally deterring carpet of leaves, on which the seed invariably alights to quickly rot or abortively germinate, *out of soil*, assisted by the warm, humid, equable temperature of the dense bush. This being so, it is quite evident that hardly one seed in many million has even the soupçon of a chance of germinating to some purpose. For these reasons the Kickxia grows in singular isolation like all trees in dense forests with winged, light, delicate seed. Its capacity for reproduction, however, is great, and easily convertible into an accomplished fact if follicles were collected from trees, the seed taken from them and planted in the bush. If the different Colonial and Protectorate Governments of West Africa would only encourage the gathering of the seed, which is simple enough, and persuade the natives to give them the ghost of a chance of germinating *in soil in the bush* I am fully persuaded that within seven years from the initiation of this precautionary measure, they will have

RE-CREATED A RUBBER INDUSTRY

that will not only prove a reliably constant source of reactive revenue, but will soon outrival the everlasting palm oil and palm kernels that have reached and declined from the zenith of remuneration owing to cheaper substitutes and the volition of industry requiring their reduced use to Belgium, Germany, and America.

The Gold Coast colony, with tracks, paths, and roads into the interior, has special facilities for coming in contact with rubber-gathering bushmen, and being handicapped for want of waterways, bulky produce like palm-oil and palm-kernels are with extreme difficulty conveyed to the coast. Rubber, on the contrary, is extremely valuable for bulk and easily transportable, and short of present or prospective demand must for the keystone of the industrial arch of this colony—a suggestive arch, pregnant with pathetic meaning; an arch whose stones have been cemented together by the life blood of Englishmen who have sweated in the

world's valley of Death pursuing various careers in trade and in Government service. It is to be hoped that this colony in particular will be successful and avail itself of the hopeful prospect of inducing bushmen to sow the seed of the Kickxia, which flourishes in the interior. The process is simplicity itself, as it involves only clearing the bed of leaves, loosening the soil for a foot in circumference to the depth of a couple of inches, and dropping two or three seeds on the loosened bed. The seed will germinate rapidly, the seedling grow quickly, and take care of itself in the bush.

The seeds, if carefully kept, preserve their vitality for a considerable time, thus, possessing an incalculable advantage over the short-lived seed of other good rubbers, particularly for plantation purposes. Being only six to seven inches long and delicately spindled, they pack into a conveniently small compass, rendering it possible to send tens of thousands by parcel post ridiculously cheap. I know for a fact that the soil and climatic conditions are eminently favourable in the Straits Settlements and over vast areas in Ceylon, Lower Burmah, Assam, and other places in India, it is possible to utilise the services of splendidly-trained, efficiently-equipped, and thoroughly-organised forest departments.

SOIL.

The Kickxia thrives best in a sandy clay, with a subsoil of clay. I have seen it flourishing in stiff clay, but with feeders only partially buried. Of course, under the latter condition the damp, dark shade of the bush is necessity. In quite a number of clearings in West Africa I have seen it growing luxuriantly as a sapling in loose, friable sandy loam, although I must admit it had a tendency to be rather branchy, remediable, however, by judicious pruning. I should say the ideal soil for a plantation would be a loose sandy clay, with more sand than clay, and a subsoil of clay, so that during the warm dry season the latter would act as a reservoir, supplying requisite moisture by capillary attraction.

PRUNING.

In the bush, the growing sapling sheds its primaries till it practically overtops the closely surrounding forest growth, 70 and often 80 feet from its base. At this elevation I have seen quite a number of trees throw cut their gigantic arms. Nature, more by surroundings than by heredity, if I may say so, seems to prune it in the bush in her own incomparable way to ensure a splendid trunk surface for tapping. When it grows in the open, artificial pruning becomes necessary. As the desideratum is to have a good trunk height or tapable surface, unnecessary primaries should be pruned away close to the stem, leaving a sufficient number with concomitant leafage to form new wood. The Kickxia is also capable of being stumped, even when pretty old. Should the tree be hopelessly irregular, stumping should be resorted to, but only in the rainy season, when its roots, with the assistance of moisture, adequately help in the preservation of old and the formation of new wood. All but the best sucker or shoot should be pruned away, care being taken to tar the exposed wood, to prevent the destructive incursion of the grub or maggot.

TAPPING.

Assuming that the tree has reached maturity, systematic tapping is necessary or rather essential to get a reliable annual supply of rubber; the best way to do this is to make a longitudinal conducting channel up the trunk from the base. It must be recollected that this is only a conducting channel to capture the milk from oblique, transverse scorings in the bark. The scorings into the bark resemble the letter V, forming angles where they meet the conducting channel of approximately 45°. Rectangular scorings would facilitate the milk flowing down the trunk irregularly instead of all into the conducting channel and straight down the trunk into the receptacle placed at the base of the tree to collect the milk for coagulation. It stands to reason that the oblique transverse scorings and conducting channel should be respectively continuous, otherwise there would be a diversion and consequent waste of milk flowing away at the points where they are disjointed. For this reason a *machete*, even in the hands of a skilful European craftsman, would be almost useless, leading to independent cuts and not continuous scorings, considering that the operator must be in an unstable, wobbly position, like Mahomed's mythical coffin. Anyway, he must be above *terra firma* where his *machete* or knife stroke can produce continuous and conterminous scorings, but must necessarily be disjointed and fluky. The inner bark should never be cut deeper than a quarter of an inch, as this is amply sufficient to drain away enough milk from the tree and facilitate the healing of the bark, which may be safely accelerated by the application of what I may call, with every apology to the medical profession, an antiseptic plaster, composed of one part of quicklime, two parts wood-ashes, and five parts clay. This not only excludes the oxygenic, deteriorative action of the atmosphere, but, what is more important, precludes the depredatory entry of the dreaded grub or maggot. If this system be adopted an annual supply is certain, and the conservation of the tree ensured. Moreover, the oblique scorings could be made less than a foot apart, without in any way retarding the complete recovery of the bark or hindering recuperation, which would be so rapid as to enable the tree being tapped again the following year. It is advisable, however, that the scorings should be fully a foot apart, tapping being done a month or so after the commencement of the rainy season. This would leave a good wet period for rapid, healthy convalescence, and complete recovery before the advent of the ensuing dry season.

YIELD.

The Kickxia, when treated judiciously, yields between three-quarters and a pound of rubber for every year of its age—that is, a tree twelve years old could be safely depended upon to yield nine pounds of rubber.

VALUE.

A pound of Kickxia rubber, properly coagulated, should realise at least 2s. 9d. auctioned in open market in London. The milk, when procured clean and allowed to coagulate itself, realises 2s. a pound.

Trade rubber, adulterated by the bushmen to mendaciously increase its weight, and soaked in water by traders for the same reason, fluctuates in value from 1s. 6d. to 1s. 9d. a pound. When the proper coagulating fluid is used condensation is more homogenous, so to say, that the result a compactly welded mass of rubber, with no air chambers and holes full of uncoagulated milk. By soaking the bales or cakes as they are brought to his factory in water the trade generally converts the uncoagulated milk into a putrid-smelling liquid.

I am positive it is well worth the while of all West African Governments to interest themselves in the easy bush culture of the Kickxia, as trees are being destroyed very rapidly by unavoidable, deplorable, primitive tapping, which cannot possibly be avoided, as I have shown, but can be remedied as indicated by providing growing substitutes to replace facts dying trees. Moreover, the manner of replacement is simplicity itself. I strongly advise sticking to the Kickxia in West Africa It must be borne in mind that seven eighths of the rubber exported comes from the Kickxia, the growth of which it is imperative to encourage as a means of reviving a remunerative and, consequently, revenue yielding branch of trade.—*Commercial Intelligence.*

OTTO OF ROSE.

The *Chemist and Druggist* says:—There is no article which is more precarious than the expensive scent which we import chiefly from the Balkans. Last year's crop was good, and prices were low, so low that we fear the effect upon the Bulgarian peasantry will be deplorable. Up till a few years ago the Bulgarian peasant otto-distillers did not dream of sophisticating their produce, any "mixing" that was done being accomplished by exporters. Now, however, the peasants (who, after all, are half Orientals) have learned to increase the yield by putting something else in the pot than rose-leaves, and although last year an improvement in this respect was noticeable, still there was a great deal of adulterated otto left in the hands of peasant distillers here and there. Several houses have become noted for the purity of their otto, and these we understand had bought all the pure stuff from the peasant distillers, and this was concentrated into a few hands in Kezanlik. Holders have been anticipating a demand, with probably higher prices, for business has been quiet this year, and a 10 per cent. advance is actually spoken of; but we now learn from a correspondent out there that last week an important buyer appeared in the market, and instead of buying the pure otto available in Kezanlik, the agent went to peasants in several districts and made purchases equal to 1,000 T. oz., at 10s. to 14s. per T. oz. Our correspondent gives us the name of the firm (which we prefer not to mention at present), and adds:—

All the distillers of pure otto, as well as the jobbers and some of the principal firms in Kezanlik, are horrified by the conduct of the firm, especially as this firm export their otto to France, Germany, England, and America, with the recom-

mendation of "extra fine." I may say that at present the weather is going favourably for the rose-trees, and it is almost evident that next May we will have a fine crop. Towards the end of March all the pure otto which is in the hands of the jobbers at Kezanlik will be bought up, as the principal local firms have during the past week begun to buy pure otto from the jobbers at a price varying between 19*s.* and 21*s.* the T. oz.

The otto-trade is quiet in London just now, one enterprising Kezanlik house having some time ago filled up many of the principal buyers. This house is amongst those who have been buying well in Kezanlik during the past fortnight. *Verb. sap. sat.*

* * *

The following is a report of how things are managed in Bulgaria.

Rose-gathering in South-Eastern Europe commences in May says the *Chemist and Druggist*. This year's crop is likely to be a good one. The rose is grown commercially in many parts of the world, but Bulgaria and Roumania are the chief producing-centres. The Balkan region is the rose-garden of the world. A large garden it is, one district 120 miles long by 40 miles wide being one vast rose-field. The rose-shrubs mature in three years out there, and continue to give prolific crops for five years longer, when the quality and the quantity of the flowers begin to deteriorate, then they are rooted up. The harvest lasts about eight weeks (from the middle of May to the middle of July), and gives employment to many thousands of people, mostly women and girls. The plucking of the flowers begins at daybreak, when the dew is on the leaves, and is continued until 10 or 11 o'clock, or during cloudy days all day long. When the sun is shining brightly, labour is discontinued toward noon as otto made from roses gathered during the heat of the day is inferior.

Each picker carries a 2-bushel basket, and when they are full, the baskets are emptied into sacks and transported to the distilleries. It is estimated that a garden of one acre will produce 100 lbs. of roses every morning for three weeks or so.

The distilleries are in most cases mere sheds, but are sufficient for all practical purposes. Sometimes the walls are of brick, and occasionally of wood. On one side stand the stills in rows. These are copper alembics about 3 feet in height, with a brick furnace underneath. Each still has a capacity of 20 gallons, but for a charge only 15 gallons of water and 22 lbs. or so of roses are used. The first distillation lasts an hour and produces only rose water. This is returned to the still with a fresh supply of rose-petals, and on this second and subsequent distillations the water carries with it more otto than will remain in solution, so as the distillate cools the otto separates, floats on the surface, and is subsequently removed. Some kinds of roses produce otto in greater abundance than others, and it has been found by experience that the season has much to do with the quantity of otto, a humid spring with intervals of warm sunshine causing the petals to yield more liberally than is the case in a dry, hot reason. In Bulgaria it is estimated that 3,000 kilos. of rose-leaves produce 1 kilo. of otto, and this yields of about 2½ acres. In France the production is about the same and it is computed that about 400,000 roses are necessary to produce 1 oz. of the oil. In Algeria the roses are much less productive, but in Cashmere it is estimated that from 1,500 to 2,000 lbs. of petals produce 1 lb. of otto. Only the red rose is used for otto; the white and yellow varieties, if as fragrant, are not so profitable to the distillers.

THE MAKING OF GOOD TEAS.

An old and experienced tea-maker writes to the *Planter* that he is of opinion that one of the chief causes militating against the making of good teas is the existence of too much heat during the processes preliminary to firing. This may be termed an unavoidable cause under present existing circumstances, and is not due to any negligence on the part of managers or tea-makers. Just consider, he writes, the utter unsuitableness of our present style of factory buildings. Our tea-houses instead of being cool, dry, airy buildings are, for the most part, huge, hot, stuffy structures,—the very reverse of what they really should be. True they are magnificent edifices, but, what I contend is that their construction is faulty, in so far that necessary provision is not made for keeping their interiors at a low temperature. The design of their internal compartments requires in the majority of cases complete alteration. For instance, the dryers instead of being placed in some distant part of the building and entirely cut off from the rollers are more often than not placed in close proximity. The consequence is that the leaf, which gets greatly heated in the process of rolling receives an additional amount of heat from the dryers. If there is any one thing inimical to the making of *good* teas, it is *heat* in the preliminary processes before the leaf is fired. If there is one thing essential in the primary manipulations, it is *coolness*; yet, according to our present methods, we go dead against this very obvious fact

Under our present systems in vogue, the leaf, from the very moment it is plucked, is subjected to heat. To start with, the pluckers *jam* the leaf into baskets, as tight as they possibly can, result—, a heated mass of leaf, which, more often than not, turns *red* in the centre portion of the basket. This redness is simply a kind of fermentation, and all the leaf which has turned red or become discoloured is more or less putrid, which is evident from the nauseous smell emanating from it. If brought in by carts to the factory it undergoes a second heating, and arrives, especially if brought in a long distance, in a stinking condition. On arrival at the tea house it is still further heated by being spread out on trays, or mats, or hessian cloths, in lofts, into which all the hot, moist exhaust air of the dryers has been driven. This hot, moist atmosphere is killing and, instead of withering the leaf, simply *stews* or *bakes* it. Ten to one, owing to scarcity of pluckers, the leaf has not been taken off in time, and has consequently been plucked over-ripe, instead of just when ready. It is first of all, more or less, fermented in the baskets of the pluckers, and finally stewed or baked in the withering lofts, and yet good, flavoury, liquoring teas are expected to be made from such stuff. Is it possible?

Next in the rolling it is again heated; and as if this was not sufficient, it is again subjected to heat; in the last stage before firing (*i.e.*, being roasted), it is covered over with (some times enveloped in) cloths or blankets, wet or dry, as the case may be. Instead of being kept *cool* the entire time up to the point of firing, it has just received the reverse treatment. With reference to the system of oxidation (colouring or fermentation) at present pursued, (as above depicted) it is, I consider, *wrong*. To obtain the rich, bright colour (that of a new penny), so much desired and coveted what is required? Nothing more than a *gentle draught of constant cool, moist air* and *darkness*, or, as in photography, the dark room can be lighted by *ruby* or *orange* coloured glasses, excluding all rays of light, which will, by chemical action, injuriously affect the leaf during the progress of oxidation. The temperature should stand at neither more nor less than 80° F., and the moisture should be an *exact* amount (to be yet determined by experiment) just below the saturation point of the rolled leaf. If the temperature be too cold, lengthy oxidation results, which produces soft liquor.

THE VANILLA BEAN IN MEXICO.

An American Consular report says:—This bean is too well known to require a description at my hands. It is not difficult to grow, neither is it very laborious to cultivate. The district in which it is principally produced in Mexico is in the canton of Papantla, south-west of Tuxpan, about 30 miles back from the Gulf, in that section of country lying between the Nautla and Tuxpan rivers. In the forests, on the low hills of the above-named canton, it grows wild and in such profusion that the odour from it is sometimes sickening. In its wild state, it is considered common property and gathered by the natives without cost to them, except the labor of picking. A French colony, settled along the River Nautla, has gone into the cultivation of the bean pretty extensively, and seems to have improved it.

The soil on which the bean grows is a rich, sandy loam, or a vegetable mould, not too dry, and shaded—the wild by the forest trees, and the cultivated by small trees planted for the purpose. The temperature where it grows is a mean of about 85°F. for the year—never very cold and never very hot, and the altitude up to 1,000 feet above sea level.

Planting.—The bean grows on a vine larger than the hop vine but similar in its growth. Slips of the vine are planted, about three in number, at the foot of small trees, in ground prepared by spading or turning over the soil close to the tree; no other cultivation seems to be needed. These trees are planted 8 or 10 feet apart, the vine running or climbing to the top, whence it is conducted by the vine running or climbing to the top, resembling a hop field. The poles from one tree to another, ground between the trees is not disturbed. except immediately about the roots, where it is cultivated twice yearly. The vine does not produce during the first year, and very little the second, but in the third it is supposed to bear a full crop, which is about 10 to 12 ounces of first-class beans, 10 to 16 ounces of second-class

beans, and 15 to 20 ounces of third-class beans. This weight is after curing. The life of the plant is 10 years.

Gathering.—From October 1 to January 1, the beans are picked or harvested, and, I am told, care must be taken that they are not bruised or packed close in large quantities, as overheating spoils them.

Curing.—Some place the beans in bake ovens, heated to about 120°F. for twenty-four hours; after that they are placed in woollen blankets and exposed to the sun—that is, the blankets are exposed, the beans being covered by them. Others tell me that the beans must be dried in the shade and never exposed to the sun, because such exposure would damage them by discoloration.

Preparing for market.—After the beans have been treated as above, they are made up in bundles of fifty beans each, and wrapped in tin foil. The best are generally put in tin cylinders covered at both ends and holding one package of fifty beans, or about one pound each, in which condition they are considered fit for market.

Cost and price.—The people who gather the vanilla are the natives (Indians) of the country, who are paid at the rate of about 50 per cents per diem, Mexican money, without food or lodgings. Prices for labor, however, fluctuate, as it is the old question of supply and demand that governs prices.

The vanilla bean in this market is worth at present about $7 per pound, Mexican money (about $3.50 American money). This is the average price; the best is much higher and the poorest much lower. The cultivation of vanilla is considered very remunerative, and is a business easily learned.

Growing of vanilla and preparing it for market are two entirely different occupations, there being as much difference as there is in growing sugar cane and making sugar. There are about three men in the whole Republic of Mexico who seem to understand the correct process of curing the beans, and these men have made fortunes out of the business.

JAPAN TEA IN CANADA.

Replying to the remarks of Mr. Dallas, the "Salada" Tea Co sends to the *Canadian Grocer* a letter from which we take the following:—

In his letter Mr. Dallas states that we said "there were no bonded warehouses in the United States." Evidently he did not read our letter, but instead rushes into print and says rude things which are not argumentative. What we said was: "There is no system of bonded warehouses in the United States as we have in Canada"; therefore Mr. Dallas goes to the trouble of denying something that had never been asserted. There is a system of bonded warehouses in the United States, but, we repeat, not similar to that in Canada, where, practically, every merchant, wholesaler or retailer, can have a bonded warehouse in his own building. There are public bonded warehouses in the United States, but their charges are exorbitant and the American importer avoids all these by shipping his teas viâ Smith's Falls, which is as direct a line, by boat and rail, as there is. He then stores them there at very little expense, and has his choice of markets (Canada or the United States). The teas are then sold on sample and shipped to wherever they have been sold, whether it be in Chicago, St. Paul, Boston, New York, or any place else. If this is not a fact would Mr. Bernard or Mr. Dallas come out flat-footed, and say that the Japan firms they represent have not had teas which were consigned to Smith's Falls, shipped from there to the United States?

According to the Canadian Government's returns there were 1,695,172 lb. of tea exported from Canada to the United States between July 1, 1897, and July 1, 1898. A very small fraction of this was China green and black teas, and the balance was Japan tea. In other words, those teas were consigned to Canada and shipped to the United States when sold.

The imports of Ceylon and Indian teas into Canada and the United States during the year ending December 31, last, were 13,608,000 lb., against 11,360,000 lb. in 1897. Can any man, in the face of these figures, say that Japan or China teas are holding their own? Every grocer, every grocery clerk and every commercial traveller, knows that they are not, and every man in the business knows that Ceylon tea was scarcely known here eight years ago, and to-day there is not a grocery without it. Query.— What has it displaced?

THE NEW TEA LAW IN AMERICA.

The new tea law in the United States has come in, harsh, if not, bitter criticism from a large firm of importers. Commenting on some very stringent remarks, the *American Grocer* observes:—

The tea duty and the tea exclusion act are still in the experimental stage. It is true, as stated, that the tea law and duty has enabled holders of old and trashy teas (some of which have been held here for twenty years) to get them into consumption. There is now on the market at 22 cents per pound a tea imported over twenty years ago, and which cost only a few cents per pound. In short, millions of pounds of trash have been marketed which prior to the act was unsaleable. The tea law is the tool for cleaning up this rubbish, while the duty prevents fresh importations. In a short time all such rubbish will have disappeared.

So far as we can learn, we find a majority of the trade favor the law and believe that its benefits have been many, and that in another year or two the full good results of its operation will be attained—viz, a higher average quality and enlarged consumption. It is unfortunate that the only voice against it comes from the tea trade, and that the accusations made are not warranted by the facts. They are largely assumptions, especially the charge of a "reign of terror" existing, and that the board of experts is likely to exercise "arbitrary or tyrannical power."

Let the law and duty have further trial without attack and we feel certain that the results will be found so beneficial that it will have general support, and that it will lead to further regulation of imports of food and a duty on coffee, which would tend to raise the average quality of importations quite as much as the duty on tea has improved the quality of the imports

TEA IN RUSSIA.

The *Ceylon Observer* lately interviewed the Russian tea-buyers, Messrs. Tokmakoff and Stcherbatchoff, of the firms of Tokmakoff, Molotkoff & Co. and Stcherbatchoff, Tchokoff & Co., from whom the following information was obtained:—

The price of the very cheapest brick tea in Russia is, we learnt, about 2s. a brick, which consists of from 2½ to 3 lb., so that the average price per lb. of the cheapest tea drunk in Russia would be little more than 8d. But, Mr. Tokmakoff informed us, brick tea is very little drunk in European Russia now, in fact hardly at all; among the Tartars of Astrachan, near the Caspian Sea, it is largely used, but otherwise its consumption is almost entirely confined to Siberia.

There were, also, two kinds of brick tea known in the Russian dominions, the black and the green. The green brick tea, unlike the black, was never employed to make an afternoon beverage. When a decoction was made from it, it was always mixed up with a quantity of (to us unheard of) ingredients and transformed into a thick soup; milk, fat, tallow, and mutton chips were, said Mr. Stcherbatchoff, often thrown in and the resulting fluid was only used at meals—like ordinary soup.

On enquiry as to what classes in Russia drank tea we heard that the working men in the towns drank it whenever procurable, the drink being very popular, but no leaf teas were obtainable under 2s. a pound. The peasants in the country very seldom tasted it, the beverage being beyond their means. Several millions of the poorer people in Russia had never heard of tea to this day and would not understood its use if it were distributed to them gratis. Amongst the middle and well-to-do classes, however, the consumption was very large.

"What would be the average per head amongst those who can afford tea?"

"Ah! Russia is a large place," was the reply, "and it would be difficult to ask every man if he had drunk any tea during the year. But, yes, it is a sad thing that the Russian Government do not publish such full statistics as you have here and in London. All the figures nearly that we get about the imports of tea into Russia come from London."

Was tea-drinking likely to spread, we asked, in view of M. de Witte's (Finance Minister) policy of repressing the drinking shops. Most certainly it would, was the answer we received. The "policy" in question was the buying up of all liquor shops by the Government, and this immense piece of work had now been very nearly

completed, only a few liquor shops remaining in private hands. Liquor had consequently become far dearer than previously, and, amongst the beverages to which the people would have recourse, tea held a prominent place. But it was not this so much as the decrease of duty that would increase the sale of tea in Russia, for so few could now afford to buy it.

The duty at Odessa and the other ports was 86 kopeks per pound, *i.e.*, about 1s. 10d.—100 kopeks going to the silver rouble, which is about 2s.; on the frontier the duty was just under 1s. 1d. The smaller duty here being to encourage the transport of tea from China overland, and the consequent opening up of Siberia. When the Siberian railway is complete, however. the duty will be raised, in all probability considerably above 1s. 1d. as the railway rates will be cheaper than the present overland means of transport.

On asking how other tea than that from China reached Russia we were told that none, or very little indeed, came overland from Italy or across viâ Germany from London. Direct shipments of Ceylon and Indian tea were made to Odessa, but the quantity bought in the London market and taken round by the Baltic was about twice as much as that shipped direct from the East. The total consumption of Ceylon and Indian teas in Russia was now about 10 million lb. per annum.

Another item, interesting to learn, was that originally there was no duty in the Northern ports of the Russian Empire and that tea was actually sent from Hankow to London and thence round the North Cape to the Gulf of Obi, whence it was quietly brought into North Russia and sold cheaper than what was brought over the frontier. The tea was sent to London first and transhipped there in the months of June and July, these being the only months in which the most northerly sea on the route would be navigable. But in due time the Government found out this little game and stepped in and stopped it. Amongst the last consignments which might have got into Russia without duty was one of 14,000 lb. on board the ill-fated P. & O. steamer "Aden," but the wreck of that vessel prevented its ever reaching its destination.

In conclusion we learnt that the Russian Volunteer Fleet which conveys tea to Odessa, while also acting as troop-transports, is to be increased by several new large vessels, one of the biggest being a sister-ship to the big three-funneled "Moscowa" which was in the harbour the other day at the time of the Regatta, as seen in Messrs. Plâte's photographs. With native vessels like these the Russians will more freely convey teas to Russia; and from all we could learn, though the Russian nation as a whole are yet far from being reckoned as the greatest tea-drinkers in the world; yet amongst the better classes the beverage is highly appreciated and wherever Russians can afford to indulge it the taste grows upon them with no small rapidity. The outlook, therefore, for tea, as far as the Russian market is concerned, may even now be considered bright and full of promise.

THE NEW SIROCCO FAN.

THE LATEST PATENT.

A new fan of exceptionally high efficiency and capable of remarkable performance has recently been invented and patented by Mr. S. C. Davidson, of the well-known firm of Davidson & Co., Limited, Belfast.

In appearance it might be described as resembling a squirrel cage or a hydro-extractor set on end. It has many novel and unique features, the combinations of which are said to have raised it in mechanical efficiency far above fans of any other make or description.

Mr. F. G. Maguire, the Eastern Representative Engineer of the Company, who has recently returned from England, personally supervised a large number of carefully conducted experiments, tests, and trials with this new apparatus, and he has asked *Times of Ceylon* to publish the report hereunder given. which certainly leads one to believe that Messrs. Davidson & Co. have "struck oil."

"Having had numerous enquiries for particulars of Mr. S. C. Davidson's New Fan, I shall feel much obliged if you will kindly publish the following account of this new invention:—

The new fan has been patented in all countries in the world and is registered under the name and trade mark of "The Sirocco Fan." It can be used with equally high efficiency in the form of a pressure blast fan, as used on boardship for forced blast for boilers, for mines, tunnel ventilation, etc, etc., or as a bracket fan for the ventilation of buildings, withering lofts, etc. Among a few comparative tests for efficiency when acting as a forced or pressure blast fan, the following figures are interesting:—

Type.	Dia.	Periphery speed.	Water guage Press indication.	I. H.-P. required.	Motor.
Sirocco Fan.	10″	4,453′ p. m.	4″	0·60	Steam engine
	1′ 0″	1,800′ p. m.	7/8th″	0·22	12″ Turbine direct coupled.
Propeller ventilating ...	5′ 0″	4,650, p. m.	5/8th″	3·00	Steam engine
	5′ 0″	5,655′ p. m.	7/8th″	4·05	do.

Water gauge pressure indications up to 8″ head have been registered during experiments with the larger fans.

A special department at the Sirocco Engineering Works has been provided for testing the power required, the volumetric and pressure efficiencies of the fans, as well as the comparative efficiencies when tested against other makes of fans.

In order to obtain absolutely accurate results in testing the power absorbed in driving the fans under various conditions, an ingenious combination of dynamometers is brought into requisition in such a manner that one, a Friction Break Dynamometer, acts as a check on the readings of another, a Transmission Dynamometer, so that any undue friction or inaccuracy in the mechanism is at once detected.

An air-tight compartment with air-tight bulk-heads doors and shutters is used in testing the fans for volumetric and comparative efficiencies. This compartment is so designed that accurate readings can be taken by means of anemometers, there being no cross currents or eddies formed at the positions where the recording instruments are at work. The following figures will give some idea of the volumetric efficiency of the "Sirocco" fan:—

Dia.	Speed in rev. p. m.	Cub. ft per min. discharged.	Water guage indi.	Power.
10″	1,700	3,000	2″	0 25 H.-P.
24″	530	10,105	2″	1·06 H.-P.
30″	150	5,880	—	0·90 H.-P.
30″	390	17,016	—	2·24 H.-P.
*35″	140	12,645	¼″	0·33 H.-P.
35″	176	18,840	—	1·55 H.-P.
35″	234	21,250	—	2·30 H.-P.
35″	353	25,000	—	not taken.

* Head driven.

In addition to the above figures, many interesting tests were made, in order to compare the efficiency of a well-known make of Propeller Blade Ventilating Fan, 5 ft. in dia. = 19·64 sq. ft. area against a 35" dia. = 6·6 sq. ft. area "Sirocco" Fan. The two fans were mounted at opposite ends of the air-tight testing room, and driven so as to pull against one another out from the air-tight compartment, in fact, to compete in a tug-of-war.

The Propeller Blade Fan was driven with a periphery speed of 60 ft. per minute more than the "Sirocco" Fan, so as to make sure that it received fair play. The results were as follow:—

Type.	Dia.	Area of fan in sq. ft.	Volume of air discharged.
Sirocco fans ...	35″	6 681	14,400 c. ft. p. m.
Propeller ventilating ...	5′ 0″	19· 64	Nil*

* 14,400 cubic feet of air were pulled through it in the opposite direction.

Among a few of the most interesting and novel features of this invention the following are worth mentioning:—

1st.—The eye or inlet to the fan is of equal diameter to the fan itself, therefore a 10″ fan will fill a 10″ diameter pipe, and 6′ 0″ Fan, a 6′ 0″ pipe.

2nd.—The speed of the air discharged at the fan periphery is 1·75 times that of the speed of the fan periphery itself. Thus a Sirocco fan driving with a periphery speed of 1,000 ft. per minute will discharge its air at a velocity of 1,750 ft. per minute.

3rd.—The Sirocco fan when working at high or low speeds is absolutely free from thrust, the theoretical thrust being automatically absorbed by the fan itself. If a fan be driven at, say, 1,000 revs. per minute, and is discharging, say, 50,000 cubic feet of air per minute, it can be moved backwards or forwards in its bearings

by the slightest pressure of the little finger, if the loose collars be moved. This in itself reduces the friction in driving the apparatus to a minimum.

4th.—The mechanical efficiency of the fan may be represented as 95 per cent; 100 per cent. being the full theoretical efficiency. This efficiency is computed by comparing the theoretical power necessary to move a given volume and weight of air at a given speed, with the indicated results when moving the same volume and weight of air at the same speed by the fan.

Thus the Sirocco fan is practically theoretically perfect, as a small percentage of mechanical power must always be absorbed in overcoming the friction of the bearings, and in driving the fan itself.

5th.—If the fan be driven backwards, the "power absorbed" and the "work done" are practically nil, there not being as much draft created as would move a handkerchief if held stretched out in front of it, and the fan can be turned at a high speed by the hand with little exertion. If however it be turned forwards, the "power absorbed" and "work done" can immediately be felt, and, by comparison when hand driven, one would imagine it were revolving in in treacle. This in itself is a negative proof of the high efficiency of the fan.

The writer was much amused by the remark made by the vendor of a well-known fan in London, a few weeks ago. After making an examination of the fan, which was electrically driven, the current was switched off and the fan allowed to continue running on its own account. The writer remained fully 15 minutes in conversation with the vendor, after the motive power had been cut off, but the fan kept revolving at a good high speed all the time, whereupon the vendor remarked: "Does not that fan run beautifully, no friction, etc." The writer remarked that it did; but he wondered how much work it was capable of doing "if it could spin round for so long with no driving power whatever" Perhaps it is spinning round still and continues to delight the heart of the gentleman who expounds its advantages to the public.

The Sirocco fans are now being constructed from 5″ dia. upwards. The little 5″ fans put through as much as 1,000 cubic feet of air per minute. The sizes run in fives; thus the sizes following the 5″ are:—10, 15, 20, 25, etc.

Any further particulars or figures regarding the practical working of the Sirocco fan may be had on application to Messrs. Davidson & Co., Ltd., Colombo.—I am, &c.,

F. G. MAGUIRE.

SIROCCO DEPOT, COLOMBO,
March 25th, 1899.

THE HALL-MARKING OF COFFEE.

The following paper was lately communicated to the *Brazilian Review*, and published under the title of "The Economical Effect of the Depreciation in value of Products for Exports":—

The present depreciation in value of Coffee and Sugar suggests the following considerations:

(a). That it is the province of the Foreign Consumer to fix the price—the export price—of the products of any one country; or, in other words, the price will always depend on the relative supply and demand for any one such product in the foreign market.

(b). That all such export products, whilst serving their useful purpose as products, do at the same time serve the purpose of money or coin.

A bag of coffee hall-marked in Mint of Commerce to the value of 30s., 40s., or 60s. can and does extinguish foreign indebtedness to this amount as easily and more cheaply and more readily than any gold coin of these respective amounts can do.

(c). That the competition through Commerce, for such products as products, ensures that the greatest possible value shall be hall-marked on these products when serving as money or coin; in other words, ensures that their full value shall always be drawn for.

(d). That the sum total of the value of products, during any one year, that are so hall-marked as coin, is also the sum total of foreign expenditure that ought to be expended during any one year, for this is also the sum total of money or coin *i.e.*, coin current beyond its own borders, that Brazil can mint during any one year.

(e). That the well-being of every man, woman and child in the Nation is influenced, favourably or adversely, according to the amount that can thus be hall-marked on the product. If 30s. be the amount so hall-marked on a bag of coffee, then every one finds money scarce and life difficult. If 60s. be the amount, then money is plentiful and life easy.

From the above we seem to arrive at what appears a paradox, viz.: that a nation has to submit to foreign imposition as regards its own products; but this is no paradox for it has to consult the wants and wishes of foreign consumers as to the kind of products that is, for itself, most profitable to raise, and even then it has to submit to the valuation of the foreign consumers as regards the gold value of its products when raised and ready for the market. It has to accept this foreign valuation and make the best of it.

There seems at present to be some disposition to think that the Government can influence the hall-marking by Commerce of the value of products as coin, but, fortunately, the power of the Government to intervene in this matter is nil. Here no printing-press can work The Government equally with the Nation at large must accept the inevitable and cut its cloth according to the length of its purse.

It seems useless therefore to suppose that the Government can influence the gold value of the products and it had better leave any such attempt alone, in the certainty, that commerce has at its command steadier and clearer heads and more delicate and efficient machinery than anything the Government can command to ensure that the products of the country shall always go to the highest bidder.

The power of any Government as regards its products can be exercised with best advantage in seeing that as little dead-weight as possible—foreign debt taxes and duties—be placed on the Agriculture of the Country; in other words, to cheapen the cost of production by cheapening the cost of living.

Fortunately there is hope that this will now be the case and that capital will be induced to join hands with labour in order to develope and increase the products of the country, but this desirable end will be only attained in proportion as production is cheapening the cost of living.

It is in this that the essential difference consists between what has been called Living Nations as against Decaying Races!

History teaches that Living Nations are those whose people jealously guard against its Government being able to impose needless fixed charges on the labour of the Nation and whose labour is therefore able to command the labour of the whole world through the cheapness of its home products.

In every case of a stationary or decaying nation it will be found that its Government has been allowed to add fixed charge on fixed charge, useless and unproductive, on the labour of the nation and has thus so enhanced the cost of home production that its labour cannot compete with the labour of other nations less handicapped by such burdens being so laid on their labour.

Coffee and Rubber may seem to contradict this general principle from the practical monopoly at present enjoyed by Brazil in these products. This monopoly may now, however, be seriously threatened through Cuba and Manilla, through Egypt and the Nile Valley. Throughout all this extent of country the policy that will now be pursued will be the enrichment of the labouring and labour-producing classes so that they in turn may become consumers.

It behoves the Government of Brazil, if it does not wish to be beaten on its own ground, to strain every nerve to place its labour under the same favourable conditions as the labour will be placed of its now possible competitors in the production of its two special products that are at present free from powerful competition.

China had the monopoly of tea! Where is this monopoly now?

QUININE EXCITED.

Quinine has had a rollicking week of business, "forging ahead like Pattison's whisky," said a 'Change frequenter the other day, but "forging" suggests too much effort for the progress of the alkaloid, and the connecting of Pattison's with quinine has an unfortunate inappropriateness. Quinine has sold and re-sold at feverish rates in the second-hand market, and is now on the border of 1s. 6d. an ounce. More noteworthy even is the fact that the German combination of makers have put up their price to pretty nearly the same figure, and, of course, the chief English manufacturers have advanced, maintaining a dignified reserve as to how much they sell and whom they sell to.

This is the result of eight weeks' influence on the situation that existed when quinine was 10½d., and we were anticipating the advance that is now a fact. No wonder timid spectators of the rush are shaking their heads and prophesying a slump. Still, there is plenty of confidence in others, and these—we must say, generally the best-informed in the subject—that we shall have quinine worth 2s. before the year is out. Even the more cautious ones, who, nevertheless, are not afraid to look facts in the face, ask one another whether we are not rapidly approaching a very serious scarcity in the supply of bark.

Of course, these thoughtful observers do not say this because of the speculation. That is really a result, not a cause of such reflections. Speculation, like it is always doing, is anticipating future events. All this buying and selling of quinine that has been going on during the last two months is merely the constant turning over of the same parcels of the article. The consumptive demand is stagnant compared with this speculative activity. All the same, the latter rests for its justification ultimately on the principle that second-hand quinine could always go into consumption at, say, 2d. per oz. below the makers' price, and a second-hand price of 1s. 6d. on this basis is really only warrantable on the supposition that makers will, shortly, either not be able to sell at all or will have to sell at 2d. above that. Hence all this selling and re-selling in view of future upward movement. No one would buy quinine to-day in the second-hand market for immediate consumption, for a better bargain could be made with makers.

But there is the usual danger in this speculation, that it may go too far; that the second-hand price may anticipate too much; or that it may go so fast that a reaction will set in and the weakness of nervous holders will cause the market to collapse at a time when it has got too far ahead of natural effects, which, if they could be awaited, would support it. And it is to answer the question whether the speculation has gone too far now that some are eagerly watching the reports as to shipments of bark, and asking, as we have said, whether all these signs of great future shortage are to be trusted.

We ask ourselves the same question, and we can only say that unless some extraordinary artificial arrangement is at work in Java there is only an affirmative answer to be given. If we turn round to all the possible places from which bark can be got we see none that is so situated as to be able to supply the market if Java falls short. That ought to be too obvious to need stating. But people talk in an absurd way about this, that, and the other country being able to bring forward bark if the price goes much higher. Can India put forth more than she did last year, when she came up to her highest year's production, and effected—nothing? She did not put bark down a fraction. Can Africa do anything, seeing that she has made the mistake of others and given all her attention to a comparatively little-needed bark, because it is easy to cultivate?

Of Bolivian cultivation there was hope once; but even here there has been disappointment, and of South America generally it may be said that bark must very considerably advance before it will be induced to collect again. We have little trustworthy information as to its stores, and so will leave alone the question how far it is exhausted. In the matter of remuneration for collection, it must be remembered that men often, once having started a business, continue it long after it reaches that point at which it is barely profitable to begin it, and the price that made bark collectors and exporters in America desist will have to be materially increased before they begin again. Those who know at what figure South American bark did not pay to collect will also know that we can go on putting up bark a great deal more before collectors will organise those arduous journeys that are required to obtain South American bark.

Ceylon is not worth thinking of, but so desperate are some in their desire to take a pessimistic view of bark, and so singular are others, that the most easily negligable factor in the situation is one on which we must spend most words. We have given our contemporaries the lead in the proper direction on this subject, but to get them to go in the right way seems futile judging by the hopeless tangle into which one of them gets itself. To talk seriously about Ceylon in the situation was, we thought, only possible in such a case as that of an acquaintance on 'Change who gravely asked us the other day if we had noticed that Ceylon had exported in the first week of February as much bark as in the whole of January. When he was gently taken in hand he explained that he did not get the Java figures—only the Ceylon! However, good was done in his case, and even something has been effected in the case of the contemporary, for we have at last managed to make it see that the German purchases and sales are the key of the situation; but this lesson has taken so long to penetrate that the learner has forgotten whence he received it.

There is left Java herself. Here it is most difficult to get at anything like an accurate figure for the possible output at present. We do know, though, that after a year of large shipments at prices lower than the present, Java is only sending small supplies to the European market, and what it is sending is better bark. The natural conclusion is that it has not got more bark to send, and this is true, unless, to come back to our earlier statement, the Java planters have been induced to do what they have never been induced to do before—*i. e.*, keep bark back when they are getting good pay for it. We do not say such a thing is impossible, and, after the recent visit of the planters' emissary, an arrangement of this kind might seem likely, but we doubt very much its having been made, and, in the absence of other information, look upon the present circumstances as leading fast to a scarcity that has never been known in the bark market.—*British and Colonial Druggist.*

MARKET REPORT.

By Mail advices of 17th March 1899.

COFFEE.

The *London Commercial Record* says:—The market opened with a rather steadier tone, and fine qualities were in better demand at some advance in prices. Subsequently the market became extremely flat, and a large proportion of the supplies at auction had to be withdrawn, the closing prices of grey and undesirable qualities shewing a further decline for the week of 2s to 4s per cwt., especially for East India, which has been very difficult of sale except for the moderate amount of colory qualities. With an advance in the Brazil Exchange "futures" at one time were stronger, and prices advanced, but during the last day or two there has been a relapse, and the latest quotations are 3d to 6d lower on the week, closing as follows:—

London	... Santos	... July delivery	... 29s 6d
New York	... No. 7 Rio	... „ „	... 5.25 cents
Hamburg	... Santos	... „ „	... 29¾ pf.
Havre	... Santos	... „ „	... 35½ francs
Holland	... Good ordinary Java	..	... 27 cents.

Imports Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
Tons.	13830,	10717.	6320.	7697.
	Home Consumption.		Export.	
	1899.	1898.	1899.	1898.
Total tons...	2229.	2789,	3979.	3772.

The preceding figures exhibit—

In the Imports a decrease this year of	1,377	tons
Home Consumption an increase of	140	„
Export an increase of	207	„
Stock an increase of	3,113	„

Auctions this week have gone off as under:—

East India.—Of 1,542 bags offered about 320 bags sold—*Mysore*, smalls 40s, low middling 58s 6d to 62s, bold gray to colory 80s 6d to 83s 6d, pea-berry 90s 6d to 92s 6d; *Coorg*, smalls 41s, low middling pale greenish 50s to 60s, middling coloury 60s 6d to 62s, bold pale greenish 78s to 82s 6d, fine bold 91s 6d, pea-berry 85s to 97s; *Wynaad*, smalls 35s to 36s, low medium 44s 6d, to 47s 6d bold 65s 6d to 67s, pea-berry 60s to 75s 6d.

Mocha.—32 half-bales withdrawn.

Nyassaland.—11 bags bought in.

Jamaica.—Of 45 barrels 93 bags offered 17 bags sold, ordinary greenish 30s, bold dull brownish 36s to 38s pea-berry 34s.

Costa Rica.—Of 3,192 bags offered a good proportion sold—smalls 28s 6d to 51s 6d, fine fine ordinary greenish 44s, low middling 45s 6d to 52s 6d, middling to good middling blue 54s to 69s 6d, fine middling 72s to 96s 6d, good to fine bold 78s to 97s, very fine bold deep hard blue 102s to 106s 6d, pea-berry 49s to 102s.

Guatemala.—Of 4,048 bags catalogued, 1,350 bags sold, smalls 27s to 35s 6d, low middling dull green to middling colory 46s to 56s 6d, bold bright gray 64s 6d to 65s 6d, good middling brownish colory 65s, good bold dull colory 72s to 89s, pea-berry 55s to 75s.

Mexican.—615 bags mostly sold, smalls 35s 6d, low middling to middling 46s to 52s, bold 68s, pea-berry 47s to 70s.

Honduras.—8 bags sold, good ordinary pale 33s 6d.

Colombian.—2,506 bags offered and barely half sold, smalls 28s to 46s, very fine ordinary grayish to low middling greenish 43s 6d to 50s 6d, middling colory 51s to 56s, good middling to bold colory 58s to 68s, good to fine bold blue 69s to 86s, pea-berry 48s to 71s.

Guayaquil.—257 bags bought in.

Salvador.—241 bags partly sold—low middling dull 45s, pea-berry 57s.

Nicaragua.—135 bags withdrawn.

Brazil.—23 bags Rio bought in.

Supplies at auction to-day were again very heavy, 7,283 bags, &c., not including the lots postponed from yesterday's public sales. A flat market and very little business done—no demand.

Prices realized at auctions for some of the principal marks of East India :—

MYSORE.

	0	A	B	C	PB	T
Chetenhulli Mysore	96-6	68-6	56-6	—	95-0	52-0
JP & Co. ◇ Bibbenluke Mysore ...		85-0	58-0	40-0	98-0	39-6
Cheithully Mysore		85-0	62-0	45-0	85-0	33-0
Ubban Mockett ◇ Mysore ...	103-0	85-6	71-0	—	110-6	51-0
Dataypore Mockett ◇ Mysore ...	107-6	97-0	81-0	—	117-0	56-0
Do. do. ...	108-6					
M ◇ Hoosul Mysore ...		99-0	77-6	48-0	93-6	40-6
Mocket S & L ◇ Mysore ...		103-0 bid	87-0 bid	53-6 bid	110-0	57-0
Mockett B ◇ Mysore ...		no bid	no bid	43-6 bid	106-0	49-0
MB Merthikhan Mysore ...		84-6	58-6 bid	44-6 bid	92-0	38-6
Clifford's Mysore Kerkie Coondah.		81-0	58-6	40-0	92-6	34-0
	0	1	2	3	PB	T
Coogenhully U ◇ Mysore ...		88-0	61-0	—	87-0	37-0
Edwin Hunts Karradibetta Mysore		82-0 bid	58-0 bid	55-0	97-0	42-0
Edwin Hunts Cartaypore Mysore.		90-0	64-0	54-0	105-0	44-0
Sanderson A Mysore ...		83-0	60-0	50-0	86-0	34-0
ECH Isabel △ Mysore ...		89-0	67-0	50-0	94-0	35-6
Mackanhully Mysore ...	90-6	72-0	63-0	—	108-0	50-6
Moodsoosie EEB Mysore ...		86-0	65-5	52-0	93-0	43-0
Edwin Hunts Mallapoor Mysore...		88-6	59-0	—	94-0 bid	38-0

COORG.

	A	B	C	PB	T
Binny's Coorg Koondalum Kolli ...	81-0	60-0	42-0 bid	90-0	35-6
HGP Beechlands	82-6	59-0	—	93-0	35-6
CA Kortikaad Coorg	78-0	50-0	41-0	86-0	34-0
	1	2	3	PB	T
Arbuthnot's Polli Betta Mocha Estate ...	83-0 bid	60-6	—	93-6	34-0
Do. do. Avoca Estate ...	83-0 bid	60-0 bid	—	90-0 bid	38-6
Do. do. Java Estate ...	84-0 bid	50-0 bid	—	no bid	35-6

WYNAAD.

	A	B	C	PB	T
Vangacotta	67-6	49-6	38-0	84-0	31-0
Walker's Estates Touramulla ...	65-0	50-6	38-0	88-0	36-0
Moyaar Estates	86-6 87-0	63-0	42-0	91-0	41-0
Meemootie	74-0 bid	54-0 bid	41-6	85-0	34-0

TEA.

China.—Auctions this week have offered 13,395 packages, which experienced a fair enquiry at about valuations. The following are the prices realised :—

boxes Canton Scented Caper 6¼d to 7¼d.
ditto new make 7d to 7½d.
half-chests Congou 7d to 10d.
packages Moning 8d to 9¾d.
ditto Oolong 8¼d.
half-chests and cases Moyune Green—Gunpowder 7½d to 11⅝d, Imperial 4d to 6½d, Hyson 3¼d to 4d, Young Hyson 4⅜d to 7d, Sow Mee 6½d to 1s 1⅝d, Foong Mee 9⅝d to 10¾d.

Indian.—Public sales were again rather smaller, viz., 32,600 packages, compared with 35,000 packages in the foregoing week. For the corresponding period a year since 27,000 packages were brought forward. The brisk demand previously noticed continued for all descriptions up to about 8d per lb., with occasionally higher rates, while in some cases the medium grades of Pekoe also marked an advance. Broken Pekoes, on the other hand, did not receive so much attention, and quotations, eicept for the most attractive lines, were somewhat easier. Choxest parcels on the whole realised full figures, among the most noticeable being Assam: Nahor Toli OPF 2s 1¾d, BOP 1s 9d; Rungagora BP 1s 10¾d and OP 1s 9½d; Bokahola OP 1s 10d; Dejoo FOP 1s 9½d per lb. Darjeelings: Runglee Rungliot OP 1s 10½d; Dooteriah OP and BOP 1s 8d; Kalej BOP 1s 7d per lb.

A better assortment from South India was included in the catalogues, some of the invoices being of a very useful character and bringing improved results.

For 25,900 packages on garden account 9¼d per lb. was obtained, contrasted with 8¼d per lb. for 19,900 packages, and 9d per lb. for 18,200 packages in 1898 and 1897 respectively.

Ceylon.—On Tuesday, 25,500 packages were offered, versus 27,400 packages on the 7th inst., and 27,100 packages at this time last year.

Competition was spirited for both leaf and broken sorts under 8d per lb., values for which ruled very firm to fractionally dearer, there being very little whole leaf Pekoe Souchong to be had under 7d per lb. Medium Pekoes and Broken Pekoes were about steady, but fine and finest being in less request passed somewhat irregularly. The following were among the best BOP's:—Allagalla (boxes OP) 1s 9d, Henfold 1s 4¾d, Cranley and Talawakelle 1s 4½d. Wanarajah 1s 3d, Waverley 1s 2½d, Tillicoultry 1s 2¼d, and Drayton and Kotiyagalla 1s 1½d.

The average is the same as on the 9th inst. when it stood at 8¾d per lb. while in 1898 it was barely 7¼d per lb.

Java.—In the absence of business there is nothing to report. For next week 1,700 packages are advertised.

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns, were :—

From 1st to 14th March, 1899 ... ... 8,320,227 lbs.
„ „ 1898 ... ... 8,175,543 „

During the week the following have been printed for sale by public auction:—

	Sold.	Withdrawn.	Total offered.
	Pkgs.	Pkgs.	Pkgs.
India	29,285	3,280	32,565
Ceylon	24,039	1,517	25,556
Java	—	—	—
Total	53,324	4,797	58,121

Also 656 packages from second hands.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated March 17th, 1899, says :—

QUANTITY BROUGHT TO AUCTION IN LONDON
From 1st June to Date.

	Indian.	Ceylon.	Java.
1898-1899.	1,403,842 pkgs.	902,406 pkgs.	36,731 pkgs.
1897-1898.	1,365,514 „	955,766 „	34,951 „

33,103 pkgs. Indian
25,709 „ Ceylon
— „ Java
} Total 58,812 packages were offered in public auction this week.

Indian. The outturn of the crop for season 1898 is given by the Indian Tea Association as lbs. 152,900,233, against 148,252,408 lbs. last season, these figures, however, do not appear to include Travancore. Teas under 8d. were again keenly competed for, although over this figure the tendency was slightly easier. Averages:—"Amal. T Co. Dooteriah," 1/4; "Lebong T Co. Badamtam" and "Barnesbeg," 1/3; "Upper Ass. Co. Nagaghoolie," 1/3; "Amal. T Co. Kalej," 1/2½.

Ceylon. Teas under about 8d. were again a trifle dearer, but prices for other grades were irregular and frequently ¼d. per lb. lower. Fine liquoring Orange and Broken Pekoes are now comparatively cheap and have fallen considerably from the highest point. A private wire gives exports to U.K. for first half of month

lbs. 2,800,000, and estimates quantity available for month as lbs. 7,250,000, against lbs. 9,500,000 last year. Average for week 8·60d., against 7·05d. same week 1898.

Ceylon Tea sold on Garden Account, 1st Jan. to date 1899, 225,494 pkgs., av., 8·30d. 1898, 252,177 pkgs., av., 7·63d.

		1899.	1898.	1897.	1896.
Pekoe Soug.	(Ordinary leaf; fair liquor)	7¼d.	5¾d.	6¼d.	6d.
Pekoe	(Ordinary leaf, little twist; fair liquor)	8¼d.	6½d.	7½d.	7¼d.
Pekoe Soug.	(Rather bold leaf; indifferent liquor)	6¾d.	4½d.	5d	5d.
Pekoe	(Somewhat bold leaf; indifferent liquor)	7¼d.	5d.	6d.	5½d.

Javas were not represented, but 1,030 packages are advertised for sale on the 23rd inst.

IN THE UNITED STATES.

The market rules very firm on all low-grade teas, with trade in invoices quiet. In the primary markets India teas have advanced 1@3c. At the Calcutta public sales prices advanced at each successive sale. Advices dated February 17 state: "With a few small shipments from India the total crop will have been exported, and any addition to the crop will be necessarily small. At Tuesday's sales all grades of Ceylon tea met with a good demand, and the market remains very strong, especially for whole leaf kinds up to about 8d. per pound. These descriptions were much sought after, and previous rates were fully maintained, while occasionally prices ruled in favour of sellers. The lowest grades continue to be keenly competed for, and in cases were slightly dearer, the proportion now selling under 6d. per pound being very small. Broken Pekoes were in good supply, and were freely taken by buyers at about previous rates."

COCOA.

Large supplies were brought forward for public competition, catalogues embracing 11,430 bags. Prices were fairly firm and holders quitted 6,200 bags. Of 2,929 bags Trinidad offered 1,430 bags sold at 76s to 78s 6d for fine to superior red, 73s 6d to 75s for fair to good, 65s to 69s for good to fine pickings, and 60s to 64s for dark and broken, or about last auctions rates. Of 4,785 bags Grenada 3,700 bags sold without material alteration in values, viz., 71s to 72s 6d for good to fine red, and 68s to 70s for middling to fair. 75 bags Dominica brought 67s to 68s 6d. 193 bags St. Lucia mostly found buyers at 68s to 70s 6d for fair to good pale, being steady. Of 158 bags Jamaica only 9 bags sold at 67s 6d to 68s. Guayaquil was a little easier, 250 bags selling out of 1,115 bags offered at 72s to 72s 6d for Winter Arriba, 73s 6d for Naranjal, 72s 6d for Machala, 71s to 72s for Caraquez, and 70s 6d for Tumaco. 85 bags Jeremie, 372 bags Bahia, and 204 bags Samana retired unsold. Ceylon growth was represented by 1,509 bags, of which 630 bags sold at valuations—fine bold and medium red 80s 6d to to 82s 6d, fair to good ditto 71s 6d, to 75s 6d, bright Native 71s, good medium red 68s, mixed Native garblings 64s, and common to good pickings 58s to 67 6d per cwt. Since the auctions the greater part of the bought in lots of most growths have sold at occasionally higher prices.

PEPPER.

Black.—The market is dull in tone and value lower. The close, however, is a shade steadier on the small shipments. Singapore has been sold on the spot down to $5\frac{3}{16}$d for fair and $5\frac{1}{8}$d for grayish. For arrival 200 tons have been sold, viz., January-March shipment has been done at $5\frac{3}{8}$d, February-April at $5\frac{5}{16}$d, March-May at $5\frac{3}{8}$d, April-June $5\frac{7}{16}$d, and June-August at $5\frac{9}{16}$d.

The shipments of Black Pepper for the first half of March compare as follows:—

	1899.		1898.	
U.K.—Singapore ...	*nil*	40	70	240
,, Penang ...	40		170	
Continent		30		160
U.S.		220		20
Total tons... ...		290		420

Auctions on Wednesday offered 221 bags Singapore, of which 82 bags sold—rather dusty $5\frac{3}{16}$d, fully fair $5\frac{1}{4}$d per lb. "re-weights."

White is also cheaper, but is in better demand at the close. For arrival 100 tons reported sold; Singapore, March-May shipment has been done at $8\frac{3}{8}$d; May-July at $8\frac{3}{32}$d down to $8\frac{5}{8}$d, and June-August at $8\frac{3}{4}$d; and Penang, March-May $8\frac{1}{16}$d.

The shipments of White Pepper for the first half of March compare as follows:—

	1899.		1898.	
U.K.—Singapore ...	140	190	60	300
,, Penang ...	50		240	
Continent	*nil*			100
Total tons... ...		190		400

At public sale on the 15th inst. of 96 bags Singapore catalogued 40 bags sold—good $8\frac{3}{4}$d. 2 bags brownish Ceylon realised 8d per lb.

GINGER.

Cochin.—Holders of washed rough are willing to make concessions, but buyers still hold off, and business is practically in abeyance. Catalogues included 29 cases 481 bags, of which 29 cases sold—medium with some bold, roughly cut and scraped 58s. medium some small ditto 39s, small ditto 32s, being a considerable decline. 24s per cwt. would have been accepted for good washed rough, but there were no offers.

INDIA RUBBER.

The receipts at Para have increased, and with some pressure to sell prices have rapidly declined to 4s 3d per lb. for fine, and not much business this week. Negrohead neglected and sellers cheaper.

In auction to-day a moderate demand and quiet tone.

Para.—55 packages offered and 18 sold, weak fine at 4s 2d, week entrefine at 4s $0\frac{3}{4}$d, virgin selections with some scrappy 3s 8d to 3s $9\frac{3}{4}$d, Cameta negroheads at 3s 1d per lb.

Peruvian sells readily; 25 packages offered and 10 sold; ball, mixed to fair 3s 5d to 3s $5\frac{1}{2}$d, slab, mixed to fair 2s 10d to 2s 11d.

Mollendo sells at good prices, 59 bales sold; fine clean 4s $2\frac{1}{2}$d, entrefine 4s $1\frac{3}{4}$d, scrappy negrohead 3s $5\frac{1}{4}$d.

Penang held high, being scarce, and of 230 packages offered little sold in auction, fine picked red 3s 4d; pickings, very good at 1s 5d, fair at 1s 2d per lb.

Central American, &c., 19 packages; Mozambique, 16 bags; Madagascar, 16 bags; Borneo, 130 packages; and Assam, 25 bales retired.

CARDAMOMS.

Medium qualities sold at recent rates, but the best and lowest of the Mysores were cheaper The first supplies of Mangalores for the season were offered, and mostly sold. Some of these are of fine quality, and brought 3s 8d. to 3s. 10d. per lb. for fine bold bleached heavy, full seeded; ditto medium size, 3s. 4d.; leans, 3s. 2d; fair bold leanish, 3s. 7d. to 3s. 8d.; medium lean, 3s 3d to 3s. 5d.; ditto small and brown, 2s. 10d to 2s. 11d.; very small lean brown. 1s. 11d. to 2s.; and good bold splits, 2s. 4d. Ceylon-Mysore: fine bold pale round, 3s. 11d. to 4s. 4d.; medium ditto, 3s. 3d. to 3s. 10d.; good split, 3s. 11d.; small medium white, 3s. 2d to 3s. 4d.; good brownish longs, 3s. to 3s. 1d.; pale 3s. 3d.; ditto medium, 2s. 5d. to 2s. 9d.; small ditto, 2s. 1d.; small to medium long pale, 2s 8d. to 2s. 11d.; dry very small pale, 2s. 4d.; splits, 1s. 8d. to 1s. 10d. (very husky) 1s. 9d.; good bold splits, 2s. 4d.; and pickings, 1s. 11d. per lb.; Ceylon-Malabar: good medium pale, 2s. 3d. to 2s. 5d.; small to medium brown, 1s. 6d., 1s. 7d., 1s. 8d.; good brown splits, 1s 9d.; and long lean, 2s. 1d. Long wild Ceylons were not in request Seeds: grey, 2s. 4d. to 2s. 5d.; good brown, 2s. 8d.

QUININE.

Sulphate quinine has continued in active speculative demand, and a large business has been done, resulting in a further advance of 1d per oz. The sales reported sum up about 500,000 ozs. German (HB or B&S) at various prices—up to 1s $4\frac{7}{8}$d on the spot, at 1s 5d for April delivery, at 1s 5d for May, at 1s $5\frac{1}{4}$d for June, and at 1s $5\frac{1}{2}$d for August. The market closed yesterday with a strong tone at the highest point reached at present, and we learn that a further advance is expected. The shipments of Bark from Java for the first half of the month come 375,000 English lbs The advance in value of Bark is now 400 per cent. from the late lowest point, whilst the rise in Quinine is only 60 per cent., roughly.

The *Chemist and Druggist* says:—The speculative movement has continued cautiously since our last. There is now a disposition to proceed with deliberate circumspection, but the position is undoubtedly firm, and an advance of 2d. per oz. by the manufacturers has helped to tone it up. As to the advance it may be noted that manufacturers are exceedingly busy.

The *British and Colonial Druggist* reports:—A week of excitement activity has passed. One of the earliest occurrences after the issue of our last report was the advance of the German manufacturers' price to 1s. 5d. for the sulphate in bulk and in 1,000 ounce lots. Next day Messrs. Howards and Sons advanced their price, making the sulphate 2d. per oz. dearer; that is 1s. 8d. in 1 oz. vials, less 1d. for 1,000 oz. lots. The prices of Howard's quinia and salts, other than sulphate, were put up to the following rates:—

	s. d.		s. d.
Quinia	2 9	Hydrobromate ..	2 6½
Arseniate	2 4	Hydrochlorate ...	2 3½
Benzoate	2 5½	Salicylate ...	2 3½
Bihydrobromate ..	2 6½	Salicylate (physiologically pure)	2 7
Bihydrochlorate	2 5½	Valerianate	2 6½
Citrate ...	2 4		

These changes took place before the end of the week, which closed with an estimated speculative business in the second hand market amounting to a turnover of about 450,000 ozs This week up to going to press sales already are calculated to have exceeded the amount just named. The second-hand price has advanced to 1s. 5d. spot, April delivery 1s. 4⅞d., May 1s. 5d., June 1s. 5⅛d. and August 1s. 5½d. The sensational report to-day is that a 10½ cents unit has been paid in Amsterdam for bark this week.

CINCHONA.

The shipments from Ceylon from January 1 to February 21 were 100,859 lbs., as compared with 107,881 lbs. at the corresponding period of last year. The Java shipments from February 28 to March 15 are reported to be 350,000 Amst. lbs., a slight improvement upon last month, but the information is chiefly valuable as showing the keenness of the crisis, fortnightly returns being rarely interesting. In auction, 93 packages offered; 74 sold; fair bold Calasaya, country damaged, sold at 9d per lb, and sound Maracaibo at 3¾d., aud damaged at 1½d to 3½d., according to class. Dark chippy red Guayaquil sold at 2d. to 4d., and East Indian chips, valued at 2¼d., were bought in at 6d. nominally.

Amsterdam bark market.—At the cinchona bark auctions in Amsterdam next Thursday, 6,846 packages, containing altogether 1,174,845 English pounds of bark with a content giving 51,555 lbs. of quinine sulphate, or an average of 5·26 per cent. for the manufacturers' bark, against 5·39 per cent. at the February auctions, 5·26 per cent. at the January auctions, and 5·21 per cent. the average of the 10 auctions in 1898. We show the division of the bark below:—

	Manufacturers' Bark.	Druggists' Bark.	Total.
Weight of bark	385,474 kilos.	151,602 kilos.	537,076 kilos.
Weight of quinine sulphate...	20,279 kilos. (5·26 per cent.)	3,291 kilos.	23,570 kilos.

The world's consumption of British Grown Tea has at last overtaken production, the total exported from Indian and Ceylon during 1898 having been some 2½ millions below the total quantity used. The difference during each of the past six years is shown in the following table:—

	1898.	1897.	1896.	1895.	1894.	1893.
Export from Countries of Production ...	276,437,473	268,865,989	253,141,438	233,834,519	213,003,480	207,451,656
Total Consumption	279,031,828	261,875,872	246,607,478	227,806,249	217,948,717	200,227,336
Surplus Production ...	−2,594,355	+6,990,117	+6,533,960	+6,028,270	−4,945,237	+7,224 320

Exports from India and Ceylon with consumption in non-producing countries are shown below:—

Exports of Tea from India and Ceylon during the Calendar years

	1898.	1897.	1896	1895.	1894.	1893.
From Calcutta	153,668,402	150,211,422	142,600,026	133,594,648	126,311,766	121,045,592
„ Travancore, etc. (about)	3,000,000	2,600,000	2,400.000	2.300,000	2,100,000	2,000,000
„ Ceylon	119,769,071	116,054,567	108,141,412	97,939,871	84,591,714	84,406,064
Total lbs. ...	276,437,473	268,865,989	253,141.438	233,834,519	213,003,480	207,451,656

Consumption of Indian and Ceylon Tea during the Calendar years

	1898.	1887.	1896.	1895.	1894.	1893.
In United Kingdom	215,902,096	210,027,748	203,235,573	190,367,123	188,535,731	172,361,663
In other non-producing Countries ...	62,429,732	51,148,124	42,671,905	36,739,126	28,712,986	27,165,673
For Ship's Stores (about)	700,000	700,000	700,000	700,000	700,000	700,000
Total lbs. ...	279,031,828	261,875,872	246,607,478	227,806,249	217,948,717	200,227,336

(Average for all India 9·27d.) *March 17th.*

Garden.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust, and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price.
Neilgherry ...	**124 p**	**7·34**												
Brooklands ...	85½c	8½	29½c	8¾	...	...	25½c	9½	..		31½c	7⅜	..	.
Glenmorgan ..	20	4½	..	...	...	...	...	...	...	...	20	4½ 4¾	..	..
Red Hill ...	19 p	6½	9 p	6¾	3	6½	...	.	7 p	6½	...	...	...	.
Travancore ...	**1017 p**	**7·96**												
Amarath .	60	7½	...	...	34	7½	26	7¾	.		.	...	...	..
Atchencoil ...	57	8	7	8½	22	7⅞	20	8½	8	7½	...			
Balamore ...	170½c	7⅞	...	..	96½c	7¾	68½c	8	...	...	5½c	6½	1½c	5½
Corrimony ...	160½c	8¼	...	..	106½c	7⅞	48½c	10	...	.	3½c	6½	3½c	5⅞
Glenmore	180½c	7½	.	...	108½c	7 7¼	70½c	7¾			1½c	6	1½c	5½
Isfield T Co Isfield ..	132 p	7⅞	6	8½	33	8	50 p	8¼	29	7¼	.		14	6½
Kanan Dev Hil M	132½c	9½	...	...	59½c	9¼	29½c	11	43½c	8¾	.	...	1½c	9
Seafield ..	110½c	8	...	.	75½c	7½	33½c	9			1½c	6½	1½c	8½
W	16½c	8¾	..	...	16½c	8½	..	...						

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N. B.—Remittance, should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 21st instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

SEASON REPORTS.

Kotagiri. *13th April* 1899.—Easter week rain has been general and brought out the blossom on which rain has unfortunately been falling steadily all this week, but where crops have been late or trees have not pruned out well and spike has not been so forward, the heavy thunderstorms of this week are not only not injurious, but will bring out a good show of flower, when it is hoped this abnormally long spell of very wet weather for this time of the year will be over.

During Easter week we had in. 4·79 in the station. Already in. 4·13 have been recorded this week. Rain continues to fall every day in heavy showers, last night being still very stormy. In the District around the rainfall has been as heavy, in parts heavier.

Last of crop coming in; prices for Black, strippings, ranging from Rs.2, @ 2-8 per bushel (heaped) some sales recorded @ Rs.2-6 per cut bushel. The labor is being paid off as pruning gets completed. We have to make 2 tons grow where only 1 grew before, and that on reduced expenditure, to come out right side up this coming season.

BRAZILIAN COFFEE.

The Cost of Production.

Estimates of the cost of placing Brazilian coffee on the market naturally vary very considerably. Still, such figures as are available afford at least some idea of cost, and thus help us to judge how this compares with current selling prices. According to figures given by the Brazilian Minister of Finance, to place in the market an arroba (32·38lbs) of coffee, type No. 7, the planters in the State of Minas, where the mean production is calculated at 30 arrobas (say 971½lbs.) per 1,000 trees, spend approximately, including harvesting, care of trees, wages in preparing land during the year &c. calculating that 100 litres of coffee in berry (? in parchment) produce an arroba of prepared coffee:

	Reis.	Or say
Harvesting, care of trees, wages, &c.	5,000	4*s* 2*d*.
Drying and "beneficing"	900	9
Carting to Station	500	5
Freight	1,900	1 7
Carting from station	200	2
Commission on sale, 3%	390	4
Import	436	4½
Total cost to planter	9,326	7·9¼

The returns to the planter are given as reis 13,000, thus showing net profits of reis 3,674 or about 3/0¾*d*. These figures were compiled when the milreis was quoted in exchange at 10*d*, and it may be said that any fall below this means a corresponding increase of net profit. Working the figures out still further, we may say that in harvesting annually 5,000 arrobas (1,445 cwt.) the profit would be £742 10*s*., or over 10*s*. per cwt. A plantation yielding this quantity of coffee costs 100,000 milreis (say £4,125); interest on this investment at 8% 8,000 milreis (£330); amortization in 25 years 4,000 milreis (£165); leaving the insignificant sum of 5,870 milreis (£244·11.8)—wear and tear of property not counted. It is explained that in the larger part of the State of Rio de Janeiro the mean production is less than 30 arrobas (971 lbs.) per 1,000 trees, but the distance to market is less. In Espirito Santo and the South and West of Minas, in the zones that possess new coffee plantations, the mean production is 60 arrobas (1,862 lbs) per 1,000 trees. In São Paulo, according to belt, it is from 30 to 200 arrobas (931 to 6,476 lbs); 100 arrobas (3,238 lbs) can be taken as an average. The profits of this increase in production are, however, absorbed in the higher wages paid to labour. The production of Bahia and Ceará can be calculated at 50 arrobas (1,619 lbs) per 1,000 trees and the expenses are low, as labour is cheaper than in other producing States. Since the quality of coffee may be inferior to type No. 7, as it generally has been since the manumission of slaves in 1888, the price realized will be less, and the planters' profits almost *nil*. The Brazilian Finance Minister concludes, therefore, that the sale of this article even at 13,275 reis (11/0¾*d*) per arroba, or 4 1/10*d* per lb., does not compensate the planter or yield a return on his capital. This, of course, with exchange at 10*d* per milreis.

Turning to another estimate, prepared by Mr. Lacerda, we find cost of production, &c., shown as follows with respect to a plantation that will produce 150,000 kilogrammes (330,690lbs or, say, 2,953 cwt.) of coffee:—

	Milreis.	Say about £.	s.	d.
150,000 trees, at 4 milreis per tree	600,000	17	10	0
50 houses for colonists, at 1,500 milreis ...	75,000	2	3	9
Machinery, "terreiros," &c.	125,000	3	12	11
400 alqueires (88 acres) land, at 500 milreis	200,000	5	16	1
	1,000,000	£29	3	4

The cost of superintendence must also be considered, as well as the cost of harvesting, the "beneficing" or preparation for market, the transportation to Santos, &c., *viz*:—

	Milreis.	Say about. £.	s.	d.
Treatment of coffee trees, 100 m. per 1,000	15,000	0	8	9
Havesting 10,000 arrobas (say 323,800 lb.) coffee ...	15,000	0	8	9
Carting, sacking, "beneficing" &c.	10,000	0	5	10
Expense of management and general expenses ...	20.000	0	11	8
Cartage to railway station and freight to Santos at 8 m. (4*s*. 8*d*.) per bag	20,000	0	11	8
Commission (3%) and cartage at Santos	10,000	0	5	10
	90,000	£2	12	6

These figures, it will be observed, are reduced on the basis of only 14 cents per milreis, or 7*d*. They are said, however, to be very unreliable. Still, it may be added that the writer figures things out as follows:—Adding the price of sacking, the export tax of 11 per cent on the value of the coffee, shipping, export commission, freight, insurance, and (in Europe) landing and storing, insurance, bank commission, commission, cartage, discount, &c., he makes these expenses total 23 per cent. on the value of the coffee. Fixing the price of sale at 100 francs (say 80/5*d* for 50 kilogrammes) (110. 20 pounds), and deducting the cost of production at 36 milreis per bag (21/0*s*. per 132 lbs) he leaves for the producer a remuneration for his labour and interest on his capital of 28,680 reis (16/9*d*) per bag of coffee. The product of 2,500 bags would thus amount to 71,700 milreis (£2,509. 10) or 7 per cent. on capital invested. Whatever may be the fact about the figures themselves the method of calculation is misleading, for the Brazilian planter sells his coffee in Brazil and has no interest in the proceeds realized in Home markets.

The contrast between the official and non-official figures given above may only confuse the reader. If so, he will turn with a sense of relief to the following clear statement made by a gentleman whose accuracy is vouched for. The difficulty, he says, of giving precise data will become apparent when the question of site, size, number of trees, and kind planted, new and old, is considered, as well as the facts that the gold coffee prices during the last two years declined more than 50 per cent., and that all local values rest on a widely fluctuating exchange basis, Brazilian currency suffering at present a depreciation of 80 per cent. As a model for a farm he thinks that 2 milreis (14*d*) per tree in full bearing would be a moderate price at present for favourable locations, dwelling houses, machinery, and other requisites included in this figure. The expense of running a plantation of 150,000 trees is probably not above £1,025 per year, not including freight to port, which is high, cost of bags, and expenses of sale. The amount of the product would equal 65,000 to 70,000 kilos, (say 1,280 to 1,380 cwt.) yielding in Santos about 50,000 milreis (£1,750) on a total outlay of £10,250, or 14 per cent. on investment. Here we have certain plain facts; capital outlay £10,250, cost of production on the estate about 15*s*. 8*d*.; sale proceeds in Santos say 27*s*. From official figures we have already learnt that expenses of transit, &c., from estate to market are about 3*s*. 7½*d*. per cwt. so that what cost the planter 15*s*. 8*d*. may be said to yield him nett, 23*s*. 4½*d*. Out of this gross profit he has, of course, to deduct interest on capital. It will be seen however, that the figures are by no means such as will cheer the heart of the coffee planter in India, who cannot hope to "produce" at anything like the same cost per cwt.

THE APPLICATION OF FERTILIZERS.

We remarked recently on the objects of fertilization, and have now to call attention to the means by which plants get their food. In order to apply fertilizers profitably, the root systems of the different plants must be thoroughly understood. All plants are not alike in their feeding qualities. Some must have one kind of food and some another. Some must have the food placed near the base of the plant, and others farther out, so that the small feeding roots may utilize it. For example, the roots of corn permeate almost every inch of the ground upon which it is grown. The root system is elaborate, and consequently manure spread evenly all over the surface will give the best results. With strawberries, however, it is different. The roots are small and do not extend much beyond the ends of the vines and consequently, to be most effective, the fertilizer must be applied near the plant.

As a rule, any plant grown on a sandy soil has a larger and better developed root system than on heavy land. It is, therefore, advisable to grow strawberry plants on a light soil and then transplant later to heavier land. For tree fruits it would not be well to place the fertilizer near the base, as the small feeding rootlets are out toward the end of the large roots.

These are practical remarks from an American source. The application of them in Southern India must rest with individual planters. From foreign scientists and scientific farmers they may learn general principles; by their own enterprise alone can they give these the fullest possible application and turn them to the most profitable account. Many of our readers must by now have made more or less elaborate experiments in fertilization. If some few of them would but establish a system of recording and forwarding to us for publication statements of the exact form their experi ents take, the progress made, the cost of outlay on manures, &c., and the eventual results, they would not only require knowledge that would be invaluable to themselves but they would also render a very important service to their brother-planters. Above all things we want systematic, not desultory, experiment: not the haphazard experiments that leave the planter in doubt as to what the mixture really was at last that produced results noted; but the systematic search of the man who marks every change he makes as his experiments progress, and notes the exact effect of each, so that at the end he is able to say "this and this and this were what brought about the result, and the result was so and so."

COFFEE IN MEXICO.

We promised some time ago further information on the subject of coffee cultivation in Mexico. The delay that has occurred has resulted chiefly from the difficulty of making a selection from the mass of materials before us. However, we now begin with a brief statement of general facts.

The only coffee cultivated in Mexico is Arabian. Liberian has not, apparently, been tried to any extent, though perhaps this variety might be more suitable to some of the localities near the coast. Altitudes of plantations vary from 100 to 5,000 feet above sea level. An average cannot be given, as it is impossible to ascertain anything like the area under coffee at the different altitudes. Much coffee is grown at 4,000 to 5,000 feet.

One year old seedlings are planted into nurseries, where they are left for another year; they are then planted out in rows 500 to 1,000 to the acre, according to locality. The distance between trees varies according to localities, but the general system appears to favour close planting, as it is believed that closely planted trees prevent the growth of weeds and saves the cleaning. There is generally great difficulty in keeping the weeds under, and plantations are cleaned from six to eight times a year.

Shade is used to about 4,000 feet, either forest trees are left or artificial shade planted, for which banana is principally used. The use of this plant has many conveniences, especially in localities where it is desirable to remove the shade after a certain time, but no doubt in many localities the poor condition of plantations may be attributed to the use of this exhaustive plant.

The crop begins to yield the second or third year after planting out, according to locality. It is picked, pulped, washed, sun-dried and mortared by hand or machinery, and sold generally to local buyers for export.

The yield per acre may be approximately throughout the country from 1½ to 2 lbs. per tree. In Coatepec district say 700 lbs. to the acre. The cost of production may be estimated as $100 to $120 silver Mexican currency per acre up to the third year, when full crops are obtained: this is without value of lands and buildings. When in full bearing the cost of production is approximately ten cents silver per lb.

This information is given with some reserve, as the British Consul at Vera Cruz, who has kindly furnished us with data, states that there is a great lack of reliable information to be obtained on such subjects from official quarters. There is much amateur planting and, it is to be feared, some bogus planting and considerable speculation in lands. The returns of Mexican coffee are insignificant in comparison with the capabilities of the country, but under the present conditions of Mexican coffee, it may be stated that in recent years planting has been extensive, and production has increased.

The result from plantings on the coast land is still a problem. Such plantations give the appearance of being in good condition and bear heavy crops, but the bean, though larger than that obtained at higher altitudes, is of less weight and there are many blind berries.

Coffee exports from the Republic of Mexico for five years:—

Year.	Quantity.	Value
1897-98	20,355,754 kilos	$ 10,649,119
1896-97	14,817,662 ,,	,, 9,876,532
1895-96	11,463,558 ,,	,, 8,103,302
1894-95	16,512,648 ,,	,, 12,670,783
1893-94	18,866,590 ,,	,, 11,766,090

These values are silver, Mexican currency. The year is counted from July 1st to June 30th.

Owing to fiscal reforms the customs statistics are more reliable for and since the year 1894-95.

THE U. P. A. S. I. SECTION.

[*Under the control of the Secretary, U. P. A. S. I.*]

In consequence of a reference made to Mr. Jno. C. Sanderson, in London, one of the representatives of the U. P. A. S. I. on the London Chamber of Commerce, the subject of Adulteration of Coffee was to be brought before the Coffee Section of the Chamber at the first opportunity. Mr. Sanderson remarks that a Parliamentary Committee was appointed in 1896 to fully consider the question of the working of the adulteration clause in the Food and Drugs Act, that he and other witnesses advocated the enforced publication of "the proportion of coffee and other ingredients" on coffee mixtures, but that the Committee finally recommended not to adopt this system. To judge from Mr. Sanderson's remarks, he thinks official opinion on this point has not changed since 1896.

* * * * *

The following communication from the Government of

India to the Madras Government has been passed on to the U. P. A. S. I. for remark :—

"Copy of letter from the Secretary to the Government of India. Department of Revenue and Agriculture (Commercial Exhibitions), Circular No. 15-1-11, dated 25th March 1899.

"In accordance with the terms of the Resolution of the Government of India, dated 2nd March 1899. the Rules and Regulations relating to the British Indian and Ceylon Section of the Paris Exhibition, 1900, have been published in the Gazette of India and the Gazettes of Local Governments and Administrations. In the meantime the question of how the space provided in the Indian Imperial Court which is shown in the plan attached to the Rules and Regulations can be best utilized in the interests of India has been under consideration.

"The Government of India have decided to contribute to the Exhibition representative collections of forest produce and minerals. But after providing for these collections a certain amount of space will remain, and the Government of India consider that this cannot be better utilised than as a means of assisting the tea and coffee industries to an adequate and effective exhibition of their produce. It is proposed therefore to grant, free of charge, to the Indian Tea Association, and also to Coffee Planters' Associations in case the latter should desire it, such space as is available in the Imperial Court and to assist in the decoration of the court in a suitable manner.

I am further to request that intimation of the Government of India's intention may be given to the Planters' Associations of Madras, and that it may be suggested to those bodies that, should they desire to avail themselves of the offer of exhibition space, the arrangement of details might most conveniently be entrusted to a Central Committee working in London, and representing and financed by the several Associations. If this suggestion be adopted, the Central Committee might organize a coffee-room in co-operation with the tea-room of the Indian Tea Association. As the time for completing arrangements is short, I am to request that no time may be lost in ascertaining the views of the Associations concerned."

Planters interested in this matter are requested to communicate *without delay* with the Hon. Secretaries of the respective District Planting Associations of which they are members.

TEA IN 1898-99.

Messrs. Geo. White & Co.'s Annual Indian, Ceylon and Java tea report contains some very interesting remarks and statistics, and expresses an opinion that has now become general, *viz.*, that the position of tea is both healthy and promising. A satisfactory though gradual extension in the rise of the article in Great Britain, and no falling off in exports thence, are the features most noticeable in the statistics furnished, and there has also been a decline off of about 4,000,000 lbs. in shipments of tea from China to the U. K. Messrs. Geo. White & Co's estimate of supplies for 1899 is :—

India (including South India.	142,000,000 lbs.
Ceylon	97,000,000 ,,
Java	6,000,000 ,,
Leaving China to furnish	30,000,000 ,,
	275,000,000 lbs.

which should, they think, be absorbed without difficulty. They consider that owing to increased deliveries of Indian and a falling off in the supply of Ceylon, stocks are likely to be abnormally low by the end of June, and that prospects for the coming season look favourable from a producer's point of view. Planters are warned, however, that they must not all be induced by the late rise in prices of common teas to go in for coarse plucking, otherwise there will be an undue proportion of that class, which will not only glut the market but lead to a still lower average than was curre for some periods in 1898. A second note of warning struck in the hint that China may be induced to send mo to the United Kingdom than in the past twelve mont Messrs. White's comments on manufacture, &c., are giv elsewhere, and deserve to be carefully studied. So also do the 'Analysis of Crop from India.' South India has t honour of bringing up the rear in the matter of averages f the 8 months from 1st July 1898 to 28th February 189 The figures for various districts are as follows :—

Darjeeling	10¼*d*
Assam	10
Dooars	7⅞
Kangra Valley	7
Cachar and Sylhet	6¾
Travancore	6½

The average for Ceylon was 8⅛*d.*, for Java 7*d.*, for a India 8¾*d.*

MR. CAMERON'S REPORT ON COFFEE IN 'COORG

We have been requested to give publicity to the followin correspondence between Mr. Alex. M. Neilson, F.C.S., Coimbatore, and Mr. John Cameron, F. L. S., of the Goverr ment Gardens, Bangalore :—

I. From Mr. Neilson to Mr. Cameron.

Coimbatore, 25*th March* 1899.

Dear Sir,—I have read your Report on Coffee Cultivation i Coorg with much interest. There are some statements, howeve under the heading "Manures" which, I think, require explanatio

You do not mention Saltpetre at all though it is one of th chief sources of Nitrogen and the principal artificial source Potash to most S. Indian Coffee.

In European Works on Agriculture it is scarcely mentione as its price precludes its use where Nitrate of Soda and Sulphate an Muriate of Potash are cheaper In this country, where it occu naturally, it is a much cheaper and more important manure tha either of these three.

Then you do not include Dried Blood in your list of Nitrogenou Manures but mention it as a source of Potash. This is no doubt slip, as Dried Blood contains only about 1% of Potash and 12-14 of Nitrogen, which is the ingredient which gives it its value.

I should like to know, also, on what experimental fact th statement is based that "for quick effect on growth the solub superphosphates are the best, *especially the double superphospha manufactured at Wetzlar in Germany.*"

Are double supers better than an equivalent quantity of th ordinary kind, and in what way are those manufactured at Wetzl superior to the numerous other makes? I can understand th in cases when the cost of transport is very heavy the double supe might prove more economical, but only in very exceptional cas as the unit price of the phosphate is very much higher than the ordinary kind.

I have thought it better that these things should be pointed o to yourself personally, rather than through the newspapers; a this is my apology for addressing you.

II. From Mr. Cameron to Mr. Neilson.

Bangalore, 7th *April* 1899.

Dear Sir,—Owing to my absence at Mysore, I regret that yo letter of the 25th ultimo has not been answered promptly. I ha to thank you for drawing attention to the weak points in m statements about manure. Saltpetre was inadvertently overlooke although I was under the impression that nitrate of potash h been recommended and entered in the list. Dried blood is course wrongly placed, being a nitrogenous fertiliser. I have n heard that German superphosphates are in use in this countr but they are highly spoken of by continental cultivators, and I a going to try them here on coffee and other plants. Being special prepared for export to distant countries, they are worthy of tri But I can understand that their use on a large scale might seriou

ly affect local interests—a phase of the question which did not occur to me until I had read your letter.

I may tell you, in conclusion, that my report to the Planters of Coorg has no pretension to be exhaustive, and that sound criticism may be of more value, if made known to the Planters, than the report itself. It is necessary, therefore, that the omission and error pointed out in your letter should be made public. Perhaps the best way of doing this would be to publish your letter and my reply in *Planting Opinion*. If you agree to this, I shall send the letters on to the Editor.

Yours faithfully,
(Signed) J. CAMERON.

III. From Mr. Neilson to Mr. Cameron.

COIMBATORE, 11*th April* 1899.

DEAR SIR,—I have received your favour of 7th inst. (L. No. 524), for which I thank you.

I took exception to your remarks about Superphosphates because I thought it rather invidious to single out one particular make which I know to have no superiority over several other brands. I don't think the use of Wetzlar Supers would affect local interests, as it would be as easy for firms like T. Stanes & Co. to import these as other makes if a demand were to arise.

I am quite willing to have our correspondence published in *Planting Opinion*, if you think it worth while.

Yours faithfully,
ALEX. M. NEILSON.

TELEGRAPHIC QUOTATIONS.

	April 8	10	11	12
LONDON.—				
Bar Silver	27 7/16	27 3/8	...	27 7/16
Bank Rate	3%	3%	...	3%
Coffee	[dull]	...	...	[steady]
Mysore ave. (B) size.	[dull] 64s.	..	64	64
Ceylon Plantation ...	105	...	105	..
Stock, tons ...	...	...	16,742	...
F'night's landings ...	..	...	2,600	...
„ deliveries			1400	...
Cinchona per unit ...	2¼*d*	...	...	...
NEW YORK.—				
Coffee—Fair Rio ...	6¼	6¼	6¼	6¼
Futures, July ...	5·94	5·92	5·92	5·90
Silver—Comml. Bars ...	59⅝	59⅝	59⅝	59⅝

NOTES.

Tea in Canada. Advices dated March 9th report a decidedly strong tone at Toronto, and a steady market for Ceylons at Quebec.

Coffee. Venezuela and New Grenada promise to yield only moderate crops, according to advices received by James Cook & Co., London.

London Tea Sales. No sale was held in London last week. It is probable that sales of Indian Tea will now only be held on one day, Wednesday, each week.

Tea Shipments from Ceylon. The shipments from Colombo during March are given officially as 8½ millions, while the estimate for April is 7½ to 8 millions.

Chicory in the United States. An American paper says:—Domestic Chicory is evidently displacing the foreign grown. During the calendar year 1898 none of the raw unground chicory was imported, compared with nearly 15,000,000 lbs. in 1897, and 9,000,000 lbs. in 1896. Nebraska chicory to the front.

Dry Weather in Travancore. A North Travancore correspondent reports 0.28 inch rainfall in January, February and March, yet says that in not one instance has he seen a dead tea bush. He thinks local soils are deeper than those of Ceylon, so that the tea roots get away farther down into the damp subsoil.

A Defaulter. Mr. W. L. Edmiston writes us:—"I take the opportunity of letting it be known through your popular paper that the defaulter 'Jamal-u-deen' who has been '*wanted*' by so many, and for so long, has at last been arrested. From all I can hear, he is believed to have victimized a good many planters who may now be glad to have the opportunity of settling accounts with him."

Java Coffee. Mail advices received from Hard & Rand, dated Batavia, January 23, say: "This year's Government Padang crop is estimated at 30,000 piculs interior, 5,750 piculs Ankola and Mandheling, and 1,700 piculs Ayer Banjies and Painan. The dates of the auctions at Padang for the ensuing year are fixed as follows: March 31, June 30, September 30, and December 30."

The Manuring of Tea. We quote to-day at some length from the report of the Drayton Estate Company (Ceylon), because of the interesting remarks it contains with reference to the manuring of tea. The yield per acre, the cost and the price realised are all high, and the general conclusion to which the figures point is that the manuring of tea has been found by this particular company to pay remarkably well.

Brazilian Exports. A Rio paper states that there were shipped last year from Santos to foreign countries through the warehouses of the Companhia de Docas 5,012,965 bags of coffee, 108,422 kilos of rubber, 47,274 hides weighing 1,178,881 kilos, 166.598 horns weighing 208,122 kilos, 452 tons of old iron, 89 tons of rice, 416 tons of bones, 194 tons of salt and 412½ tons of other merchandise. To Brazilian ports there were shipped through those warehouses 10,249 bags of coffee, 13 hides, 4,977 packages of beer, 5,953 bags of beans and 799½ tons of other merchandise.

The Drought in Ceylon. Before quitting Ceylon the other day Mr. J. N. Christie expressed the opinion that the late drought would not prove to have seriously affected the tea output for the present year, but said it was early in the year to form an opinion. Three months had passed in which the flush had not been very heavy, and he did not think the output would exceed the estimate, although he would not say it would be less. He had visited the estates in which he was interested, and was very pleased with the condition in which he found them, which was more satisfactory than he had expected, taking into consideration the drought.

Lantana Bug. According to the *Times of Ceylon*, Mr. E. E. Green has tried in vain so far to find a remedy for—or efficient enemy to,—"Lantana bug" which has developed so much of late, and which ought to be checked, lest unknown evils arise. He thinks that probably the latest introduction by Mr. Koebele, which has proved so effective against "fluted scale" in oranges, might do. This has now been introduced into Portugal; and our contemporary would urge that, on his way back, Mr. Green should be commissioned by Government to visit Portugal and secure a consignment for Ceylon.

Manuring Tea. The *Ceylon Observer* states that the experience of Mr. Melville White fully confirms that of Mr. Joseph Fraser as reported elsewhere. Mr. Geo. Greig, in Maskeliya and Dimbula, has also confirmatory evidence. Mr. D. Bosanquet again reports that experiments made by him during the past three years bear out the conclusions arrived at, especially as to Potash being an important element. Potash and phosphoric acid he has found quite inert without nitrogen, and nitrogen most effective often combined with a considerable proportion of potash and phosphoric Acid—more especially the former.

Quinine. London advices point to increased, if not increasing, excitement, and record a level of prices that has not previously been touched during the present decade. The last Dutch sale was probably expected to go even higher than it did, but the statistical position of Cinchona bark and quinine is so strong that no important reaction need be feared. So far the buying has been confined to speculators almost entirely; consumers, strange to say, having held aloof from the market, probably in the hope that poor Dutch sales might alter the position of the article America is said to have bought very little so far, but it is confidently expected that big orders will reach London from that quarter shortly.

Mr. E. E. Green and Lady-birds. The Honorary Entomologist to the Government of Ceylon, left Colombo on 9th instant, and is due back in September when, no doubt, he will assume charge of his appointment as Entomologist to the same Government. Mr. Green reports that the consignment of lady-bird beetles that he received by letter post was not altogether useless. He found in the moss three or four beetles and a couple of *larvæ* alive, and two beetles and one larva continued to flourish under his care—the chief food being the "green bug," though aphides generally will do—until now there are 16 lady-birds and several larvæ which Mr. Green is leaving in the well-qualified and interested care of Mr. Jowitt, of Haputale, until his return.

Ceylon and Indian Tea in America. Mr. Vincent L. Tissera, head of the firm of V. L. Tissera & Co., one of the largest tea importing houses of America, has an idea that the growing tea trade between Ceylon and India as exporters and the United States as importers might be diverted to the Pacific instead of the Atlantic Coast. At present most of the tea sent to America from those countries goes by way of Liverpool and thence across the Atlantic to New York or Montreal. There are other East Indian products which Mr. Tissera thinks should also reach America by way of the Pacific Coast, and he is profoundly impressed with the conviction that return trade could easily be built up in American products, especially in the line of mechinery and machanical products of all kinds

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Competition with China and Japan. A scientific analysis of samples taken from large bulks of Indian and China teas imported to Australia, made by chemical experts some years ago at the Industrial and Technological Museum at Melbourne, most completely established the great superiority of Indian teas. The intrinsic superiority of flavour and strength, now that Indian tea has received a fair trial, is appreciated by tea drinkers of all classes in the colonies. "To our thinking," says the *Planter*, "instead of descending to imitating China or Java teas, we should exercise the greatest caution in sending only tea of good quality to Australia. Chinese and Japanese exporters are making great efforts to check the inroad of Indian tea in the Australian markets, and it is only by the maintenance of a high standard of excellence that India can hope to win the fight in either Australia or America."

Coffee in Coorg. The *Madras Mail's* South Coorg correspondent writes that where the past crops have been light, there will be bumpers next season; but bumpers will be the exception rather than the rule. Crops can only be fair average ones on the whole. He writes on 8th instant, and adds: "Some of the coffee blossom opened yesterday, some of it to-day, but there is a good deal of bud which will open to-morrow. There has been some talk about the appearance of the blossom not being quite what could be wished; that it was bursting prematurely or "brushing" and that some of the buds were black inside, &c. We can't expect to have everything. There was a lot of this last year, but for all that crops turned out very well. It may be that 'shuck' trees would have made more bud had the rain held off sometime longer; but there is other coffee which would have suffered. Rain for the next week is to be deprecated as clear weather is essential for the proper setting of the fruit." That "rain is to be deprecated" is a very artistic bit.

Russia's Annual Tea Imports. By the courtesy of Messrs. Stcherbatchoff, Tchokoff & Co., the *Times of Ceylon* is in a position to give the amount of the Russian tea imports for the past three years, as set forth in the *Chiney Verstnech*, a weekly market paper published in St. Petersburg. Excluding brick tea, the amounts were given as follows:—1898, 54,000,000 lbs.; 1897, 50,000,000 lbs.; and 1896, 52,000,000 lbs. The amount of brick tea, our representative was told, was to the very lowest computation an equivalent quantity to the amounts given above, and it has been freely stated among Russian merchants that the aggregate amount of tea coming into Russia for the last two or three years was as much as 140,000,000 lbs. per annum. The whole of the tea entering the country had to pay duty, the brick tea going into Siberia being charged at Irkutsk at the rate of 7/6 for 36 lbs.; upon black tea through the Marine Customs a duty of 1/10 per lb. was imposed; and upon overland teas 1/ or 1/1 per lb., according to exchange; while for green teas the amount charged was something

similar to that for overland teas, but the exact figure our informants could not at the time call to mind.

Cheap Pensions. The following from a home paper shows how much may be 'given away with a pound of tea,' even to the extent of "Pensions for widows":—"Particulars of an interesting pension scheme for widows, started by an enterprising Lincolnshire firm of tea merchants, have seen sent us by a City clergyman, who remarks that 'it looks to me too good to be true.' Every married woman, it seems, who purchases half a pound of their tea weekly for five consecutive weeks is entitled to a pension of 10s. a week in the event of her husband dying, provided he was in good health when she commenced buying the tea, such pension to be continued so long as she remains a widow. A reserve fund of a penny on every pound of tea sold has been formed, and is held in trust for the benefit of the widows by a solicitor. The circular sent us does not, unfortunately, give the present amount of this fund, but on it is printed an 'estimated yearly balance-sheet of 1,000 branches,' and here provision is made for 10,000 widows! The tea, it should be added, costs 2*s.* a pound. On the circular the names and addresses of over 100 widows are given who are said to be in receipt of pensions provided by this firm." It is safe betting that the affair is a hoax of some kind.

Mr. Cameron's Report. The Coorg correspondent of the *Planter* writes:—"The *Madras Mail* takes Mr. Cameron to task for not adducing sufficient data in support of his statement that the coffee industry in Coorg had entered the forcing stage. Possibly he considered this would be superfluous in the case of planters, who would understand. If the system of cultivation in Coorg is not forcing what else can be so called? A little manure is spread about the roots of the trees just to put a crop on them. No one can pretend that it goes any way towards putting back what has been extracted from the soil and that larger part which has been washed away. The plant food in the soil which becomes gradually available, is also gradually taken up by the trees, so that actually the soil is becoming more and more impoverished as time goes on. There must be some accumulation of phosphate of lime in the soil if what Mr. Elliot says is true that a certain number of tons of bones per acre is sufficient to supply the needs of coffee plus the shade trees for 300 years. But it is mostly bound up in the shape of square inch bones, which Mr. Pringle, the Agricultural Chemist, said would only become available in succeeding generations. If ever the debt is to be adjusted, it will be by growing the Florida bean constantly and turning it in, besides the usual manuring, or perhaps growing the *E. Lithosperma* as shade would answer equally well. Mr. Nelson says he has obtained most wonderful results from his system of coffee cultivation without manure."

The Mutations of Demand. Alluding to the constant change in trade that has been noticeable of late, the *London Commercial Record* remarks that Ceylon coffee affords an instance, Who does not recollect the fine high-grown descriptions of Ceylon? They are getting scarcer and scarcer every year. The prices realised in our market did not pay the planter, who was compelled to look for more remunerative employment and has found a splendid substitute in tea. East Indian plantation coffees are almost threatened with the same fate. The last few seasons have not paid the planters, and this year's experience is certainly most discouraging to growers, and we can hardly wonder at the disappointment and disgust they feel at the disinclination expressed in London to purchasing the so-called fine coloury East Indians. Only those of the planters who sold their estimated yield at the very beginning of the season have made money, those who held for higher prices and are now compelled to consign their crop to London will, we fear, hardly cover expenses, particularly not if their coffees are of medium or even small size. What is wanted in London at the moment is bold size coffee. There is a great scarcity of large berries, greatly owing to the indifferent quality of this season's East Indians, and anything bold fetches quite fancy prices. 'A' size realises from 20*s.* to 30*s.* per cwt. more than B. which is enormous considering that the usual difference in value is about 2*s.* 6*d.* to 5*s* per cwt. Colour is not so much required as size, and an inferior coffee, so long as it is bold, will fetch more than a fine blueish parcel of medium size berry. Our market is literally swamped with ordinary and low coffees; public sales show enormous quantities of them, and brokers find it impossible, the same as last year, to dispose of all the catalogues in one day. Prices naturally cannot be maintained, every sale almost registers a further decline, and holders, in their anxiety not to be left with stocks on their hands, assist in bringing down values to an unprecedentedly low range. The general desire, therefore, is to dispose of available stuff at any price.

GENERAL ARTICLES.

INDIA-RUBBER:

NOTES ON THE EXPERIMENTAL TAPPING OF RUBBER-TREES IN THE CHARDUAR PLANTATION, ASSAM.

Experiments in tapping 21 selected trees in compartments two and three of the Charduar rubber plantation during the years 1896-97, and 1897-98 the results of which are shown in detail in Appendix VI. of the Assam Forest Report for 1897-98, gave a yield of 23 seers in 1896-97, and of 24 seers in 1897-98. The trees experimented on have been lightly tapped, and show no signs whatever of having suffered in any way; there appears to me, therefore, to be no reason to suppose that other trees in the plantation of similar age, the oldest experimented on being over 20 years and the youngest 17 years, would be damaged if subjected to similar light tappings.

The compartments that contain trees not less than 17 years of age, that is, in which vacancies were finally filled up over 17 years ago, are Nos. 1, 2, 3, and 4. These compartments cover 318 acres, and contain 5,221 trees, as ascertained by actual counting; of these alternate trees (say, 2,600) were over-tapped for three successive years in 1889, 1890, and 1891, with a view to killing them out, as the trees had been planted too close together to admit of proper development of their crowns, on which the full growth of a tree depends. It was found, however, that no amount of tapping affected the continued growth of a tree, and the opening out of the roots showed that all the trees in these compartments had become fairly anastomosed, or, in other words, that the plantation had become practically one huge tree.

The question now for consideration is whether the systematic light tapping of all the trees in the compartments Nos. 1, 2, 3, and 4 should be carried out every year, under the personal supervision of the Divisional Forest Officer and his Divisional Forest Staff as

an experiment, and with the view to Government's obtaining some present return for the expenditure incurred in forming the plantation. This expenditure from 1873-74, when work on the plantation commenced, up to 30th June 1898, amounts to R1,67,627, or R75-8 per acre for the 2,218 acres that had been planted up to that date, including 518 acres that were disforested in 1896-97 for tea cultivation.

The present value, taking it to be the cost debitable tos the existing plantation, may be accepted as :—

	R.	Rs.
Total cost incurred up to 30th June 1898.		1,67,627
Deduct—		
Value to be recovered for rubber-trees on 518 sic) acres disforested, fixed by the Government of India at R39 per acre on 482·87 acres actually established	18,832	
Expenditure that may be written off as incurred on the experimental stage, *i.e.*, on learning how to plant rubber successfully, taken to be cost up to 1880-81 and partly up to 1882-83, up to which years almost all previous plants had to be replaced	34,000	
Sales of rubber, seed, and seedlings, 1897-98. ...	1,050	
		53,882
Balance...		1,13,745

which on 1,700 acres of plantation existing on 30th June 1898, equals R67 per acre. With the experience gained, it is estimated that future extensions will cost a maximum of R40 per acre

Tapping lightly all the trees in compartments Nos. 1 to 4, including the 1,600 that it was attempted to kill out and the 21 that have been experimentally tapped during each of the last two years, may, it is expected at a *low* estimate, give the following results :—

	Mds.	Srs.
Two thousand and six hundred untapped trees may be expected to yield annually an average of 1 seer per tree ..	65	0
Two thousand six hundred and twenty-one tapped trees at ½ seer per tree.	32	30
Total...	97	30

say, 8,000 lb., the cost of collecting which will be 8 annas per lb., or R4,000.

The value in London of the samples sent from the plantation tappings in 1896-97, through the Reporter on Economic Products to the Government of India, was 2s. 8d per lb. The report on the value of samples (21 seers) sent to that officer, the result of tappings in 1897-98, has not yet been received.

Mr W. H B Lawes, Superintendent, Bashwanta Tea Company, has kindly placed the following information at my disposal regarding the result of tappings of 121 rubber trees that were planted about the coolie lines of Dikorai garden, some 17 to 20 years ago, and have not been looked after, having been cut about from time to time by the coolies. These trees were lightly tapped by tappers supplied by the Deputy Conservator of Forests, Darrang Division, and rubber was shipped to London early in 1898.

Rubber obtained by tapping		180 lb.
Rubber sold in London		170 „
Consigned in London to Messrs. George Williamson and Company ; realised in London on 170 lb. at 3s. 3d per lb. £27-12-6 (say)	415	8
Deduct—	R	As.
Cost of tapping	90	0
Freight to Calcutta, R1 per maund (say)	2	8
Freight, Calcutta to London, and other charges, £2-2-6 (say) 3 annas per lb. on 180 lb.	32	0
		124 8
Profit.		291 0

or Rs.2-6-0 per tree.

From the above data and statistics it may be assumed that, taking the sale value of the rubber in London at 2s. 8d. per lb. as reported by the Reporter on Economic Products, the financial results of the annual experimental tappings proposed may be safely estimated as follows :

Sale value of 8,000 lb. rubber in London at 2s. 8d. per lb., at 1s. 4d. per rupee		16,000
Deduct :—	R	
Cost of tapping 8,000 lb. at 8 annas per lb. ...	4,000	
Freight to Calcutta at R1 per maund, say ...	98	
Freight, Calcutta to London, and other charges at 3 annas per lb.	1,500	
		5,598
Profit		10,402

which equals about R2 per tree, or on 318 (sic) acres, R32-11-4 per acre, and on cost per acre over nearly 50 per cent.

I have been somewhat diffident at putting forward proposals for systematic tappings for fear of eventual evil results on the capital value of the plantation as a property in which a considerable amount of Government money has been expended. I think, however, that, *given proper personal supervision by the Divisional Forest Officer and his staff*, the time has come when at least the experiment should be tried on the most mature area of 318 acres out of the 1,700 acres that have been planted up, and I therefore advocate, after having visited the plantation again, that action should be taken in this direction during the present tapping season.

A. L. Home,

Conservator of Forests, Assam.

Dated Camp Tezpur, the 10th November, 1898.

—*Indian Forester.*

TEA, &c., COMPANIES.

The **Battalgalla Estates Co., Ld.**; the **Bandarapolla Ceylon Co., Ld.**; the **Ederapolla Tea Co., Ld.**; and the **Kelani Valley Tea Association, Ld.**—have each declared a dividend of *five* per cent. per annum for the past year.

The **Burnside Tea Co., Ld.**, has declared a dividend of *two* per cent.

The **Panawal Tea Co., Ld.**, and **Yatiyantota Ceylon Tea Co., Ld.**, are each declaring a dividend of *four* per cent. for the year.

The **Pundaluoya Tea Co., Ld.**, is more fortunate than the other Companies, and its dividend is at the rate of *six* per cent. for 1898; while still more prosperous is the **Diyagama (New Dimbula) Co., Ld.** which declares an *ad interim* dividend for 1898-9 at the rate of *five* per cent.

The **Yatiantota Ceylon Tea Company, Limited** After paying the 6 per cent due upon the Preference shares and writing off £1,000 for depreciation, the Directors have recommended that a dividend of 4 per cent. for 1898 upon the ordinary share capital be paid, which will leave a balance of £779 to be carried forward to the current year.

The Talawakelle Estates Company, Limited.—The following is from the report to be presented at the first ordinary annual general meeting of the company to be held at the office of the company, 12, Fenchurch Street, E.C., on 28th ultimo :—

The mortgage of £21,500, which was being arranged when the prospectus was issued, was executed on February 21. It bears interest at the rate of 5 per cent. per annum, and the principal is repayable in fourteen annual instalments, the first of which, £1,500, was paid on December 31 last, and charged against the profit of the year. The high rate of exchange, averaging 1s. 4 3-16d. per rupee, increased the cost of production. Owing, however, to the satisfactory prices obtained for tea, the profit for the year compares favourably with that of the three years preceding, and is equal to over 12 per cent. on the cost price of the estates, after charging some £500 spent on factory extension and new machinery against revenue. The total yield was 421,284lb tea plucked off 802 acres, being at the rate of 525lb. per acre, costing about 27½ cents, or, say, 4½d. per lb., free on board Colombo. The gross average price of the 418,565lb. sold in London was 10·57d. per lb. The profit for the year, inclusive of interest, and after providing for general expenses, &c., amounts to £7,691 9s. 5d.; interest due vendors and on the mortgage, less income-tax, has been paid, amounting to £1,047 9s. 2d.; the first instalment of the mortgage of £21,500 has been paid, viz., £1,500; dividend on the 6 per cent. preference shares for the year, less income-tax, £319; an interim dividend of 4 per cent, free of income-tax, on the ordinary shares was paid on September 30, £1,482 16s. It is proposed to write off the whole of the preliminary expenses, £193 0s. 6d.; to pay a final dividend of 6 per cent. on the ordinary shares, free of income-tax, making 10 per cent. for the year, which will require £2,224 4s; and to carry forward (out of which income-tax has to be paid) the balance of £924 19s. 9d.

The Travancore Tea Estates Company, Limited.—The annual ordinary general meeting of the shareholders of the Travancore Tea Estates Company, Limited, was held at the offices of the company, 20, Eastcheap on 23rd March. The chair was occupied by Mr. H. K. Rutherford. The Chairman, in moving the adoption of the report and accounts, said:—

I happen to be in the chair to-day by the unavoidable absence of Mr. McKenzie, the chairman of the company, who is at present in America in connection with the joint enterprise of India and Ceylon in pushing British grown teas in that country. Another of our colleagues, Mr. Talbot, is absent in Ceylon where he had an opportunity of meeting our Estates Manager, Mr. Knight, and going into various matters connected with the management. Mr. David Reid's absence, I regret to say, is due to the fashionable complaint of influenza. My duty to-day does not demand of me any lengthened statement of the position of the company, as the reports and accounts explain that position very clearly. Perhaps it would be well to take the accounts first. You will note in the balance-sheet the capital issued is £70,000, or £14,500 more than it stood at a year ago. That difference arises from the 10s per share called up on the 21,000 ordinary shares amounting to £10,500, and an issue of £2,000 ordinary shares and 2,000 in preference shares amounting to £4,000, as payment for part of Pambanar Estate. There is next a sum of £1,150 15s 1d placed to reserve, which, as you will doubtless remember, represents the profits earned between the date from which we took over the properties and the date of registration of the company, and which sum was not legally available for dividend. Bills payable and sundry creditors amount to £28,443 3s 9d. The proportion of this sum which is chargeable to capital account as the bills fall due is provided for by issuing debentures against the same, and up to the present time we have issued £25,000 of debentures. On the other side of the account you will note the cost of estates amount to £91,016, and this is £31,635 more than last year—a very large sum, but necessary for the land we have opened up. This sum is made up of £11,400 for payments for land, £15,553 for new clearings and upkeep of land not in bearing, and £4,682, for buildings and machinery. In the profit and loss account you will observe the profit on sales was £2,031 or £814 less than the previous account, but which you will remember was for a period of fifteen months, so the profit is practically about the same. You will note the directors again give their services free, and that the London expenditure is remarkable for its moderation. The balance of profit is £2,358 2s 8d, which admits of the full preference dividend being paid, and leaves a balance of £241 2s 8d to be brought forward to next year. Now we cannot pretend to say this is a very satisfactory result, but when you take into consideration that the fall in the price of our tea of ¾d per lb. and the higher rate of exchange has curtailed our profits some £1,500, you will perhaps agree we have been fortunate in coming out as well as we do in probably one of the worst years the British-grown tea industry has had. The crop was unsatisfactory in quality and yield, but we see hopeful signs of better results in the current year in both of these particulars. You will note we have planted up nearly 1,300 acres with tea, which is a great deal to accomplish in one season, and great credit is due to our manager, Mr. Knight, and his staff for the work they have been able to get through, and which we are led to believe is good work, and that the clearings promise to be successful. Now with regard to our debentures, we told you at last meeting we were contemplating such an issue, and I am happy to state we have been able to carry this matter through. The debentures are for a total issue of £50,000, of which we hope only £44,000 will be required. They are repayable at par on January 1, 1904, and are only being issued as we require the money. When this issue is completed the estates, with factories, will have cost us about £32 per acre, which is a reasonable price. As to the future we are, of course, mainly dependent on the selling price of tea, and if this continues to keep about its present level, which is considerably higher than last year—1d or 1½d per lb.—I have no fear whatever but that the other important factors of yield and cheap production will not be found wanting. We can only ask the ordinary shareholders to exercise patience until the estates come into bearing, when we trust the hopes of your directors may be realised. I shall be very pleased to give any further information that any shareholder may desire to ask, and now beg to move the following resolution:—

"That the report and accounts be adopted."

The proposal was seconded by Mr H. Tod, and carried unanimously.

Mr. White then moved the re-election of the auditors, Messrs. Harper Brothers, which was seconded by Mr. Dangerfield and carried unanimously. The meeting concluded with a vote of thanks to the chairman, directors, and managers.

The Nahalma Tea Estate Company, Limited.—The fifth annual ordinary general meeting of the shareholders of the Nahalma Tea Estate Company, Limited, was held at the offices of the company, 39, Victoria Street, S. W., on 25th ult. The Secretary read the notice convening the meeting, and the minutes of last year's meeting were read and confirmed.

The Chairman (Mr. Arthur Marshall), in moving the adoption of the report and accounts, said: The report is not so good a one as we might have wished, but we must take into consideration that we have had a very bad season as regards rain, and also that the mosquito blight has for a few months been very severe indeed. But in a report we have received from Mr. Ernest Green, who is the Government Entomologist in Ceylon, he states that if properly treated the pest can, to a very great extent, be exterminated. We have accordingly advised our superintendent, Mr. Duncan, to take every possible means of getting rid of it, and we have had a letter this morning stating that it certainly is not any worse than before, and that on account of the favourable weather this season the tea that had been recently pruned has not had another attack. We have obtained a report from Mr. Anderson, stating that if it had not been for this blight the company would have done very well, and that the estate was one of the best he had seen in the Kelani Valley. This should greatly tend to reassure the shareholders, especially as they have had two bad seasons.

Drayton Estates Co.—The annual general meeting of the shareholders of the Drayton (Ceylon) Estates Company, Limited was held at Colombo on the 8th April, at 12 noon. Mr. V. A. Julius, *Chairman.*

Proposed by Mr. W. S. Forster, and seconded by Mr. H. Whitham, that a final dividend of seven per cent. making a total dividend for the year of eleven per cent. be declared and paid forthwith. Carried unanimously.

The Directors' Report stated:—

Directors:—Messrs. V. A. Julius, A. R. Wilson Wood and H. Whitham.

After providing for depreciation of buildings and machinery the balance of profit available is R52,667 57. The Directors propose that a dividend of seven per cent. be declared, making, with the interim dividend of four per cent. eleven per cent. for the year, and that the balance R2,617·57 be carried forward to next year's account.

The crop of tea secured from the Company's Estates was:—

	lb.		lb.
Drayton	402,770	Increase ...	68,432
Yuillefield... ...	77,024	Decrease ...	1,296
Cwm	31,792	do. ...	680
Total...	511,586	as against	460,000

estimated. The following comparative statement may be of interest to the Shareholders.

	Acreage.	Yield per Acre.	Acreage Pruned.	Acreage Manured.
Drayton	722	565	305	306
Yuillefield	207	384	117	37
Cwm	90	342	42	—

	Cost F.O.B Exclusive of Manure.	Cost F.O.B. Inclusive of Manure.	Price per lb.	Profit per lb.
Drayton	22·23	27·07	46·43	19·36
Yuillefield	.. 28·29	30·13	46·06	15·93
Cwm	...24·98	24·98	46·43	21·45

Expenditure for 1898 includes the sum of R20,886·70 cost of manuring 343 acres at R62·25 per acre as follows:—

	Acres.
With Artificial	268
With Bulk	35
Burying and Lining Prunings	40
Total ...	343

The estimate provided for 200 acres to cost R64·37 per acre.

The total cost of 511,586 lb. tea, including above and Cwm rent, but exclusive of depreciation, was cts. 28·30 per lb., as against estimated 460,000 to cost cts. 27. Excess is explained by cts. 4·06 being spent on manuring as against cts. 2·41, estimated, so there is an actual saving of cts. 1·65 per lb., on other items.

Estimating that the tea unsold will fetch 48 cts. per lb., the nett value of the whole crop will be cts. 46·37 as against cts. 45·05 last season, shewing a profit of cts. 18·07 per lb. as against a profit of cts. 16·85 in 1897.

On Drayton the sum of R10,002·83 was spent on capital account, this includes putting wooden tats in one floor of factory, new sorting room and packer, new set 14 rooms lines, and iron roofing for 20 rooms, a large new cattle shed, and opening up 8 acres of forest land in grass.

In view of largely increased yield on Drayton and the fact that neither the Turbine nor Engine are capable of driving more machinery, it has been decided to erect a small factory on Drayton division, capable of turning out from 12,000 to 15,000 lb. tea per month.

The estimated cost of above is R 20,000, and it is hoped that with more room a better class tea may be turned out, as present accommodation was insufficient to manufacture all the leaf in November and December. Some 20,000 lb. was sold at cts. 4 per lb., purchaser plucking the leaf.

The Company's properties consist of :—

DRAYTON—		
Tea in bearing	769	Acres.
Grass Land	26	,,
Timber	10	,,
Forest	9	,,
Waste Roads, &c.	69	,,
YUILLEFIELD—		
Tea in bearing	218	,,
Forest and Timber	7	,,
Waste	8	,,
Total ...	1,116	,,

THE ESTIMATED CROP FOR 1899

Drayton ...	400,000 lbs.
Yuillefield ...	90,000 ,,
Cwm ...	30,000 ,,
Total ..	560,000 lbs. at an estimated cost of cents 27·50 per lb.

Estimate includes R17,800 = cts. 3 per lb. for manuring 390 acres with Artificial, 40 acres with Bulk, and prunings being buried and lined on 70 acres, making a total to be manured of 440 acres.

PRODUCE AND PLANTING.

The Tea Trade of the United States.—The effect of the tea duty imposed last year in the United States to meet war expenses, a duty by the way which is not expected to be removed until 1900, has been to reduce importations to the lowest point. Importations for warehousing have not fallen off, but the withdrawals for consumption upon which duty is actually paid have been much less. An American paper gives the following figures, giving the comparison in the importation of tea in 1897 and 1898, and shewing the countries from which tea is shipped to the United States: France in 1897 sent 209lb and in 1898, 333lb; Germany in 1897, 39,093lb, and in 1898, 586lb; Italy in 1897, 367lb, in 1898, 640lb; Netherlands in 1897, 20,143lb, in 1898, 280lb; Russia, on Baltic and White Seas, in 1897, 600lb, in 1898, 270lb; the United Kingdom in 1897 sent 6,217,726lb, and in 1898, 2,971,116lb; Nova Scotia in 1897, 90,531lb, in 1898, 27,128lb; Ontario, Quebec, &c., in 1897 sent 2,155,758lb, and in 1898, 1,305,817lb; British Columbia in 1897, 1,005lb, in 1898, 168,336lb; China in 1897 sent 53,524,546lb, and in 1898, 39,754,736lb; India (and including, presumably, Ceylon) sent 2,117,433 in 1897, and 2,237,897lb in 1898; Japan in 1897 sent 45,465,161lb in 1897, and 22,798,308lb in 1898. About 400,000lb of tea were sent from Hong Kong in 1897, but only 189,972lb in 1898.

Rubbish Masquerading as Tea.—Five hundred and eighty-two half-chests of stuff called tea (about 30,000 lb.), which recently arrived at the Albert Docks, and were seized by the sanitary authorities of the Port of London, were brought to the West Ham Police-station on Tuesday and submitted to Mr. Gillespie, one of the magistrates. The tea, which was said to have been submerged in Marseilles Harbour, looked like a mixture of mouldy manure and black and green mud, and Mr. Spadaccini, one of the food inspectors, asked that it might be destroyed. Dr. Collingridge, the medical officer of health, in supporting the application, said he had made experiments and found that though the tea was so bad, it could be "faked" and put on the market in such a condition as to deceive the purchaser. Mr. Gillespie ordered the whole consignment to be destroyed under the supervision of Customs officers.

A Big Cheque for Duty.—Lipton, Limited, have paid Her Majesty's Customs a sum of £76,847 9s. 1d., representing a clearance of over 2,000 tons of tea, a quantity equal to the average weekly consumption throughout the whole of the United Kingdom.

Cinnamon as a Cure for Influenza.—Cinnamon should be in increasing demand. Dr. Carne Ross, in the current number of "The British Medical Journal," claims to have discovered a cure for influenza. His remedy is simple. All that one has to do, according to Dr. Carne Ross, is to dose oneself with cinnamon as soon as one feels the grip of the microbe. The doses have to be repeated at intervals, first of half an hour and then of an hour, until the temperature becomes normal, and the patient must stay indoors for twenty-four hours afterwards. By that time, Dr. Carne Ross believes, the disease will have disappeared. This is not the first time that cinnamon has been suggested as a specific for influenza. But its properties seem now to have been tested with unusual thoroughness, during a period of five years, and the result has made the investigator an enthusiastic believer in its value.

AMERICAN TEA TRADE.

An interesting view of the United States tea trade is given in the following table, extracted from an American contemporary, which shows the chief countries from which the Americans derive their tea :—

Countries		1897.		1898.
France	... lbs.	209	...	333
Germany ...	... ,,	39,093	...	586
Italy	... ,,	367	...	640
Netherlands ...	... ,,	20,143	...	280
Russia on Baltic and White Seas	,,	600	...	270
United Kingdom ...	... ,,	6,217,726	...	2,971,116
Dominion of Canada—				
Nova Scotia, N. Brunswick, &c.	,,	90,531	...	27,128
Ontario, Quebec, &c. ...	,,	2,155,758	...	1,305,817
British Columbia...	,,	1,005	...	168,336
China	... ,,	53,524,546	...	39,754,736
East Indies—				
British ...	... ,,	2,117,433	...	2,237,897
Dutch ...	... ,,	5	...	—
Portuguese ...	... ,,	5,714	...	—
Hong Kong ...	... ,,	408,617	...	189,972
Japan	... ,,	45,465,161	...	22,798,308

The effect of the duty imposed (to meet war expenses) in the Revenue Act of June 14, 1898, has been to reduce importations to a minimum. The general importations for warehousing have been as large during the last half of 1898 as they were during the corresponding period of 1897, but the withdrawals from warehouse for consumption upon which duty is actually paid have been much less. It is stated that no change in the duty will be made before the summer of 1900.

THE INDIAN CURRENCY COMMITTEE.

The summary given by Reuter of the second volume of evidence taken before the Currency Committee is not of engrossing interest. Our daily contemporaries publish it in the following form :—

Lord Northbrook deprecated the reopening of the Mints, which would increase taxation and be unwise and dangerous, and urged that sovereigns be made legal tender in India with free mintage of gold. He also advocated an Imperial grant for the purpose of making a gold standard effective.

Messrs. Cheetham and Graham, merchants, advocated the reopening of the Mints, which would ultimately steady exchange. In their opinion a gold standard was desirable but was impracticable.

Messrs. David Cruickshank and Rustomjee described the disadvantages which had arisen through the closing of the Mints and favoured a gold standard at fourteen pence.

Sir Robert Giffen condemned the closing of the Mints, and mentioned incidentally the deficit resulting therefrom, which by their reopening would probably be reduced by three to four millions annually if India was treated fairly as regards home charges. A gold standard was unsuitable for India because the currency would always be chiefly in silver. Convertibility would remove many objections to the Government scheme, but the reopening of the Mints was the least disadvantageous of the courses open.

Sir Alexander Mackenzie declared that the reopening of the Mints would necessitate a considerable increase of taxation, involving the risk of disturbances.

Mr. Romesh Dutt criticised the currency policy of Government and favoured letting the rupee sink to Bullion value. In his opinion the people of India did not desire a gold standard.

Sir John Lubbock said that a gold standard was impossible without a gold currency, which was not suitable to India. He favoured maintaining the value of the rupee by the imposition of a heavier import duty on silver. With this and a seignorage it might be possible to reopen the Mints.

Mr. Barclay, President of the Manchester Chamber of Commerce, said that the proposals to Government by Mr. Lindsay aimed at upholding exchange and ignored the interests of the people. He urged the reopening of the Mints with concurrent mintage by America at a rate of 42 pence per ounce.

Lord Farrer said that bimetallism as a solution of the question was impracticable and that the reopening of the Mints would be injurious to trade and ruinous to the finances. He advocated a gold standard with an automatic currency based on gold and having a fixed gold value The only sound foundation of a gold standard is convertibility. He also thought it desirable to obtain the support of the Imperial Government to establish a gold standard.

Mr. Leonard Courtney recommended Government to confine itself for the present to opening the Mints to the coinage of gold and in the meanwhile to accumulate gold. The Government, he thought, should not undertake to convert rupees into gold

CEYLON TEA IN THE UNITED STATES.

We note that Mr. R. E. Pineo is not an approver of the suggestion that the Tea campaign in the United States should be abandoned. He asks various questions and. no doubt, pauses for a reply :—

Who among you is in a position to measure, or to accurately forecast, the results of his efforts? Do you fully realise the stupendous opposition, difficulties. and prejudices that he has encountered and contended with? Are you thoroughly familiar with American methods and the difficulties attendant upon introducing a product that is not wanted by the trade? Have you ever considered the position of the wholesale dealer in tea, in his relation to your staple? Has he not got an established business that gives him fair returns; and, would it not be suicidal to relinquish or change it, in order to handle and create a demand for an article that there is no sale for?

Have you succeeded in educating the Russians up to that point where they like and will have your tea? Whose business is it to impart this education?

Look at these questions in a spirit of fairness and equity, and then say—on whose shoulders the burden of making your staple known and creating a demand for it must rest? Has your experience of advertising, as it is conducted in the United States, been of a character that will enable you to determine its success or failure, or when to discontinue it; or the best methods to adopt in pursuing it? Do you know what the experience of the American successful advertiser has taught him, and what he now completely, wholly, and thoroughly believes in? Are you able to determine the result of a discontinuance of the campaign in the United States?

THE NEW TEA REGULATIONS IN CANADA.

A circular has been issued to collectors of Customs in Canada containing consolidated instructions regarding adulterated teas, part of which reads as follows:

The following instructions respecting the prohibition of adulterated teas are issued for the guidance of Customs officers, in the place of Memo. No. 954 B. and Memo. No. 998 B., which are hereby cancelled:

1. All teas or goods described as tea in respect of which samples are to be taken for examination or test or which are suspected to be prohibited, shall not be released from Customs control until it is decided that such teas are not prohibited under the Customs laws.

Decision as to the quality of tea presented for entry at the Customs will be rendered by the Department with all practicable despatch.

2. Samples of the following classes of imported teas, when entered for consumption, shall be sent to the Department of Customs at Ottawa to be tested, before such teas shall be released by the collectors, viz.:

(a) All teas from the United States not accompanied by Customs certificates of fitness for consumption in the United States.

(b) All tea dust.

(c) All China green teas costing, when landed in Canada, 14c. per lb. or less.

(d) All other teas costing, when landed in Canada, 12c. per lb or less.

Note.—The cost of consigned teas " is to be estimated at the export price abroad (f.o.b.), with transportation charges added. In the absence of bills of charges, 2c. per lb. may be estimated for freight and charges from the country of growth to Canada.

NATAL TEA INDUSTRY.

A GRATIFYING REPORT.

It will be remembered that the tea taken to the Grahamstown Exhibition by Mr. Hindson, of the firm of W. R. Hindson & Co., Clifton Tea Estates, Nonoti, met with remarkable success, there being a very heavy demand for it at the various kiosks and other places frequented by visitors to the exhibition, while large orders for supplies for the Cape have since been received.

It is gratifying to learn that, as the result of samples of exhibition teas sent to London for valuation and report, Messrs. R. M. Holborn & Sons, one of the oldest-established and largest firms of tea merchants in Mincing Lane, have forwarded most satisfactory reports. One of the members of the Mincing Lane firm reports as follows. "—I have now carefully tasted the samples of Natal teas. They are certainly a long way the best specimens we have yet seen." The firm's detailed report is as follows :—

We have pleasure in sending our present market valuations, also our descriptions of samples of Natal tea received from you, and now return your canisters by post.

No. 7.—Tippy, leafy broken Pekoe, very brisk and good quality; value 8d. to 8½d

No. 19.—Well made. grey leaf Pekoe, excellent quality, with bright infusion. and very pungent; value, 10d.

No. 10—Orange Pekoe, golden tipped and well twisted leaf, bright infusion, fine quality, pungent liquor; value, 1s. to 1s. 1d.

No. 9.—Broken Orange Pekoe, bright, golden-tip, fine pungent liquor, with bright infusion; value. 1s. 4d.

When it is stated that at the date of these reports Indian teas were only averaging 9d per lb. and Ceylons 8d. in public sales, and that Messrs. Hindson's teas were valued against all going, it will be recognised that the valuations are eminently encouraging. It has been asked from time to time whether in Natal we cannot obtain high-class teas approximating to some of the fancy kinds that were exhibited at the last Durban July Show. It will be seen by the foregoing that teas of as good a quality as can be desired are to be obtained in the Colony, and particularly if people will pay for these better qualities prices analogous to those they pay for the best imported article. The fact is that Natalians have been favoured in having tea grown at their own doors and supplied at a very cheap rate, and have perhaps grown accustomed to using lower grade teas because of their cheapness; whereas if they paid, say, 2s. 6d. per lb., which is not so much as is asked for some of the best imported blends, they would get a superior tea, and one grown within the Colony. It is, at any rate, satisfactory to find our tea-growers not only paying attention to the quality of their teas, but offering them to the public in an attractive style. Such a canister as the sample we have before us can scarcely fail to commend itself to purchasers. It may be mentioned that the tea can also be obtained in lead packets and in boxes.—*Natal Mercury*, March 10.

JAPAN TEA IN THE UNITED STATES.

A correspondent writes to the *Planter*:—A short description furnished me by a friend, a wholesale tea merchant, of the China (Oolong) and Japan teas sold in America and Australia may prove of interest to your readers, as it will afford them an insight into the various qualities of tea sold in those markets. China Oolong teas are subdivided into Ankois, Amoys, Foochows, Formosas, Sasyune and Pekoe Oolongs grading from lowest to highest in the order named.

Ankoi Oolong.—Is a doubtful species of the genus tea, and is said to be prepared solely from the leaves of a shrub closely resembling, but widely distinct from those of the true tea plant. [Here is a *fact* admitted by the wholesale tea merchant himself]. The leaf is rough and coarse, reddish-black in colour, indifferently prepared and ragged in general appearance, while the liquor is dark brown, oily or earthy in flavour, and bitterly astringent to the taste. It is generally used for mixing with low-grade Amoys to which it imparts a wild, rank or weedy flavour, and should be avoided by the dealer altogether. (Unfortunately, however, it is not).

Amoy Oolongs.—Embrace Kokew, Mohea, and Ningyong Oolong teas, and are fairly good teas for blending purposes, many of them drawing and drinking exceedingly well in the cup. The leaf while large and somewhat coarse in appearance, is well prepared as a rule, while the liquor is clear, strong and frequently pungent. The poorer grades, however, possess a wild or herby flavour, strongly objected to by the majority of tea consumers.

Foochow Oolong.—Ranks among the best of the black teas of China. The leaf of the finer grades being black and silky in appearance, rich and mellow in liquor and fragrant in flavour, while the medium and lower grades are somewhat larger and looser in make, they possess splendid cup qualities, making the most suitable foundation for all blends in this country, being useful and serviceable for the purpose.

Formosa Oolong.—Is unique in leaf, liquor and flavour, differing widely in character and flavour from the former varieties. It possesses a rich, fragrant aroma, the leaf being evenly curled and crapy in texture, and imparts tone and character to any combination in which they may be introduced.

Saryune and Pekoe Oolongs.—Are very rare sorts in the American and Australian markets. The latter derives its trade name from being liberally sprinkled with Pekoe-tips. They are somewhat large and bold in style, evenly curled and pleasing in appearance. The infusion is dark-brown in colour, heavy and full in body and very fragrant in flavour.

In colour, flavour and character, Japan teas are totally distinct from any and all other varieties of tea known to commerce. They are divided into Panfired, Sundried and Basket-fired teas, and nibs, but are frequently converted into Oolongs, Pekoes, Congous, &c.

Panfired Japan.—Is a medium sized green-leaf tea, well curled and presenting an unbroken appearance It yields a bright, clear liquor which remains unchanged in colour until quite cold, and possesses a flavour delicate but fragrant in odour. The medium grades, however, are rougher in make, darker in liquor and duller in flavour, while the commoner ones are coarse and unsightly in style, varying in colour and somewhat brassy or metallic in flavour.

Sundried Japan.—Derive their tradename from being dried in the sun before firing, in order to fix their colour more permanently. The leaf is of an olive-green colour, small and compactly curled, and the liquor what is known as "toasty" in flavour, owing to their thorough fermentation before firing. The lower grades range from a yellowish to a dull-green in colour, indifferently made and often "fishy" in taste, from the use of fish manure in cultivating. (I think my friend the merchant has made a wrong deduction here, but I give his remark as made in his letter).

Basket-fired Japan.—Is so called from being cured in baskets over a slow fire. The finer grades are long, dark and exceedingly well twisted or curled, clear and bright in the infusion and mellow or mealy in flavour, the latter quality making them a very valuable sort for blending with Oolong in the proportion of one part to four of Oolong, or almost any variety into which they are introduced.

Japan Nibs.—Are composed of the largest and oldest leaves of the foregoing sorts and bear the same relation to Japan teas that Twankay does to green teas. In the cheaper and lower-grade blends they make an excellent addition by imparting strength and fullness to the combination, particularly when separated from the higher grades of Japan teas.

Japan Oolongs.—Pekoes, Congous, &c., differ only from the regular Japan teas in make, and from being prepared from the same leaf they naturally possess the same general characteristics and cup qualities, but are not produced in any appreciable quantities.

The above descriptions of the China and Japan teas, coming from one engaged in the trade, are of value to us, as they furnish us with information as to certain of the kinds of tea we have to compete with in the American and Australian markets. There are, of course, numerous other classes to which I have not referred, but which I may have occasion to allude to in a future issue.

TEA IN 1898-99.

The following are excerpts from Messrs. Geo. White & Co.'s Annual India, Ceylon and Java tea report, dated 23*rd March* 1899.

The fear of excessive supplies from the producing countries had a detrimental influence on the market during the first half of the season now drawing to a close, while the quiet state of trade generally prevalent in the United Kingdom and also on the Continent did not encourage buyers to stock beyond immediate requirements. Towards the end of 1898 it become gradually apparent that, owing to various causes, the amount of the leaf forthcoming would not be more than could be easily dealt with, and a reaction set in, a welcome rise in the value of all lower grades which had been much depressed taking place. This has been further accentuated in the past month, so that many Companies will be enabled to shew a better result than was at one time anticipated.

India:—In their original estimate, the Indian Tea Association of Calcutta computed the crop of 1898 at about 158½ million lbs, of which 140½ million lbs. would be available for Great Britain. As time progressed however, it seemed likely that these figures would not be realised, principally due to the unpropitious weather experienced in some districts, notably Cachar and Sylhet, where want of rain was experienced, and also to larger consignments from Calcutta to Bombay, America, etc. Early in September the probable quantity for this country was reduced to 136½ million lbs., while telegrams to the 15th inst. gave the entries for export from Calcutta to the United Kingdom as rather over 135¼ million lbs, compared with the total of 134 million lbs. despatched in 1897-8. If, therefore, the imports from South India (say 3¼ million lbs.) be taken as about counter-balancing the "overside" shipments to other countries, and which are not accounted for in the London Returns, only about one and a quarter million lbs. will come here for actual use in excess of that received during the previous season. Although with few exceptions quality at first was not generally very attractive, considerable improvement was shewn later on in Darjeelings and Assams, from which districts many choice invoices were received throughout, the latter perhaps sending more uniformly good Teas. The Dooars produced some very saleable parcels, particularly after the first two or three months. Cachars and Sylhets in the early part suffered from the effects of continued dry weather, but afterwards they were of a serviceable character. Kangras for the most part were disappointing, while a large proportion of the South

India growths at first lacked strength, but recent arrivals have been fuller in cup.

During the summer and early autumn prices for common to fair grades of Pekoe Souchongs and Pekoes were about at the lowest point recorded, the former selling down to 5d. per lb. and the latter 5½d. per lb This had the effect of drawing the attention of Continental buyers to them, and they competed with the home dealers more largely than hitherto for parcels suitable to their needs, so that deliveries shewed a steadily increasing trade, those from the London Bonded Warehouses for the eight months from 1st July, 1898, being 96,365,000 lbs., versus 85,837,000 lbs., while the stock at the end of February stood at 59,460,000 lbs., against 64,080,000 lbs. on the same date of 1898.

From 1st July, 1898, to the close of last month the average for 948,000 packages sold in London on garden account was 8¾d. per lb. opposed to 8⅞d. per lb. for 927,000 packages, and 9⅜d. per lb. for 890,000 packages in the corresponding intervals of 1897-8 and 1896 7. High rates of exchange all through the season, unfavourable weather for manufacture and drought in some parts, further handicapped the industry, so that the upward turn in the market lately was an immense relief in many quarters.

Ceylon.—The 1898 crop was on the whole of a useful description and about up to the average. There was at times an absence of really fine invoices and in some months the majority of the teas were wanting in fulness of liquor though flavour was very desirable in others, most market in October. Partly on account of the low quotations current for common to fair Indian leaf teas, Ceylons of a similar kind were abnormally cheap here during last summer, fair Pekoe Souchongs bringing 5½d. per lb. and Pekoes 5½d. per lb, and subsequently these low prices induced buyers both at home and abroad to take them more freely. Deliveries were unsatisfactory in contradistinction to those of the preceding year, being for the twelve months 93,489,000 lbs., whereas in 1897 they were 95,172,000 lbs. Owing in some measure however to the larger clearances from Colombo to other markets than Great Britain, especially Australia and Russia, there was a shortage for this country, shipments being 96,399,000 lbs. versus 98,998,000 lbs. in 1897. The entire output from the Island for 1898 was 120¼ million lbs. contrasted with 116 million lbs. in 1897, and 108 million lbs. in 1896, so that the increase in the exports to various ports outside the United Kingdom represents 7 million lbs., which is an important feature.

For the twelve months the following passed through the London Auction Room:—

1898.	1897.	1896.
1,108,000 packages, (Average, 7⅞d. per lb)	1,138,000 packages. (Average, barely 8d. per lb.)	1,049,000 packages. (Average, 8¼d. per lb.)

The slightly smaller amount disposed of here (attributable to the reasons mentioned above) therefore produced nearly the same result as in 1897, but planters had still to reckon with an adverse rate of exchange, while freights as a rule were also against them.

Java.—Importations were rather larger, the public sales from 1st July, 1898, to the 28th ult. including 30,200 packages, averaging 7d. per lb., whereas in the two former seasons they comprised 24,900 packages bringing 6⅞d per lb., and 25,460 packages 7d. per lb. respectively. It is evident that much care was bestowed on manufacture, the style of leaf being generally good, while often very attractive parcels were received from some Estates. No doubt the benefit arising from the use of seed from India and Ceylon is becoming more manifest, and the teas are consequently occupying a higher position on this market than formerly.

Prospects.—Chiefly owing to increased deliveries of Indian, and a falling off in the supply of Ceylon, stocks are likely to be abnormally low by the end of June, and prospects for the coming season look favourable from a producer's point of view; but it must be borne in mind, and we venture to give it as a word of caution to planters both in India and Ceylon, that encouraged by the enhanced prices of common grades since the turn of the year they must not all go in for coarse plucking, otherwise there will be an undue proportion of that class, which will not only glut the market, but lead to a still lower average than was current for some periods in 1898. Besides, China may be induced to send more to the United Kingdom than in the past twelve months.

With regard to the future, there is at present little information as to the supplies we may expect from India during 1899, though a moderate increase may be looked for, while from Ceylon estimates point to their being smaller, brought about chiefly by larger direct shipments to Australia, America, Asia, Russia, &c., occasioned by increased facilities for conveyance. In all probability therefore from both countries together, the important quantity of say 40 to 45 million lbs. will be diverted from this centre. That the general position should be thus strengthened must be very gratifying to those who, for a long while and under many difficulties, have been labouring to foster the use of British-grown tea in other quarters than Great Britain, and the success already achieved will, no doubt, stimulate them to fresh efforts.

It is to be hoped that with smaller receipts we may see a corresponding appreciation in values, over supply has been the bane of the London Market for some years, and it would be exhilarating to many if a change "came o'er the scene" and a higher range of prices should be permanently established.

Manufacture.—In the majority of instances this appears to have received full attention from planters and on the whole, the green leaf seems to have been carefully withered and well rolled. There were indications however, at times that the firing in the "driers" had been executed too quickly and at an excessive temperature, thus destroying the flavour of the leaf operated upon, and imparting an odour foreign to tea. To this some attribute the so-called "cheesiness," which has given much trouble to sellers and dissatisfaction to buyers more or less throughout the season, particularly in the earlier months. That it was caused by the use of unsuitable wood could not always be the case, as many of the complaints have arisen with regard to parcels in metal packages.

Cultivation.—On some Estates where both yield and quality have fallen off, apparently from deterioration of the soil, it has been proved by experience that the planting of "Sau" trees has had a beneficial effect, as they do not give too much shade and are said to impart nitrogen in considerable extent to their surroundings. It might be well to try this on gardens requiring such treatment, whether in India or Ceylon, as an alternative to artificial manures when not easily procurable.

Plucking.—It is probable that the high rates now ruling for Teas under 8d. per lb. will induce the picking of large quantities of inferior leaf, at all events until requirements have been overtaken, so that the proportion of fine will be small. Some of the Darjeeling and a few of the Assam concerns, as well as those in the high districts of Ceylon where large flushes cannot be obtained, may however do better by going in for choice quality, for which there is always a demand.

Size of Breaks.—No alteration has been made in the limits for large breaks since last year which stand as under, viz.:—

India—30 Chests, 30 Half-Chests, 50 Boxes. Ceylon—18 Chests, 24 Half-Chests, 40 Boxes.

Assortment.—Lots of lesser size are sold separately at the close of the auctions.

Fair sized breaks have in most instances come to hand from India during the past season, and consequently there have not been so many complaints from buyers of the succession of small invoices from the same estate despatched at short intervals. Many Ceylon Garden Managers, however, have apparently not found it practicable to make the different lines of a marketable size though no doubt in course of time this will be remedied.

The following continues to be a desirable assortment to adopt, say:—A Broken Pekoe of 30 chests or more; a good Pekoe of 50 chests or over; a Pekoe Souchong of 70 chests or upwards, with a break of Broken Tea or Pekoe Fannings. Parcels containing dust are not readily saleable and therefore this should be sifted out and packed by itself, for which purpose some of the patent packages now in vogue might be utilized so as to avoid leakage on the voyage resulting in loss of weight which often occurs with country made chests. The exception to the foregoing is when a tippy Broken Orange Pekoe or Orange Pekoe can be made, as these when really fine usually command high figures, whether from India or Ceylon. Should the quantity of leaf available for this not suffice for a full sized break in Chests it might be packed in Half-Chests.

Analysis of Crop from India.

Assam.—The quality from the greater part of this district has been above the average, many of the shipments being of very desirable character, whilst those possessing full autumn flavour were much appreciated. On the other hand the outturn from some estates was for the most part disappointing. Owing to a large area coming into bearing the yield was 62 million lbs., contrasted with 58 and 59½ million lbs. respectively in the two preceding seasons. Acreage under tea—178,000 acres.

Cachar and Sylhet.—In consequence of adverse climatic influences and excessive drought in the early part of the year, the crop was much interfered with both as regards quantity and quality, though later manufacture proved rather better and received benefit from the enhanced values ruling in February and March. The total manufactured was 45 million lbs. opposed to 46¼, and 45½ million lbs, in 1897 and 1896. Acreage under tea—133,000 acres.

Darjeeling and Terai.—During some parts of the season exceptionally choice invoices were despatched, though at others shipments were unsatisfactory. The general result was about the same as last year, but not up to that of 1896. For three seasons 11¼, 11 and 11½ million lbs. were sent away. Acreage under tea—55,000 acres.

Dooars.—Though rather poor at first the crop was an average one, and 7⅝d. per lb. was obtained, or the same as for the two previous seasons. Totals despatched from the gardens during the past three seasons were 25¾. 24 and 22 million lbs. respectively. Acreage under tea—65,000 acres.

Chittagong.—Fairly useful teas were received from this district, though they call for no special comment. The output was smaller, viz.: 887,000 lbs against 1 million lbs. in each of the two prior years. Acreage under tea—4,000 acres.

Kangra, Dera Doon & Kumaon.—As a rule quality was unattractive and a considerable portion was sold locally. The quantity made was about the same as for the last two years, viz.: 4 million lbs. Acreage under tea—18,000 acres.

Travancore and S. India.—Delicate flavoured invoices were occasionally received from the Neilgherries and Wynaad, which met with considerable attention, but for the most part arrivals were of an ordinary description. The bulk, however, as usual, came from Travancore, and quality was rather below the average until the turn of the year when some improvement was noticeable, which, combined with a better market, raised the February average to 7⅝d., whereas in August last it was only 6d. per lb. The amount sent to this country was about 3¼, against say, 3 and 2¾ in the foregoing years. Acreage under tea—21,000 acres.

DISTRICT ASSOCIATION.

SHEVAROY.

Proceedings of a Quarterly General Meeting of the Shevaroy Planters' Association, held in the Victoria Rooms at 2 p.m., on Monday 10th April 1899.—PRESENT: Messrs. Rev. M. Andersen, C. Dickins, Thurston Short, C. Rahm, W. Rahm, C. G. Lechler, *Chairman*; Messrs. C. D. Ryle, F. Short, J. C. Large, E. Dickins, R Gompertz, *Honorary Secretary*.

1. Chairman opened the meeting by informing the members that there would, ordinarily, in future be no Committee Meetings in the months in which the Quarterly General Meetings are held.

2. Chairman then read proceedings of Committee Meeting held on the 6th February and 6th March last. Resolved that the said proceedings be confirmed.

3. The proposed Rules were read, discussed, and slightly altered.

Resolved that the rules as amended be printed and a copy sent to each member of the Association.

4. *Resolved* that this Association entirely approves of the Hon'ble Mr. Hodgson's letter to the Chief Secretary to Government, forwarded with Secretary's Circular of 7th instant, and feel confident that their interests could not be entrusted to abler hands than those of the Planting Member of the Legislative Council of the Government of Madras.

5. *Read* Memo. No. 137 *b. c.*, Public Works Department, Government of Madras, dated 16th March last, enquiring what contribution the Planters were prepared to make towards the construction of a cart road.

Resolved that the Honorary Secretary be requested to reply that until Government informs the Association which road they have decided to construct, the Planters are unable to state what amount they are willing to contribute, at the same time, referring to his letter No. 892 of the 13th March last.

6. *Read* letter dated 4th instant from Mr. deClosets, suggesting that the Planters should consider his proposal to construct a wire tramway. Resolved that the Honorary Secretary be requested to inform Mr. deClosets that the construction of the Ghaut Road by Government is now under consideration and that, therefore, they are unable to entertain his proposal.

Read and *Recorded* the following letters:—

28/U. W. Circular from the Secretary U. P. A. S. I. forwarding copy of a letter from Mr. Green, regarding the importation of lady-birds from Australia.

29/U. W. Circular from Secretary U. P. A. S. I. regarding the supply of Indian tea to H. M.'s Naval Station in New South Wales.

25/27 30/31 U. W. Circulars from the Secretary U. P. A. S. I. regarding the proposed Labour Ordinance.

23/D. Letter and statement from the Deputy Tahsildar, regarding the traffic through the Salem Ghaut Road and the Ahtur and Kadiampattie Roads.

4 G. Letter from the Government of Madras, Public Works Department, requesting to be informed as to what the Planters are prepared to contribute towards the construction of a cart road.

22/P. Letter from the Superintendent of Police informing that the constable has been fined.

24/D. Letter from Mr. deClosets, suggesting a wire tramway in place of a Ghaut Road.

The following papers were laid on the table:—

Proceedings of the Nelliampathy Planters' Association, dated 17th February 1899.

Proceedings of the Wynaad Planters' Association, dated 1st March 1899.

Agricultural Ledgers Nos. 18/19—Oxen and Wild Indigo.

Prevention of leaf disease in Coffee.—Report of a visit to Coorg by John Cameron, F.L.S.

Planting Opinion, 3 copies, dated March 11th, 18th and 25th.

(Signed) C. G. LECHLER, *Chairman.*

YERCAUD, 11*th April* 1899. (,,) R. GOMPERTZ, *Honorary Secretary.*

THE STICK AND THE CRUST.

A stick and a crust of bread. Like the hands of a clock these two articles told the time o' day for nearly a year in a certain man's life. Yet, unlike the hands of a clock, they were not visible at once. When he needed the stick, he had no use for the crust; and when the crust was welcome, he had no further occasion for the stick.

Albeit he was a young fellow of twenty-six, you would be wrong in supposing this stick to have been in the nature of a weapon for attack or defence. In that case the crust and the stick would have harmonised. As it was, they did not. For the stick was a support, not a club.

Now, when a man feels the pressure of eighty or ninety years he is apt to want a travelling companion of that sort; but one in the very heyday of youth, not suffering from any injury and not constitutionally feeble, or malformed, should commonly be able to walk without a stick. And so this young man had always done up to the time when he fell out with the crust and with all that the crust stood for or represented.

His own account of the circumstances runs thus:—"Up to October, 1893, I had been a strong, healthy, and active man. Then I commenced to feel weak and out of sorts. I was heavy, tired, and had no ambition or energy. What had come over me I could not imagine. I had a foul, nasty taste in the mouth and was constantly spitting up a thick, dirty phlegm. My appetite left me, and what little I ate lay on my stomach like lead, causing me great pain about the chest. A short, distressing cough settled upon me and troubled me day and night

"At night my sleep was disturbed and broken with night sweats and frightful dreams. I had great pain at the left side around the heart, and my breathing was hurried and short. Next I began to spit blood and was greatly alarmed at it. I wasted away rapidly, losing over a stone weight in a month, and became so weak that I was unable to rise on my feet without assistance.

"Although only a young man of twenty-six I was *obliged to hobble about with a stick*, and could walk but a short distance even at that. Worried and anxious I attended the York County Hospital, where the doctors sounded me and *said I was in a consumption.*

Here we have another of the serious and often fatal mistakes that are made in cases like this. Misled by symptoms which in some respects resemble those of consumption, medical men hastily decide that the lungs are affected, treat the patient perfunctorily for the hopeless disease he is *not afflicted with*, and leave the result

to chance. Hence he often dies of dyspepsia and its complications—his true disease—which, unlike consumption, is easily curable by the remedy our friend finally employed.

"They gave me cod-liver oil," he continued, "and medicines, but I got no better. Indeed, I was so low-spirited and miserable I didn't care what became of me. As time passed I grew weaker and weaker."

"After I had endured ten months of this, Mr. R. W. Dickinson, the chemist in Walmgate, advised me to try Mother Seigel's Syrup. After taking it a few days I felt much better, my appetite reviving and my food giving me no pain. I continued to take this medicine only, and soon the cough and breathing trouble left me and I began to gain strength and flesh. When I had taken three bottles, I was as strong as ever, and could eat and enjoy even a *dry crust*. I have since had good health. You are at liberty to publish this letter and refer all inquirers to me. (Signed) Isaiah Lewis, 124, Walmgate, York, April 8th, 1894."

If the reader wonders how a man could suffer so much, become so emaciated and weak, and be pushed so near the grave's edge through what is sometimes flippantly called "mere indigestion," he has yet to learn that the digestion is the arbiter of life and death. The "crust" (food), enjoyed and digested, means life and strength. Rejected it means the "stick," to supplement swift-coming weakness; and then the *prone position*, when help is vain. Mother Seigel's Syrup enabled Mr. Lewis to substitute the *crust for the stick*. It cured his dyspepsia.

MARKET REPORT.

COFFEE.

The *London Commercial Record* of 24th ult. states:—During the week supplies at auction have been heavy, and the sales so numerous that some have had to be postponed daily. For choice descriptions demand has been good and prices fully maintained, but the bulk of the quantity offered has been unattractive and a large proportion had to be withdrawn. The greater part of the East India continues to be of the poor quality which has been a characteristic of the present crop, and where sales have been made prices shew a further decline of fully 2s to 3s per cwt.; any samples, however, suitable for the home trade have met good competition and sold well. "Futures" have been dull, and closing prices barely maintained last week's value, viz.:—

London	... Santos ... July delivery	...	29s 3d
New York	... No. 7 Rio... „ „	...	5.20 cents
Hamburg	... Santos ... „ „	...	29½ pf.
Havre	... Santos ... „ „	...	35½ francs
Holland	... Good ordinary Java ...	...	27 cents.

Imports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
West India tons	644	682	614	811
Ceylon ...	123	112	141	75
East India ...	1,822	1,419	1,896	1,453
Mocha ...	448	401	127	113
Brazil ...	3,476	2,984	360	943
Other Foreign	7,508	5,446	4,280	5,241
Total tons.	1,4021	11,044	7,418	8,636
	Home Consumption.		Export.	
	1899.	1898.	1899.	1898.
West India...tons	78	88	193	371
Ceylon ...	29	39	55	41
East India ...	443	557	558	580
Mocha ...	158	177	31	33
Brazil ...	251	330	290	505
Other Foreign	2,295	1,886	3,323	2,580
Total tons.	3254	3077	4450	4110

The preceding figures exhibit—

In the Imports a decrease this year of	1,218	tons
Home Consumption an increase of	177	„
Export an increase of	340	„
Stock an increase of	3,017	„

Auctions this week have passed off as under:—

East India.—Of 7,154 bags offered only a small quantity sold, as follows:—*Mysore*, smalls 32s to 72s, low middling to good middling 59s 6d to 79s 6d, fine middling 84s to 97s 6d, fair to fine bold 81s 6d to 98s, very fine deep blue 107s to 113s 6d, pea-berry 56s 6d to 114s 6d; *Coorg*, smalls 37s to 56s. low middling to middling 55s to 67s, bold dull colory 78s 6d to 84s, fair bold 86s to 92s 6d, pea-berry 87s 6d to 102s; a fine mark, small 86s, medium 102s, bold 114s, pea-berry 132s 6d; *Naidoobatum*, low middling colory 59s, bold 84s; *Nellampathy*, smalls 40s, low middling 54s, pea-berry 81s; *Wynaad*, smalls 33s to 41s 6d; low middling 46s to 53s, bold 65s 6d to 72s, pea-berry 69s to 87s; *Neilgherry*, smalls 37s, low middling 58s, pea-berry 61s to 63.

Mocha.—70 bales bought in.

Jamaica.—Of 345 bags 95 barrels catalogued only 15 bags ordinary mixed brownish sold at 25s to 29s 6d.

Montserrat.—51 bags sold—small blue 43s, good middling 57s, pea-berry 60s.

Costa Rica.—3,510 bags offered and about 2,800 bags sold: smalls 27s 6d to 54s, good to fine ordinary 39s to 45s, low middling greenish 47s to 49s 6d, middling to good middling colory 52s to 65s, bold good to fine colory 70s 6d to 84s, fine middling blue 88s 6d, fine colory 88s to 100s, pea-berry 35s to 100s.

Guatemala.—Of 1,620 bags offered 620 bags sold, smalls 28s 6d to 31s 6d, fine fine ordinary 41s 6d, low middling gray 46s 6d, bold ditto 57s 6d, good middling colory 79s 6d, fine bold bright green 91s 6d, pea-berry 49s to 79s 6d.

Vera Paz.—62 bags bought in.

Salvador.—1,043 bags offered and the greater part sold—smalls 26s to 33s, fine ordinary foxy green 34s, low middling 46s to 49s 6d, middling grey 52s 6d, bold 60s to 63s 6d, pea-berry 55s to 79s.

Colombian.—Of 1,208 bags offered about 400 bags sold:—smalls 25s to 37s, low middling to good middling 41s 6d to 56s, bold dull 59s 6d, good bold blue 68s to 72s, pea-berry 41s to 6d.

Mexican.—209 bags about half sold at 29s 6d to 30s for smalls, and 66s for pea-berry.

Venezuelan.—329 bags bought in.

Bahia.—101 bags withdrawn.

Brazil.—29 bags Santos retired.

London, Mar. 24th.—The quantities brought to the hammer today (including some postponed sales) were:—2,330 bags East India, 37 bags 168 barrels Jamaica, 217 bags Salvador, 2,928 bags Costa Rica, 469 bags Guatemala, 167 bags New Granada, and 21 bags Mexican The sales went off with very slow demand at about unchanged prices.

Receipts in Rio and Santos.

	1898-9. Bags.	1897-8. Bags.	1896-7. Bags.	1895-6. Bags.
Since July 1				
Rio ...	2,573,000	3,580,000	2,843,000	1,940,000
Santos ...	4,799,000	5,444,000	4,427,000	2,732,000
Total ...	7,372,000	9,024,000	7,270,000	4,672,000
Crop ...	—	10,461,000	8,680,000	5,489,000

Rio Exchange 7$\frac{1}{32}$d, previous day 7$\frac{1}{32}$d.

Havre, March 23.—Santos good average March opened steady at 35f. and closed quiet at 34$\frac{3}{4}$f., May opened at 35$\frac{1}{4}$f. and closed at 35f.

Hamburg, March 23.—Good average Santos March opened quiet at 29$\frac{1}{4}$pf. and closed quiet at 29pf., May opened at 29$\frac{1}{2}$pf. and closed at 29$\frac{1}{4}$pf.

New York, March 22.—Closing prices of No. 7 Rio were as follow:—

	Mar.	April.	May.	June.	July.
March 21 ...	5.00	5.00	5.10	5.15	5.25
March 22 ...	5.00	5.00	5.10	5.15	5.25

Prices realized at auctions for some of the principal marks of East India:—

	Mysore.					
	O	A	B	C	PB	T
PH & Co ◇ Santawerry Mysore ...	110-0	100-6	75-0	—	108-0	62-0
Kulhutty S WD ◇ Mysore ...	113-6	96-0	53-0 bid	—	106-6	52-6
Mockett G ◇ Mysore ...	—	102-0	84-0	—	102-0 bid	58-6
Utollalu Mockett ◇ Mysore ...	no bid	no bid	67-0	—	102-0 bid	56-0
Ubban Mockett ◇ Mysore ...	no bid	no bid	no bid	—	102-0 bid	56-0
Hulsoor Mysore ...	—	—	30-0	—	no bid	34-0
C Cullaly ◇ N B G ...		88-0	no bid	45-0	94-0	42-6

	0	A	B	C	PB	T
JRE Bupponji Mysore ...	80-6	56-0	44-0 bid	—	90-6	32-0
Rungiah's Mysore	87-0	62-0	47-0	—	92-6	35-6
Murgaddi Mysore		70-0 bid	50-0 bid	40-0	83-6	35-6
Ruxide ◇ Mysore	83-0	61-0	47-6	—	88-0	39-0
The Engadine Mysore ...	97-0	79-6	53-6	—	114-6	42-0
JPN Hoolkoondah Mysore ...		107-0	94-6	72-0	110-6	56-0
HC SS Mysore		93-6 bid	no bid	43-0	103-0	35-0
MB Merthikhan Mysore ...		79-0 bid	54-0 bid	45-0	86-6	34-0
MB Honeyvale Mysore ...		98-0	76-0	50-0	101-0	46-0
Hardwone Mysore		80-6 bid	58-6 bid	—	89-6 bid	45-6
Clifford's Mysore Kerkie Coondah.		66-0 bid	50-0 bid	39-0 bid	78-0 bid	33-6
Hutton Kodigi Mysore ...	62-0 bid	49-0 bid	41-0	—	75-0 bid	29-0
T P ◇ WC Mysore		82-0	59-6	41-0	91-0	34-0

	0	1	2	3	PB	T
PH & Co. ◇ Umbidy Mysore ...	70-0 bid	52-0	38-6	—	78-6 bid	35-6
Cannon (C) M	109-0	90-0	60-0	—	100-0 bid	55-0
ER Mysore		88-6	62-0	49-0	89-0	38-6
Mysore Buskull Park ◆ ...		86-0 bid	62-0	49-0 bid	92-0 bid	39-0
Yester □ Mysore	69-0 bid	50-0 bid	39-0	—	85-6	36-6
Kotordi Mysore	71-0 bid	48-0 bid	36-6 bid	—	84-0	36-6
Maynard's Mysore Hitlow △ ...	74-0 bid	50-0 bid	30-0	—	86-0	40-0
Goorghully GHE ◇ Mysore ...		85-0	62-0	45-0	95-0	40-6
Bykarvully GH ◇ Mysore ...		93-0	67-0	55-0	93-0	42-6
Doobla Mysore	77-0 bid	no bid	40-0	—	84-6 bid	36-0
BG ◇ Kundurkhan Mysore ...	77-6	50-0	—	—	90-0 bid	37-6
Macdougall's Mysore PM △ ...	no bid	no bid	32-0	—	85-0 bid	36-6 bid
Edwin Hunt's Caugnoor Mysore...		82-0 81-6	61-6	45-0 bid	90-0	40-0

COORG.

	A	B	C	PB	T
Irwin Jumboor	86-0	64-0	44-0	106-0	—
BPU Coorg	72-0	52-6 bid	38-0	87-6	32-0
HGP Beechlands	82-6	60-0	—	92-0	37-0
Chisholm's Coorg Corringabetta ...	82-0 bid	58-6 bid	42-0	94-0	43-6
Craig's Tilly Coorg	82-0 bid	60-0 bid	42-6	93-6	36-6
Chisholm's Coorg Banangalla ...	no bid	no bid	—	80-0 bid	41-0
Do. do. Silpikadu ...	83-0 bid	60-0	—	96-0	—
Praters Devarah Cadoo	83-0	59-0	38-0	96-6	37-6
Nadikari Betta Coorg	71-6 bid	52-0	32-0	—	32-0
Hope Coorg Bamboo	80-0	54-0 bid	42-0	—	32-0
Gerrard's Coorg Mylatpur	no bid	52-0 bid	37-0	90-0	38-0
PBC Coorg	81-6 bid	63-0	44-0	83-6 bid	35-0
Coorg Cota Kadoo	78-0 bid	56-0 bid	37-0 bid	95-0	39-0
St. Edmund's Coorg	74-0 bid	54-0 bid	—	89-0 bid	31-6
Abial Coorg	no bid	no bid	41-0	88-0 bid	30-0
Binny's Coorg Siddapur ...	78-0 bid	56-6 bid	45-0	—	—	40-0
G. R. Evans Aalie Topoo South Coorg ...	no bid	56-0 bid	40-0	90-0 bid	34-6
C1 Modur Coorg	79-6	53-0 bid	39-0	84-0	33-0

	1	2	3	PB	T
Mac. Innes W N R	80-6	60-6	—	87-0	43-0
Bramagherry Mountain	91-6	60-0 bid	62-0	97-0	44-6
CMN Korthikad	86-0	61-0	—	96-0	38-0
Ootsey WHR	88-0	61-6	48-0	86-0	37-0
Mangles Santagherry	no bid	no bid	—	94-0 bid	40-0
Kaundinga Anandapur Coorg ...	78-6	55-0	—	89-0	41-0
Wright's Hooroor	84-0	59-0 bid	—	97-0	39-6
AB Heroor	80-0	58-0	—	93-0	44-0
Arbuthnot's Coorg Polli Betta Home Estate	78-0 bid	56-0 bid	—	89-0 bid	35-0
CMN Korthikad	80-0 bid	57-6 bid	—	92-6	35-6
WWF △ B	81-0	58-6	—	88-6	34-6
CBS Coorg Karrie Kolli	79-0 bid	54-0 bid	—	94-6	38-6
Binny's Coorg Tooben Kolly ...	no bid	no bid	no bid	75-0 bid	32-0
Arbuthnot's Kembu Kollie	79-6 bid	58-0 bid	—	no bid	39-0

NEILGHERRY.

	A	B	C	PB	T
Tiamulla Nilgiris Plantation Coffee ...	no bid	46-0 bid	45-0	no bid	32-6
Scotforth	65-0 bid	55-0 bid	58-0	61-0	—
Linengal	no bid	44-0 bid	42-6	no bid	33-0
Leichwood	64-0 bid	46-6 bid	40-0	81-0	29-6

WYNAAD.

	A	B	C	PB	T
Kadalat	60-0	48-0	37-0	no bid	33-0
Walker's Estates, Touramulla ...	60-6	48-6	35-0	80-0	32-0
Cottanaad	66-0	44-6	36-0	no bid	30-0
Culean Mulla	65-6	47-0	35-0	—	30-6
Rasselas	92-0	63-0	48-6	99-6	41-0
Tulla Mulla Peak	72-0	52-0	41-6	87-0	35-0
Walker's Estates Nellakotta ...	63-0 bid	48-0 bid	no bid	no bid	30-0
TEC	70-0 bid	51-0 bid	38-6 bid	80-0 bid	32-0

NELLIAMPATHY.

	A	B	C	PB	T
OCC Alexandra	77-0 bid	54-0	—	86-0 bid	34-0
Do. Victoria	no bid	51-0 bid	—	84-0 bid	34-0

NAIDOOBATUM.

	A	B	C	PB	T
Seaforth Naidoobatum	84-0	59-0	—	86-0 bid	41-6

TEA.

China.—A quiet trade is passing in Congous at the rates ruling during the past few weeks, the market being devoid of any special feature, except it be that Green teas are a shade dearer. 4,440 packages have been offered at auction since our last issue, a small proportion selling at 7¾d for new make Congous, 8d for Paklin, 7½d for Souchong, 8d for scented Caper, and 1s per lb. for Foochow scented Orange Pekoe; Moyune Green Gunpowder common to fine 5d to 1s 5d, Imperial 4⅜d to 6½d, Young Hyson 4½d to 7⅛d, Hyson 3½d to 5⅝d, Sow Mee 5¾d to 1s 3¾d, and Foong Mee 8¼d to 1s 1¼d per lb.

Indian.—Public auctions totalled 30,700 packages against 32,600 packages last week, and 33,800 packages at this period in 1898.

There was again spirited bidding for ordinary to fair Pekoe Souchongs and Pekoes, prices ruling very firm to rather dearer, the competition being at times so strong that quotations for the two kinds showed very slight difference. More attention was also occasionally given to the grades above, particularly Pekoes, which somewhat hardened in value. Over 10d per lb., however, the enquiry was limited, and a good many lots were withdrawn owing to comparatively low offers.

A considerable quantity of "last of the season" iuvoices, some of the recent ones being very brown and mixed in appearance, have been disposed of and supplies must now be sensibly curtailed. It is proposed that after Easter sales shall be held only on Wednesdays.

For 25,000 packages on garden account 9½d per lb. was realised, compared with 8¾d per lb. for 24,600 packages and 8¼d per lb. for 22,000 packages in the two preceding years.

Ceylon.—The quantity was lighter, comprising 21,000 packages, versus 25,500 pkgs. on the 14th inst., and 19,800 pkgs. a year ago.

A strong demand prevailed for leafy and broken sorts for price, common Pekoe Souchongs fetching 7¼d per lb. Fair to medium Pekoes were also a shade higher, but Broken Pekoes were irregular though on the whole they did not mark much change. The few fine parcels were well supported, the following being among the best B.O. Pekoes:—Henfold 1s 6¾d, Valamaly 1s 4¼d, Ingestro 1s 4d, Troup and Warleigh 1s 3¼d, and Glenlyon 1s 2¾d per lb.

The average is 8⅞d per lb. On the 16th inst. it stood at 8¾d per lb., and 7½d per lb. in 1898.

Java.—Slightly over 1,700 packages passed the hammer. Most of the favorite marks were represented and met with a good reception, the tendency for the lower lines being still against buyers.

Deliveries.—The clearances of all tea (on which duty has been paid) from the London warehouses, as per official returns, were:—

From 1st to 21st March, 1899 ... ... *16,983,799 lbs.
„ „ 1898 ... ... 11,816,632 „

* This includes one specially large payment made in advance on the 20th inst., but the delivery of the Tea will be gradual.

During the week the following have been printed for sale by public auction:—

	Sold. Pkgs.	Withdrawn. Pkgs.	Total offered. Pkgs.
India	28,348	2,393	30,741
Ceylon	19,811	1,189	21,000
Java	1,625	107	1,732
Total ...	49,784	3,689	53,473

Also 264 packages from second hands.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated March 24th, 1899, says:

QUANTITY BROUGHT TO AUCTION IN LONDON
From 1st June to Date.

	Indian.	Ceylon.	Java.
1898-1899.	1,435,836 pkgs.	923,648 pkgs.	38,463 pkgs.
1897-1898.	1,400,521 „	975,605 „	35,534 „

31,994 pkgs. Indian
21,242 „ Ceylon
1,732 „ Java
} Total 54,968 packages were offered in public auction this week.

The total outturn of the Indian crop for the season 1898 was only about 4½ million pounds above that of 1897 and 1896. Assam and Dooars were slightly ahead, while Sylhet and Cachar were a little behind owing to the unfavourable weather in these districts. Travancore is not included, but the exports during 1898 do not appear to give a very heavy increase.

Indian. The competition for Teas up to 7½d. was if anything more pronounced, leading to a further slight advance; while Teas a little over this figure seem now to be more enquired for. The following averages are worthy of note:—"Poobong," 1/6½; "Amal T Co Moondakotee" and "Nagri," 1/4¾ and 1/3½ respectively; "Titadimoro," 1/2½.

Ceylon. The advance in the lower grades, which commenced with Teas under 7d. has now extended to medium kinds, which are commanding better rates, competition for the lower grades being, however, the most pronounced. Teas over about 9d. per lb. continue unaltered, fair Broken Pekoes still selling with much irregularity, and in many cases shewing remarkable values.

Average for week 8·80d., against 7·22d. same week 1898.

Ceylon Tea sold on Garden Account, 1st Jan. to date 1899, 245,297 pkgs., av., 8·34d. 1898, 270,209 pkgs., av., 7·67d.

		1899.	1898.	1897.	1896.
Pekoe Soug.	(Ordinary leaf; fair liquor)	7½d.	5⅝d.	6¼d.	6d.
Pekoe	(Ordinary leaf, little twist; fair liquor)	8½d.	6½d.	7½d.	7¼d.
Pekoe Soug.	(Rather bold leaf; indifferent liquor)	7d.	4½d.	5d.	5d.
Pekoe	(Somewhat bold leaf; indifferent liquor)	7½d.	5d.	5⅝d.	5¼d.

Java. With animated bidding prices showed fully a halfpenny advance on all Teas up to 7½d., other grades realising firm prices. The rise from the lowest point in common whole leaf Tea is now almost 50 per cent.

Bank Rate 3 per cent. Exchange on London three months sight:—Calcutta 1/4 5/32. Colombo 1/4 5/32.

COCOA.

Much more moderate offerings were submitted for public competition at Tuesday's auctions than were exposed in the previous week, the total being only 5,431 bags contrasted with 11,430 bags. The opening tone was slow, but as the sales progressed competition became more general, and values on the whole were fairly maintained. Of 1,316 bags Trinidad offered 640 bags sold at barely valuations, fine red 75s to 76s, good fair 73s, weathered 68s, and common dark and broken 60s 6d to 66s 6d. 2,483 bags Grenada brought forward and 2,220 bags disposed of at 70s 6d to 72s for good fair to good red, and 68s to 69s 6d for ordinary to fair, being quite full up. 409 bags Dominica nearly all sold at a slight advance, 69s 6d to 70s for fine and 67s to 68s for fair to good. 60 bags St. Lucia partly changed hands at 67s 6d to 68s 34 bags Surinam were quitted at 68s 6d to 71s. Offerings of Ceylon consisted of 1,129 bags, but enquiry was very poor, and only 150 bags sold in the room at 70s to 75s for fair to good collected, and at 70s per cwt. for fair Native. Privately 450 bags Guayaquil sold at 69s to 70s for grey Caraquez, and some quantity of collected Ceylon at auctions' rates.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

	1899.	1898.	1897.	1896.
Imports, B.P. ...bags	45025	57044	40334	46809
Foreign ...	14755	40449	19430	17921
Home Con., B.P ...	22387	28412	21928	19421
Foreign ...	14466	13874	17843	14588
Exports, B.P.	13057	7949	11665	8534
Foreign ...	10248	9005	10959	5164
Stock, B.P.	55164	80722	86017	84518
Foreign ...	42615	51020	52047	77534

PEPPER.

Black.—The market is quiet, but on the whole steady, with a firmer tone at the close. On the spot sales of fair Singapore have been made at 5 3/16d, and for arrival 200 tons are reported sold, viz., March-May and April-June at 5⅜d to 5 7/16d; May-July at 5⅜d to 5½d, and June-August at 5½d to 5 9/16d.

Auctions on Wednesday included only 5 bags Ceylon, which were bought in at 6d per lb.

White.—Is quiet, and little or nothing reported done on the spot For arrival 100 tons have been sold, viz., Singapore, February-March shipment at 8½d, April-June at 8½d, and May-July and June-August at 8⅝d; of Penang, no sales reported.

At public sale on the 23rd inst., 20 cases 50 bags Singapore comprised the whole of the selection, and these were bought in at 9½d to 11d per lb.

London, March 24 firm.—Of Black. 50 tons Singapore June-August shipment sold at 5 9/16d, and buyers. Of white, 30 to 40 tons Singapore sold, viz., May-July and June-August 8¾d per lb.

Tellicherry to arrive per April-May steamer has sold in Humburg at 47s per cwt. c.i.f. delivered weights.

GINGER.

Cochin again suffered a material decline, and even then buyers did not appear anxious to stock. 218 cases 204 bags were brought forward and 81 cases 54 bags sold as follows:—bold, some medium, rather roughly cut and scraped 75s, medium partly bold ditto 52s 6d, medium and small ditto 34s 6d, small ditto 30s to 31s, small cut, wormy and mouldy, 25s, small washed brown plump 24s, good medium and small washed rough 23s, and good cuttings 17s per cwt.

March 24.—Calicut rough has sold to arrive per April-May steamer at 21s to 20 9d per cwt c.i.f.

Jamaica.—362 barrels, &c., offered and about 150 pkgs. sold—bold hard plump brown 88s, medium and bold washed 82s 6d, good medium brown 74s 6d to 75s, fair dark 67s to 68s 6d, and ordinary to good ordinary washed 57s to 64s 6d per cwt., being a shade in buyer's favor.

CINNAMON.

1 bale Ceylon quill sold at 9½d. whilst 23 bags bark retired at 3¾d 33 bales Tellicherry were bought in at 9½d and 120 bags Ceylon chips at 4d per lb.

CINCHONA.

The *B. & C. Druggist* says:—The result of to-day's bark auctions in Amsterdam, which has probably excited more interest than have any other auctions for a good many years, is an advance in the unit from 6.7 cents at the last auction to 10.9 cents per ½ kilo., that is to say from between 1⅛d and 1¼d. to slightly under 2d. per English pound. Out of 824,880 ozs of quinine in bark form offered, some 731,255 ozs. were sold, about a fourth of it previous to the auction. Out of 6,846 packages put up, 6.215 were sold. The manufacturers' bark ranged from 10 to 111 cents and druggists' bark from 14 to 183 cents The tone of the auctions was quiet. We give below the amount of the purchases of the various buyers stated in tons, the table below only covering the sales in auction.

English and American Quinine factories (principally).	Brunswick factory.	Mannheim and Amsterdam factories.	Frankfort and Stuttgart factories.	Miscellaneous buyers.	Total sold.	Bought in or sold previously.	Total offered.
Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
5.887	4.462	3.464	2.910	3.628	20.331	3·239	23.570

The Amsterdam market is described as in a very excited state, and in London there have been sales at 2*d.* per unit and over.

CINCHONA BARK.

At Amsterdam yesterday 6,850 packages Java were brought to the hammer, analysing 5.26 per cent. for the manufacturing portion. Demand was extremely active, and prices opened with 11.50 cents paid (against 6.70 cents at the previous auctions), falling to 10 cents but subsequently advancing to 13 cents, the average for the whole sale being 10 90 cents. The catalogues were nearly all cleared.

QUININE.

Since our last the market has exhibited much excitement, and a very large business has been transacted, resulting in a further remarkable advance in value. On the spot sales of HB and B&S have been made at 1s 5⅞d up to 1s 9d, April delivery at 1s 6d up to 1s 9¼d, May at 1s 6¼d up to 1s to 9½d, June at 1s 6⅜d, up to 1s 9⅝d, and August at 1s 6⅝d, up to 1s 10d. The sales and re-sales are estimated at between 500.000 to 600,000 ozs. There has been so much excitement in this market that business in other staples has been materially interfered with during the past week.

The result of the Bark Sales in Holland yesterday (reported above) were looked upon as somewhat disappointing, and the market was quiet at the finish at ½d below the top point.

Of other brands. sales of Amsterdam have been made up to 1s 8d May delivery, Gold and Silver at 1s 7⅞d May delivery, and Zimmer on the spot at 1s 7¼d.

The closing prices yesterday for HB and B&S were as follows:—

Spot ...	...	..	...	1s 8⅝d
May ...	...	...	...	1s 9d
June ...	..	...	...	1s 9¼d
August	...	...	...	1s 9⅜d

The *Chemist & Druggist* reported on 23rd ult.:—"The Quinine Crisis has not yet come. Speculation this week has taken the price to 1*s.* 9½*d.* per oz. for May delivery, and 1*s.* 10*d.* for August. Exactly the same tone prevails on the Amsterdam cinchona-market, where the equivalent of a 12c. unit has been paid privately for manufacturing-bark. When the sales opened there to-day it became known that the manufacturers had decided to stand out, which they did for a time; but outsiders came in and paid an 11c. unit for the first string of bark (which was analytically overstated to the extent of a unit in the percentage). By-and-by the makers came in and the price rose to 12c. and 13c., with an average of 11c. Buying of quinine recommenced in London early in the day, but holders are firm, and the general expectation is that 2*s.* per oz. will be paid for quinine by Saturday. The unit is about double what it was a month ago, and quinine sulphate in the bark at 2½*d* per unit costs the makers 1*s.* 3*d* per oz., to which has to be added cost of manufacturing and other charges, variously estimated at 4*d.* to 6*d.* per oz., so that 2*s.* quinine is nearly an actuality, whatever price the makers may settle on to-night. The cinchona-sales in London next week will be fairly heavy, but much of the bark is of low percentage."

(Average for all India 9·50d.) *March 24th.*

Garden.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust, and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price.
Neilgherry ...														
Glenorgan ...	62	8	...	...	30	7½ 7⅝	22	8¾	6	7¼	...	...	4	6¾
Travancore ...	**377 p**	**8·11**												
Isfield T Co Isfield ..	31 p	7	...	...	26	8	...	...	..	...	...	...	5	5¾
Kinmylies ...	30¼c	7⅜	...	...	25½c	8	...	...	5½c	7	...	...	..	...
Mahandragherry ...	34½c	7⅛	...	...	26½c	7¾	...	...	6½c	7	...	...	2¼c	5½
S T T Co Venture ...	170	8	...	...	67	8¼	59	8 8¾	27	7⅜	..	...	17	5¼ 6¾
Sthrn Ind C Knd K	50	8½	38	8¼ 9	10	7¾	...	.	...				2	7½
Stagbrook ...	82	8½	12	10¼	22	8½	...	...	20	7⅜	7	7¾	1	7½

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P. S. A. C. Hard-wood Pulleys to fit any size of Shafting, Bushes being interchangeable. Lighter, Stronger, Cheaper than Iron or Steel, 6 to 60 inches diameter.

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Price List on Application.

PLANTING OPINION.

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SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 28th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, *19th April.*—Blossom showers had been very favourable, but a regular deluge descended on open blossom, and in some cases hail. *Rain* has been continuing ever since every afternoon. It is an entirely new experience, and no one can foretell what the end of it all is going to be. Some manuring going on. *Estates* appear to be amply provided with slack season gangs. *Health*—Generally good.

SOUTH INDIAN TEA.

In the annual report of the Central Travancore Planters' Association, published on another page, reference is made to the fact that from Travancore alone in South India have contributions been made in support of the campaign of the Indian Tea Association. The Honorary Secretary evidently thinks that other Associations in the South are blameworthy in this respect, and he throws out a hint that they should mend their ways. It by no means follows, however, that they will take the same view. A few months ago there might have been a fair chance of bringing them round to the opinion that the Central Travancore P. A. has consistently acted upon. But now, when the whole plan of campaign is likely to be altered, it does not seem likely that new recruits will volunteer. For, to us at least, the new plan seems inferior to the old. It has none of its advantages, though it perhaps offers the single advantage of less expenditure; it has moreover the grave disadvantage that it amounts to a swopping of horses in mid stream. If in fact, the work of Messrs. Blechynden and Mackenzie, or either of them, in America,

is summarily discontinued, it is more than probable that money already spent will prove to have been wasted. A continuance of these gentlemen's labours for a few years would doubtless cause good results to flow in, as they have already begun to do. But a discontinuance at the very time when those interested in Japan Teas are making special efforts to push these into the American and Canadian markets, does not appear to us wise. It is a premature change of policy, and may have much the same effect as a frost on the budding trade in Indian Teas in America.

Then, too, there is another aspect of this question that must not be overlooked. Hitherto, Ceylon and India have decided to range themselves side by side as allies—first against China, now against China and Japan. Will the alliance continue? It seems doubtful. In like manner it is open to doubt whether an alliance between Northern and Southern India would prove enduring, and even whether it would be to the benefit of the two parties. The name "Indian Tea" is as misleading as any name could well be. There are even wider varieties in Indian than in China teas; to build up a demand on the strength of pungent Darjilings and endeavour to meet it with coloury Travancores or Nilgiris, would be not only unwise but dishonest. Even in the North there is a range of values from, say, 5*d*. (excluding dust) to anything you please. There is a wide variety of *character* also; yet, speaking generally, there is at least a greater similarity in value between the teas of the North than between them and the teas of the South Here we have a majority of low to medium qualities, the index pointing more towards the low than the medium The teas of the South, except when used solely for blending purposes, should cater for a different market from that at which Darjilings and Assams aim. To lump the whole lot together, call them "Indian Teas," advertise them freely and try to push them as all members of one family, would certainly be possible, but for our own part we should prefer to see South Indian Teas pushed separately. Let them stand on their own merits, and enter into friendly competition, not into opposition, with Ceylon and the rest of India. By doing this no doubt some of the advantages resulting from Union would be lost. But it is probable that this would only be anticipating by a few years what must eventually happen. It is in the initial stages of a campaign that union is specially necessary. When once the enemy has been defeated, a scattering in pursuit may become advisable. In the particular case under reference, indeed, we take it as certain that now that China has been defeated, and her tea forces disintegrated, division of the Indian and Ceylon allied forces into section will begin, unless the rivalry of Japan should appear powerful enough to necessitate further concentration of energy.

While writing thus, however, we are constrained to express the opinion that tea planters in South India have shown themselves lacking in enterprise, and have shown themselves in no enviable light. It would be easy for the critic to say that they were lying low, sparing their own pocket, yet ready to avail themselves of the fruits of the enterprise and expenditure of tea planters in the North of India and in Ceylon. That they have not done this intentionally need scarcely be said; but there is certainly some justification for thoughts that they have done it. We should like to see the reproach removed. There is no reason why South Indian tea should not strike out a line of its own, and this without greater expenditure than local planters can afford. There has been no united effort to open out new markets. Even local markets have been neglected, to the extent of having been only cultivated at an absurdly high level of prices. Acting somewhat on the lines of the Coffee-planters who have gone in for co-operation, a few Tea-planters on the Nilgiris and a few in Travancore might band themselves together,—one band for the Nilgiris, one for Travancore—"pool" a certain quantity of their teas, and place them on such markets as the American, Canadian, Russian and German with a view to opening up an increasing consumption in these markets. Divided among several, the risk of initial loss would not be great. The loss itself would probably amount to much less, in proportion to results, than the amount expended by the Indian Tea Association and the Planters' Association of Ceylon in newspaper advertising and in general campaigning operations. Newspaper advertising is no doubt important, it may even be essential to permanent success on the very matter under notice: but for the present we should be inclined to give the preference to practical advertising: a liberal distribution of free samples, and the sale of good teas at fairly low prices until the taste for them has been acquired. It is worthy of note that South Indian teas are at present entirely excluded from one very important branch of trade. Indian teas are sold in Calcutta, where foreign buyers congregate as well as English; Ceylon teas are sold at Colombo under similar conditions, and the trade is developing. *South Indian* teas have no local market for teas for export. Of course they do not compare in *quantity* with Ceylon or Northern India, but though there is no need for local auctions, it would certainly be well not to neglect opportunities to open out new markets, and to let the world know that South Indian tea deserves a share of its attention.

THE MANUFACTURE OF TEA.

A correspondent writes to the *Planter*:—"Looking through the columns of *Planting Opinion* (issue of the 1st inst.), the heading, "Tea, from seed to cup," attracted my attention. Your contemporary has arranged with a *South Indian planter* (the italics are mine) to write a special series of papers on tea cultivation and manufacture, giving practical hints that will serve the beginner and enable him to start tea planting with the teachings of experience before him. What struck me was the announcement that the papers were to be written by a *South Indian* planter. Considering that North-Eastern Indian and Ceylon planters are far more experienced men than their confrérés in the South of India, specially as regards *manufacture*, would it not have been more to the point if we had been informed that some expert from our part of India, or from Ceylon, had engaged to write a series of practical articles for the benefit of his less experienced brethren in the South of India. Although tea was started in Southern India at the same time as it was in Assam and North-Western India, the industry may, in comparison to the latter, be said to be still in its infancy in the former. I look forward with interest to see how my Southern brother will teach 'the young idea how to shoot,' especially regarding manufacture."

We hold to the opinion that what will be most useful here, is an account of the experiences or methods of a man who has grown and manufactured tea in *the South of India*. On point of cultivation, he will speak with local knowledge as to climate, soils, &c., and if in the matter of

manufacture he has something to learn from his brethren in the North they will no doubt teach him, and the lesson will carry more weight, and be more likely to be borne in mind than any *ex cathedrâ* utterance of a tea-maker in Northern India. We hope to begin the promised series of papers early next month, and while we trust they will meet with general approval, it will also be a source of satisfaction to us if they form a basis for discussion and come in for some criticism. The flint and steel of conflicting opinions may then serve to throw light on an important subject.

TEA IN CEYLON.

The *Ceylon Observer* holds that, quite apart from such "unpleasant surprises" as the Government of India's action in closing the mints, Ceylon has a continual war to wage with its rivals. Its efforts to oust China and Japan teas from the best markets must not be relaxed; the superiority of Ceylon teas must be established and maintained. With a view to gauging prospects, apparently, our contemporary lately put certain questions to tea planters in different districts:—What are any drawbacks to making better tea than the average now turned out, in your neighbourhood? Is the jât generally good? or inferior? Is the soil generally poor on estates in your division? Are any estates worn out? Would manuring improve the tea and be profitable, in your opinion? Are factories on the whole deficient in withering room? Are factories on the whole deficient in machinery? or in motive power? Is the labour force sufficient to secure regular cultivation and careful plucking? Has the pruning been too severe, or too frequent? Or has the pruning been too long neglected? Any general remarks on your neighbourhood and its suitableness for tea?

The *Observer* now touches upon replies received from the two "rather out-of-the-way districts" of Rakwana and Morawaka, "whose possibilities in respect of tea are far different from what they were with coffee, which practically depended on one blossoming season—a prolonged drought scorching all the blossom, and too much rain resulting in its running into leaf." We gather that Rakwana holds the London Market (the combination of big buyers, presumably) to be the chief drawback to the manufacture of better tea, declares its average outturn "good stuff" and that, at the price it fetches, it is simply given away, not sold! The jât is generally fair, excluding small patches of China, and although the soil is not of the best, some of the old estates being worn-out, it responds to cultivation, while the shuck fields are little by little struck off. There is no complaint about factories, the labour supply is ample, medium pruning is the rule; and in fact it is thought that only the Kelani Valley Railway with its branch to Ratnapura, is wanted to give this old, and rather inaccessible district a spurt, and enable it to attract settlers by its climate, and its capabilities, not alone for tea, but also for cocoa, cocoanuts, and even coffee, if transport difficulties are overcome. From Morawaka, however, a different story comes, for although its factories are deficient neither in machinery, nor in motive power, they are not generally provided with sufficient withering space. "The pruning, while not severe, has to be pretty frequent to force paying flushes, and that must tell on the bush. Though the district has a sufficient labour force, and is well suited for tea, it is handicapped by land badly opened with insufficient drainage, and planted with poor jâts to the extent of quite one-half. In these circumstances, the tea turned out is naturally poor, and although confidence is expressed in manure, as a means of improving both the quality and the yield, the plea is put forward that the cost would swallow up the profits 'at present prices." It will be interesting to learn what reports are received from the more important tea-growing districts.

COFFEE IN PORTO RICO.

Captain Arthur C. Hansard, whose name will be familiar to some of our readers in Ceylon, Bengal and the Punjaub, sends us an amusing account of how coffee is grown in Porto Rico. We give this below, and may observe here that notwithstanding the low altitude at which some coffee is grown in Porto Rico, Liberian is almost unknown there, only three or four persons having a few trees as a curiosity. The average altitude at which coffee is grown is probably 1,000 to 1,200 feet. Captain Hansard informs us that he knows of none over 1,600 feet, but a good deal is grown at under 400 feet. The average yield, according to a late return, was 4 quintals = say, 400 lbs. per acre. Coffee is not cultivated in Porto Rico: it grows, it is produced; and as to the cost of production no reliable information is obtainable. "Many planters do not keep any books and do not handle their own money." Exports are mainly to Cuba, Germany, France and Spain, and the figures for the last few years are given as follows:—

1893	...	...	...	19,486 tons.
1894	...	...	...	21,172 „
1895	...	...	...	16,884 „
1896	...	...	...	26,000 „
1897	...	...	...	20,672 „

Sales by the planter are, however, made locally, to the merchants in the larger towns, and it is exported on account of the merchant not the planter. In some few instances, small planters may work with local shopkeepers, but in the long run the coffee passes into the merchants' hands, and is by them shipped.

Captain Hansard has sent us small samples, which have not yet come to hand. He states that the finished sample has been through a Gordon pulper, an American washer, and dryer, and a smout (Gordon's) Huller, passing the latter four times. He has no polisher, sorter or grader.

The following is what he writes:—

Coffee Planting in Porto Rico.

(By Captain Arthur C. Hansard.)

The coffee of Porto Rico has always held a very high reputation, but it has a flavour peculiar to itself which makes it somewhat too strong for the taste of people in England. In reference to this I am able to quote the following extract from a letter from a very large firm of dealers:—"For consumption in the United Kingdom the coffee is not suitable, and we strongly advise you to ship to some continental port, where this coffee is much liked." When properly roasted, the liquor is much darker than we are accustomed to in England, being of a deep and rich brown colour. On first arrival few of us take kindly to it, but it seldom happens that anyone stays here more than a week

without going into raptures over it. A gentleman who had lived in the island for three years returned after an absence of twelve months and said he had not had a single cup of good tasting coffee during his absence. This same gentleman met a lady relative to whom he had formerly given some Porto Rican coffee and she said she hoped his coffee was improving, to which he replied that it was growing as quick as could be expected "Oh! but I mean the taste, that other was most horrible stuff." It is perhaps most suited to folks who like their after dinner *café noir*, and it is most highly appreciated throughout Latin Europe and in Germany.

Though there is a new district opening up at the eastern end of the island, the plantations in the old districts are thoroughly worn out, on proper cultivation, entire absence of fertilizers, and gross ignorance of work required, all helping in the decay. Planters, as a rule, own from 500 to 700 acres of land, and of this they manage to plant from 150 to 200 acres. I am quite unable to express any opinion as to what is taken into consideration in selecting land either for the estate or the planting; elevation, locality, aspect, and direction or force of wind all seem equally ignored, and thus one often sees estates as low as 350 feet above sea level, and I am of opinion that few, if any, rise above 2,000 feet, whilst a fair average would perhaps be 1,000 or 1,200 feet. In erecting a dwelling-house proximity to water is certainly sometimes, but very rarely, studied, and it is a frequent sight to see a house on the top of a ridge with water in the gully far away and the poor unfortunate servant struggling up the hill with a paraffin tin half full of water.

So far I have failed to fall in with any man having a useful practical experience, whilst theory is simply non-existent. If a man manages for himself, well and good; he does so to the best of his ability; but the general run have a man in charge who enjoys the courtesy-title of "Mayordomo." These are, as a rule, of such a low class that their services are worth little more than those of a labourer, and a premium on their dishonesty is the very low rate of wage they are paid. Many of these men are Corsicans, whose only qualification is that of an olive planter in Southern Europe, men for the most part too ignorant to study any works or treatises on coffee even if such were procurable. Having such a man in charge, owners sometimes visit their properties. I have a friend who lives, at most, two hours ride from his estate of 470 acres: he has been on it once only during the past four years, and his constant cry is "I want to sell; I don't know why, but the place is a very heavy expense and does not pay."

One seldom hears of old plantations changing hands, the land selected is generally bought from Government and is well timbered. Under old Spanish rule these lands were acquired by asking for them, getting a couple of friends to value them, and paying the surveyor's fees. Your friends, who were also the nominees of the alcalde, valued them from afar off, the farther the better, and the surveyor took 50 cents. per acre instead of a dollar, and sent some poorer brother in the profession, and thus the lands cost a couple of dollars per acre. But a dollar was often only worth 48 or 50 cents. and the measurements were only on the boundaries and a few acres *more* or *less* did not matter in the least. Of course the measurement, evading the ridges and khuds, gave the buyer an enormous percentage, and he might easily alienate 50 or 100 acres out of, say, 500 and still have his 500 left.

Having acquired the land, the first thing to do is to put in a gang of *cutlas* men (peons) to clear off the under-growth, then, irrespective of the state of the weather, the season or distance from the plantation or the size or quality of plant, a few peons are sent off to bring plants; these are simply hauled out of the ground and tied up in bundles, sometimes carried on the peon's head or in baskets on a horse. One thing only do I know to be considered in the matter, *viz.*—The moon's phases—any one who would plant when the moon is new being considered an idiot. When the plants arrive on the scene of operations each peon takes a small bundle and with the point of his *cutlas* scoops out a hole in the ground an inch or two deep, then taking special care to double up all the roots to suit the size of hole, he sticks the plant in the ground and kicks a little dirt over it, pressing it down as tight as he can with his foot. Or on better managed properties the peon goes forth to plant with a hoe or mamutie and digging a hole some 8 in. × 6 in. × 4 in. deep (or any other size it may please him) he treats the plant in the same way as his less enlightened neighbour who only has the *cutlas*.

I have not forgotten lining and distance, which is done by the rule of "pata gallo" (Anglice "cock's foot") or to be more explicit, anyhow and all over the place; it is the rule, however, to put two or more plants in one hole, and I have seen as many as six within an eight-inch circle. The reason given for this is that one is sure to die, but if it does not, the two (or more) still remain. I know one estate where the man lined off fairly well and sank small wells at six feet in the row and nine feet from the row, holes about 12 inches square, but instead of filling up the deep holes again he put the plant on the bottom of the hole, roots duly bent, and then half filled the holes. I said before that there was no theory, but I erred. This man had one: it was that the holes filled up with the wash of surface soil, &c. Having got through the planting, a few axe men are put in to fell some of the smaller injurious trees and circle a particular class of very large timber tree. These go on rotting for years, the branches falling from time to time and the tree eventually coming down with force enough to destroy all the coffee within reach.

Shade is not the vexed question here that it is in other coffee lands. Everybody plants it and takes care to have enough. There are three sorts of shade tree, but only one that can be taken into any consideration. The Immortelle or *Erythrina umbrosa*, locally known as Hucar, is occasionally found; a tree known as *mocha* also gives good shade, but takes a very long while to grow, for which reason it cannot be highly valued as a shade giver, and there remains only the Guava, not to be confounded with the fruit of that name. I regret, for many reasons, that frequent enquiries have failed to elicit the botanical name of this tree such Spanish books as mention it omit the Latin name or say it is not known. As a shade for coffee I consider the Guava one of the most, if not actually the most, suitable I know of. Bananas and plantains are also planted in great quantities but their shade is a very secondary thought: they help to pay expenses.

Weeding is not carried on in any systematic way. Sometimes it is given out in contract and on pay-day there is a regular Donnybrook, as no one is satisfied as to measure-

ments. If a man works by the day and is employed in a dozen different parts of the estate or distinct odd jobs, his name appears in as many different pay-lists, and as he has to argue over each amount it sometimes takes from early Saturday afternoon till 2 or 3 o'clock in the morning to pay out a couple of hundred dollars. My record time for 187 coolies, men and women, with 57 children in the measuring gang with a total of 283 rupees is twenty-nine minutes, but then I wanted to ride a race at a Gymkhana.

But to Porto Rico! Pruning and tapping are quite unheard of and the use of secondary branches is not known, and they are sought for in vain, whilst it is no rare sight to see a tree some 15 or 18 feet high doubled by its own weight or frequent hauling down by the pickers. Another curious custom that prevails is to bend a tree to the ground and plant the end so bent; this is done to promote the growth of suckers or shoots from the whole of the half circle thus formed. This is considered a very scientific arrangement and when any uninitiated visitor is looking round they are sure to trot this out as the very height of advanced cultivation. The wildly erratic statements to be gathered from old men and old planters in the island is really amusing, and when "Popular Errors on Coffee" or "The Coffee Planter's Fun Doctor" is published—in three volumes—a large and rapid sale may be expected.

The last—though not the best good yarn that came to notice will serve as a sample :—

Ignorant One.—"Your trees are old, are they not?"

Answer.—"Oh! Si, Señor, more than 100 years."

I. O.—"But is that not too old to get good results?"

A.—"Oh! no. Señor, the older they are the more they give; they go on increasing every year."

I. O.—"But are they not very high?"

A.—"Oh! no, the taller they are the more coffee they give."

I. O.—"Oh! Ah! Yes, I begin to understand"

Our gathering season begins about the end of October and is practically over at the end of November, but small quantities may be got in as late as the end of January. It is usual to make three gatherings, at each of which some of the ripe and a lot of the green berries are brought in. The pulpers in use are of wood and made in the island, and they give capital results. I consider them most serviceable and I prefer them to one I know that was not made in Porto Rico and cost three times the price. Very little attention is given to washing, whilst in some large properties and nearly all small ones the whole crop is dried in the pulp. There is very little machinery in the island and drying is done in large wooden trays which are mounted on wheels and thus run out of or under shelter on wooden rails at will. The shelter is most frequently the dwelling house. As the crop season is closely followed by the rains, it is difficult to dry the coffee till February or March Hulling is sometimes done in a large pestle and mortar, whilst some plantations are provided with a tajona or peeling mill on the principle of that advertised by Messrs. J. Gordon & Co., of London, but this one consists of a very large solid wheel, made from heavy wood, and the husk is winnowed off by the wind, after which it is submitted to a long and tedious hand-picking and sorting. It is the general idea that Peaberry is better than the ordinary coffee, and that light coffee or any that floats in the washing is the pick of the crop; this latter is, therefore, kept by the planters to make little presents to their friends. (*Very* little, I fear.) Due to our methods of production one old district averaged for the last season's crop, the astounding quantity of 4 cwts. (400 lbs.) per acre, and this was not considered remarkable. Our berry for the most part is somewhat small, owing to the elevation of the estates, but a good sized and fine looking berry is obtained at higher elevations.

Some people go so far as to say that small berry is the secret of the very excellent and peculiar flavour of Porto Rico coffee.

If our mode of production is somewhat peculiar, we also have our own way of cooking the coffee. A quick open fire of charcoal is made and an iron pot put over this, and when very hot sufficient coffee for a meal or the day is put in and stirred about, some moist sugar is put in and when nearly cooked some wild Syrian rue or *Peganum harmala* is added: this latter gives place to chicory. In ten or fifteen minutes the coffee is satisfactorily burnt, I should say, roasted. After this operation the cook won't wash her hands, as she would get fever; she won't go across a stream of water, as she would die; but then the women won't comb their hair at night time, as they would surely lose their memory. I do not know many who chance losing the memory, but I did know of one who crossed the stream and died; I should be sorry to assert she had been roasting coffee, though that is stated as a fact.

TELEGRAPHIC QUOTATIONS.

London.—	April 15	17	18	19
Bar Silver	27 7/16	27 7/16	27 3/8	27 3/8
Bank Rate	3%	3%	3%	3%
Coffee				
Mysore Mid. (B) size ...	65*s.*	...	65*s.*	...
Ceylon Mid. Plantation...	105*s.*	...	105*s.*	...
Cinchona, per unit ...	2¼*d.*			
Cardamoms ...	3*s.* 10*d.* to 4*s.* 2*d.*			
Cocoa ...	79*s.*			
New York.—				
Coffee—Fair Rio ...	6 3/8	6 3/8	6 3/8	6 3/8
Futures, July ...	5·83	5·93	5·87	5·87
Silver—Comml. Bars ...	59 1/4	59 5/8	59 5/8	59 3/8

NOTES.

Lipton in Ceylon. It is reported that Sir Thos. Lipton has purchased Cairns Hill, adjoining Eadella Estate, Kaduannawa, (Ceylon for something like Rs.30,000. The property is fully planted in tea.

A hybrid Ape indeed. Under the heading of "Aviaries," the Director of the Botanical Gardens, Singapore, reports that one hybrid ape was born. Some tortoises are also referred to, including a "rare" one—a *rara avis*, certainly.

Quinine in Italy. The quinine-factories at Genoa and Milan are busy just now. The Government is preparing a law to take the manufacture and sale of quinine into its own hands, and the law is likely to pass.

Venezuela Coffee going to the wall. We read that owing to the low prices realised for ordinary grade coffee, Venezuela planters have found it necessary to turn their attention to other plants which give a more lucrative return.

"Proceedings." We have a heavy batch of Proceedings of District Planting Associations this week. Those of North Mysore derive a special interest from the remarks of Dr. Lehmann, the lately appointed Agricultural Chemist to the Government of Mysore. Comment must, however, be deferred until next week.

Tea Prospects. Present level of prices in London would seem to be fairly safe until July or so. If, then, a big crop of Indian is promised, it may be expected to have a more or less depressing effect upon the market. If, however, only a light crop is likely to be realized, prices are pretty certain to "boom." Indeed, some authorities consider that nothing much short of a panic may be looked for.

Coffee in Perak. In notes on a Botanical Tour in Perak, Mr. C. Curtis, Assistant Superintendent of Forests, Penang, reports:—"The Coffee looks well, although there had been an unusually long drought at the time of my visit. Given suitable soil the success of this cultivation in Perak is assured, but the present low price must be a great disappointment to those who invested heavily two or three years ago.

The London Tea Market. Messrs. Gow, Wilson and Stanton cabled from London to Colombo on 13th instant that the market generally was steady. Good liquoring Broken Pekoes easier. Fair liquoring Ceylon Pekoe Souchong was quoted 8¼*d.*, average for the week 9*d.*, a rise and a fall of ¼*d.*, respectively. Out of 30,000 packages offered 25,000 were sold. Of Indian Teas 21,000 were sold out of 22,000 offered, the average being 9¾*d.*

North Indian Tea. The *I. P. G.* hears on very good authority that the samples to hand of this season's teas so far show a great advance in quality, valuations being highly satisfactory. Tea manufacture is established on all the gardens around Darjiling, although the first flushes will be checked by the cold, which is unusual for this date, the maximum thermometer only registering 59 during Monday.

Mango Cultivation in the Natal Botanic Gardens. The annual report of the Curator of these Gardens, 1898, states that the Mango crop has been an almost total failure, for though the trees promised well in the early part of the season, the fruit was subsequently attacked by insects so severely that scarcely a sound fruit was to be got. Of the large green variety the Curator had not seen a single ripe and sound fruit in the Gardens during the season. "Gassing" is recommended as a remedy.

Jadoo Fibre. After experimenting in 1897-98 with a ton of Jadoo fibre, the Curator of the Natal Government Gardens reports that certain ferns, &c., grew well in Jadoo, but that "none of the plants or ferns showed any better results than those grown in our ordinary potting soil;" while *ficus elastica* and *magnolia fuscata* failed entirely in Jadoo, though a small percentage of the former and 50 per cent. of the latter rooted well in soil. One or two other plants also showed more satisfactory results in soil than in Jadoo.

The Teak Tree in Natal. The Annual Report of the Natal Government Gardens, 1898, says:—"*Tectona grandis*—the well known Teak tree. One tree of this species has been in the Gardens for many years, but was overshadowed by a large Australian Acacia. Since the removal of that tree, however, it has borne seed and plants have been put out, and so far promise to do well. I need scarcely say that the wood is most valuable, but it is a tree of slow growth." There is nothing to show whether Teak cultivation has been tried in Natal outside the Gardens.

The Chemistry of the Cinchona Alkaloids. The *Monatshefte* says:—According to Cordier, when cinchonine hydrobromide is heated with caustic alkali dissolved in alcohol, a mixture of bases is obtained. From this mixture there can be separated several isomers of cinchonine. Amongst them are tautocinchonine, melting at 252°, strongly dextrorotary and forming a dihydriodide, $C_{19}H\ N_2O.2HI$, which crystallises in beautiful yellow needles, melting at 238°. Another isomer, which the author terms *e*-cinchonine, melts at 152°, and is dextrorotary $[a]d = 678°$. Two other isomers were also separated.

Adulterated Tea. A Home paper remarks:—Among the latest discoveries of the public analysts is that the Customs authorities are growing careless in the matter of the tea imported into our ports. There have been two prosecutions within the past few months for an alleged excess of foreign matter in samples of tea, but both of these were dismissed, and now there is another prosecution proceeding in which a small country grocer is being made to bear the expense of a scientific discussion as to how far the Customs authorities are doing their duty in examining tea. Of course, discussion of the case now before the courts is precluded. At the same time, it is a great hardship that retail grocers should have to bear the brunt of this battle.

Coffee Pests in the Straits Settlements. Among the pests reported from coffee plantations in the Native States of the Straits Settlements are the coffee locust and the Beehawk moth. The former did damage to coffee fruit trees, ferns and other plants. Specimens sent to the Natural History Museum, London, were identified as *Cyrtacanthacris nigrovaria*, Walk.—curiously, a very rare insect in entomological collections in Europe. It lays its eggs in slits in the bark of the trees, causing the death of the branches. Destruction of the adult by children with sticks, and clearing the adjacent land of grass was recommended. As to the Beehawk moth (*Cephanodes hylas*), the larva devours the leaves, and what was apparently the pupa of a sawfly was also sent from Selangor with samples of badly injured leaves. The borer caterpillar was also at work.

The Indian Cooly in British Guiana.

The *British Realm* for March states that in British Guiana at the present time some of the largest cattle holders are time-expired coolies. They own landed property and become absorbed in the general population. In short, the great majority of them do not desire to return to their native country, and it would be a graceful act on the part of the Indian Government to consent to the abolition of the return passage money in future contracts with the immigrants. The coolies themselves do not require the assistance nor do they ask for it; and even at the present time they are called on to pay a portion of their return passage money. But what the planters want is to be relieved of any liability in the matter at all. And, seeing that the importance of labour is a necessity, and that the coolies do not care about going back, it seems only reasonable that the Indian Government should give way, and abolish this extra tax on the production of cane sugar.

The Sorting of Teas.

The *Planter* writes:—It is now some twenty years ago that a leading firm of tea brokers in London wrote that much time and labour was unprofitably employed in sorting our teas into so many classes. It was pointed out that the grocer at home mixed back different teas to suit his own trade, and with the appliances in the shape of sieves and cutting machines which he had at command was able to cater for the consumers better than the planter could. The firm wrote:—"We look forward to the time when any ordinary Pekoe Souchong or unassorted tea possessing sterling quality in the cup, with an even leaf will be more saleable than teas as assorted at present." It is strange that that time has not yet come. Many important changes have been introduced, but we still go on assorting our teas according to the old classes. Will we ever save both time, trouble, and expense by sending home our teas practically unassorted?

Colombo Tea Sales.

On the 12th instant the *Times of Ceylon* reported:—"There were a million and three hundred pounds of Tea disposed of at to-day's sale at the Chamber of Commerce, this being the first sale after Easter. There was also a good demand for all grades of tea, and the prices were about firm at the prices realised at the last sale. In some instances a slight improvement was shown in Pekoe and Pekoe Souchoungs; and there was an improvement in the figures for dust of from five to eight cents. Messrs. S. J. Tokmakoff and Co., the new Russian tea buyers, in Colombo, were large purchasers to-day for practically all grades and also dusts. At 5-30 p.m. the sale was still proceeding.' Following this up on the 13th inst. our contemporary said:—"At yesterday's public sale of tea at the Chamber of Commerce Rooms abont 14,221 pkgs. = 1,161,679 lbs. was offered, of which about 12,238 pkgs. =993,523 lbs. were sold. Owing, no doubt, to a slight falling-off in quality noticeable in most of the teas offered at the sale, prices ruled rather easier than at last auction. The finest teas among the high-grown in the sale were: Middleton, St. John's, and Glassaugh. Among low-grown teas good invoices were offered from Glenmore, Putupaula, Pallegoda, Perth, Eila, and Rayigam."

Camphor Cultivation.

The *Times of Ceylon* remarks:—Those interested in experimental planting, and who are familiar with the camphor shrubs grown at Peradeniya, would be agreeably surprised if they visited the camphor plantation at Hakgala gardens. Cuttings planted two years ago are now vigorous trees; and the Superintendent has found that the twigs and leaves are as full of camphor as the maturer parts of the trees. Mr. Nock is naturally anxious to possess a distillery—which could be obtained at no great cost—to enable him to make experiments. He could then discover which months of the year are most favourable for extracting the greatest quantity of camphor and for taking cuttings. It could also be decided whether the prunings continued to be of value, or whether the present profitable condition of the leaves is only temporary. Last year several planters were supplied with cuttings sent in small baskets; and Mr. Nock, as soon as he receives the permission of the Director, is prepared to supply applicants during next month. The cuttings have to be well shaded for the first fortnight; and the best soil, we understand, is that which is well watered without being damp. Doubtless, instructions would be issued with each assortment of cuttings.

The Foochow Tea Improvement Company.

The *Foochow Echo* says:—The news of the winding-up of the Foochow Tea Improvement Co. comes as a great disappointment to us all. Any hope that remained of a possible revival of the trade rested on the chance of our being able to meet the demand in London and other markets for machine-made teas, and now that that has to be abandoned we are left with the gloomiest of prospects. The wish being father to the thought there are those who argue that the end is not yet, that there is nothing more certain to happen than the unexpected, that we need not despair. Who knows, they ask, that India and Ceylon will be able to meet the rapidly-increasing consumption of tea all over the world? Are there not such things as drought and blight, without referring to the arbitrary Indian exchange? Will not the Chinese see soon how greatly it would be to their advantage, as an economic measure, to do away with, or at any rate lessen, the heavy duty, likin and squeezes which have been killing the trade? These thoughts will be read by most of us as the dreams of despair. Nothing remains but to make the best of what is still left us and await the course of events; but in the meantime our thanks are due to the Tea Improvement Company for the time and money they have expended in their endeavour to revive our languishing trade.

Market for Queensland Coffee.

Some dissatisfaction (says the *Brisbane Courier*) has been expressed at Cairns with respect to the market for Queensland-grown coffee, and an endeavour made to enter upon a campaign to secure an increase on the present protective tariff of 4d per lb. Inquiry shows that the position of the coffee industry does not require any such retrograde movement as that suggested. Queensland coffee is highly spoken of, both by Harper and Co and by Thurlow and Co., and there is a very fair demand for it. But there has been a drop in prices, and Queensland growers are feeling the effect of it. Mr. Thurlow says that the Queensland coffee his firm has received shows a good liquor, but the bean does not seem sufficiently matured. It has not attained the size which might be expected with proper cultivation in this country;

but the trees are young yet. When roasted and ground the bean has given excellent results as compared with South American coffees; but it does not compare with either Ceylon or Java products. Mr. Thurlow has great faith in the industry here, and when in England recently he purchased machinery for hulling and dressing the bean, and will be prepared to treat the bean for growers or to purchase right out. The trade here consider that the present market price is the best that can be given for Queensland coffee.

Java Cinchona. From a report on the Government cinchona-plantations in Java it appears that the total production of Government bark in 1898 was equal to 715 tons; the whole of this had been shipped to Holland by the end of the year, with the exception of 4,783 lbs. of succirubra bark supplied to the Netherlands Indian Medical Service, and 12,200 lbs. of Ledgeriana bark sent to the Bandoeng Quinine works. The rainfall was greater in the last quarter of 1898 than in the corresponding three months of 1897. Soon after the rainy season had set in, the graftings at the Tirtasari plantations were attacked by disease, in consequence of which about 15 tons of wet bark had to be gathered in a month's time. The disease was checked as much as possible by removing and burning the parts affected. With regard to manure-experiments, it was found that stable-manure gave the best results, increasing the sulphate-of-quinine content by ½ to ¾ per cent., whereas sulphate of ammonia led to a lowering of the contents by 0·3 to 1 per cent. The net profit for the year made by Government is estimated at about 10,400*l*. The 12,200 lbs. of bark supplied to the Bandoeng Works averaged 6·115 per cent. of sulphate of quinine, so that the works had to supply to the Government 11,958 oz. of quinine sulphate. By thus supporting a young and struggling industry, the Government did not act merely in a philanthropic spirit, for, if the bark had been shipped to Europe and the quinine had been purchased in the usual way, the cost would have been over 400*l*. more. It is, therefore, anticipated that the supply of Government bark on a larger scale to the Bandoeng Works will be arranged, to the advantage of both parties.

The American Campaign. In a memorandum, dated 22nd ulto., Mr. J. Buckingham, Chairman of the Assam Branch Indian Tea Association, says:—With reference to the proposed withdrawal of Mr. Blechynden for the States, I am of the opinion that the Assam Branch of the Indian Tea Association should strengthen the hands of the Calcutta Tea Association by taking this matter up, and protest in the strongest terms possible against discontinuing the American Market Fund at present, or taking any of its funds towards introducing tea into other countries. In Messrs. Thomas & Co's report, dated 17th February, the following is stated: "America, increase 75 per cent. Exports from 1st April 1898 to 6th February 1899.—America, 2,459,964 lbs.; Exports from 1st April 1897 to 6th February 1898, 1,397,005 lbs." While agreeing with Messrs. Thomas & Co's remarks in the all importance of every one interested in the tea industry losing no opportunity of supporting the efforts that are being made to stimulate the demand for Indian tea in every habitable portion of the globe, still I think it would be premature to take any of the funds now given towards pushing tea in America and to apply them to other countries until a plan of campaign is clearly made out. Mr. Blechynden has done (contrary to the expectations of many) exceedingly good work for us in America and to act on the supposition that his work is over or even nearly so, would, I feel convinced, be hazardous in the extreme, not only weakening our hold in America, but risking the support we now obtain. Let Mr. Blechynden's opinion be asked how far we can relax our hold in America and should he support the London Association, then let a well-thought-out plan be arranged for the introduction of tea into other countries and, if necessary, further subscriptions asked for.

GENERAL ARTICLES.

LIFE IN JAMAICA.

A Chat with a Coffee Planter.

"Yes, I have been out now a considerable time," remarked Mr. ——, in answer to my question I was out for a saunter on the hills, and had suddenly dropped into a coffee plantation, and also across the chief. Curiosity in the first place had attracted my attention to the coffee-growers' haunts; and, secondly, being very partial to a good cup of that splendid beverage, I felt a considerable interest in the plant and its production and preparation for the table. I was fortunate in finding so ready and willing an informant as Mr. ——proved to be.

On leaving the drying-shed we wound our way by a narrow stony path up a steep hill-side, plentifully sprinkled with low bushes about the size of gooseberry trees, with broad dark green leaves, and well covered with little oblong-shaped berries, in most cases bright green, whilst several were ripe cherry colour.

"Well, you see," said my guide, in answer to my query on the plentifulness of the coffee berry, "the higher one gets the cooler it is, and the cooler it is the later the crop of berries Now, we have all sorts of land here—lowland plains, and hills, and even mountainous heights, and when the bloom is on the highland plantations the fruit is being gathered in the lowlands."

I was caught napping once or twice—well, I may say, inattentive—my attention being taken by the beautiful fertile mountain slopes, varied by pretty copes, and playful little waterfalls, whilst hundreds of large stones covered with various hued mosses relieved the monotony of flat places, which constantly met one's eye during our walk.

"Yes, it's a beautiful country," remarked Mr. ——, "and most productive, too. Out here east we get mostly oranges, bananas, lemons, and such like; whilst down west yonder, on the lower ground, sugar cane is vastly produced. It doesn't pay, though, as at perhaps should. The bounties and one thing and another make the foreign sugars come at a lower rate into English markets. Out here even it is landed from German and French refineries."

We had by this time climbed to a prominent height, from where a considerable distance could be seen beyond the bright sparkling waters of the harbour below, and a good bird's-eye view was obtained of Port Royal, at the end of a long strip of sand bank, with fever-stricken Kingston at the other in the near distance, at the immediate foot of the hill. After returning I was glad to sit and make a rough sketch on two to rest.

The branches of the coffee plant have different names. The principal is named the primary, the next—a branch of the first—the secondary, and so on, and when picking the berry it has been noticed that those growing on branches nearest the main stalk are larger and of more value than the fruit of the outlying stems.

The plantation calls for the greatest attention, every tree enquiring pruning once a year at least, and the ground has to be hoed and kept clear of deteriorating weeds very often. This, in addition to the labour of picking and cleansing the berry, and afterwards sorting and packing for shipment, means an outlay of a good round sum before roasting and grinding can begin. Therefore, when the coffee is ready for the table, it has caused employment for very many hands, and has been a big expense.

In Jamaica the industry is not at present so great as formerly. Many stations have closed and are closing, on account of the cutting down of market prices. My informer graphically demons-

trated this fact by a wave of his hand. Pointing up the mountain side, he said, "Within my memory this hill has been so thickly covered as to cut out a sight of the slope; now we have only these few plants at the base."

The cleansing process of the berry proved very interesting. The berry grows in a thick skin, and the valuable part is again enclosed in a thin brown husk. The two coverings are got rid of by two processes. First, the whole bean is passed through a machine, which crushes the berry slightly, and throws it into a trough of water, where it stays for some two days. A curious thing here happens. For the most part the berries sink to the bottom after being in water a little time, and those that do not sink are put aside as not being of the same value as the heavier ones. This done, the whole heap is spread out to dry in big square yards with concrete flooring. The greatest care must now be exercised, as, should a heavy shower of rain come on whilst drying, the subsequent flavour of the coffee is interfered with; so a weather prophet is almost necessary at this juncture. After carefully drying, the water-wheel is again brought into play. This wheel works two machines. The first we have noticed; the next is a kind of a mortar, into which the beans are put, and a big wooden wheel, copper edged, slightly crushes the berries and causes the thin husk to peel off, when it is blown away by a large fan kept in motion by the same water-wheel. From this machine the beans come in a fit state to be roasted. Previously, however, they are generally classified in different sizes, such as Nos. 1, 2, 3. For this purpose a long cylindrical measure of wire-netting is used. The whole of the beans are passed down the measure, and come out at the other end through the holes which "sizes" them.

If the berry has been kept for some eighteen months after thus prepared, it adds to its flavour, and hence its value. The Jamaican climate is not suitable to the produce of the finest brands of coffee, but a good aromatic berry is cultivated.—*Leeds Mercury.*

CEYLON TEA ON THE CONTINENT OF EUROPE.

Mr. S. Philip, Secretary of the Thirty Committee of the Planters' Association of Ceylon, has forwarded to the press the following :—

Extract from a letter from Mr. M. Bremer to Mr. J. P. Ryan, Hotel Beau-Rivage, Ouchy, Lausanne, March 25th, 1899.

You asked me the other day at Milan to let you know how Rogivue was getting on. He is now in Switzerland establishing agencies for Jas. Finlay and Co., and they want him to do the same in Germany. He sells and advertises Ceylon tea chiefly, and there can be no doubt that the conversion of his business into a company, with a man like Sir John Muir as chairman, has enabled him to push our teas far more successfully than he was able to do when working on his own account. He now has capital as his command, and money is not stinted for advertising. His whole time is taken up in travelling between Moscow, Constantinople, Switzerland, and London, in all of which places M. Rogivue and Co. have established themselves. I enclose some circulars, &c., to show you what is being done. Thousands of sample packets, circulars, &c., are sent out. I had no idea that he had done so much for Ceylon until we went into details, and there is no doubt he is deserving of every support which the Thirty Committee can give him. Of course he is making a good thing for himself; but his opportunities for making our teas known are now so many that the more we can help him the more we shall help on ourselves. I have been travelling about the country with him, and have seen how he is able to push business. His teas are A.-1, and are so superior to what the people have been accustomed to get that every day brings in fresh orders from people who have tasted the tea at some friend's house. In Russia he has spent a lot of money in sending out thousands of elegant little tea-pots, marked Ceylon tea and with directions for making, also thousands of photographic cards, and this year thousands of very attractive-looking and useful tea-caddies are going out. He is quite enthusiastic over it. It is most gratifying to find such enthusiasm. Rogivue told me that the money he had received from the Tea Fund was a mere nothing compared with what he had spent in advertising. If he applies for assistance in Switzerland, I hope his application will be granted, as I am sure the money will be well spent. There are all sorts of people pushing tea here; but they are nearly if not all agents for London blending houses, and do not make such a speciality of Ceylon as Rogivue does.

COFFEE STATISTICS.

TOTAL VISIBLE SUPPLY OF THE WORLD IN TONS.

	1898	1897	1896	1895	1894	1893	1892	1891
Jan. 31 ..	357,670	235,080	196,200	158,670	145,124	178,418	163,420	130,379
Feb. 28-29 ..	357,100	234,310	179,200	157,080	138,907	178,550	160,446	115,565
March 31 ..	364,240	250,730	157,210	162,040	137,773	202,251	175,837	123,333
April 30 ..	340,010	256,290	151,270	184,580	132,633	210,622	188,496	105,906
May 31 ..	328,250	249,660	147,820	182,900	131,053	197,656	185,230	103,278
June 30 ..	324,720	238,540	150,320	182,980	128,770	185,519	177,980	113,328
July 31 ..	338,230	266,240	176,060	172,530	132,270	182,809	165,477	123,727
Aug. 31 ..	387,070	314,970	195,370	186,390	157,470	193,626	163,417	132,319
Sept. 30 ..	402,800	354,270	219,300	194,410	169,560	166,882	156,753	158,731
Oct. 31 ..	418,970	361,220	219,890	193,810	188,140	147,679	162,065	151,820
Nov. 30 ..	410,390	374,870	233,020	197,150	163,640	147,739	160,462	140,958
Dec. 31 ..	387,090	370,000	239,060	205,560	159,630	147,064	183,467	160,287

VISIBLE SUPPLY OF COFFEE

	on January 1st 1899.	*1898.*	*1897.*	*1896.*	*1895.*
	Tons.	Tons.	Tons.	Tons.	Tons.
Stocks eight European markets.	224,500	170,150	98,750	100,600	69,150
A float to Europe from Brazil ..	22,010	39,420	28,290	16,930	15,300
„ the East ..	1,580	1,840	3,500	4,340	2,780
„ U. S. A. ..	710	470	650	410	410
	248,800	211,880	131,190	122,280	87,640
Stocks U. S. of North-America..	54,000	54,000	29,880	27,940	18,880
A float to U. S. A. from Brazil ..	30,590	30,290	20,760	15,820	15,760
„ the East ..	650	1,000	1,530	1,760	880
	334,040	297,170	183,360	167,800	123,160
Stocks in Rio ..	14,880	22,180	19,940	13,880	12,120
„ „ Santos ..	37,940	50,650	35,760	23,880	24,350
Total ..	386,860	370,000	239,060	205,560	159,630
On December 1st..	1898.	1897.	1896.	1895.	1894.
	410,290	374,870	233,020	197,150	163,640

CACAO DISEASE.

Certain authorities in Trinidad attach less importance than Mr Carruthers does to pod disease in Cacao. Messrs. A. P. Marryat (Chairman), J. Carmody, F.I.C., F.C.S., Government Analyst, and J. H. Hart, Superintendent of the Government Gardens, considered in Committee the subject of "Cacao Pod Disease," and laid the following report before the Agricultural Society, Trinidad, on the 14th ultimo.

At the meeting of the 14th February after discussion on the so-called "Cacao pod disease," the Committee appointed a Sub-Committee to make a Report, dealing with the various facts brought out in the discussion, and to invite further information from members of the Society.

The opinon of the Sub-Committee is as follows :—1. That the malady is due to a fungus, the precise species of which is being investigated at Kew, but that pending a longer term of observation and of a series of experiments, it would be premature to make too positive assertions, as to its origin and growth. 2. Experienced planters state that they have in certain seasons, known the pods to be similarly affected any time during the past 25 years. Much depends on the nature of the soil. November and December are the worst months, especially if cold, wet, and a northerly wind follow a hot Indian summer. With the dry weather the fungus disappears. 3. There is no evidence to show that the Cacao tree itself is in any way affected by the malady of the pods and to all appearance a perfectly healthy tree may be laden with diseased pods. The fungus has not been observed to penetrate or damage the bark, even when a diseased pod is lying against the trunk. 4. The experiments which the Government Botanist has found time to make, unfortunately only on a limited scale, prove conclusively :—*a.* That a sound pod inoculated from a diseased pod, readily takes the malady and becomes rotten in a week to ten days. *b.* That pods in the immediate neighbourhood of the inoculated pods, though purposely wounded with a knife, were not affected. It has yet to be proved that the malady is infectious.

5. It having been shown that a wounded pod readily accepts inoculation, it is obvious that the fungus may be carried and spread by rats, bats, squirrels, wood-peckers, insects, etc., which attack the pod.

6. Assuming this to be possible, the origin and the home of the malady may not be far to seek. The Government Botanist in visiting an estate by request, noticed within a narrow radius of the "breaking" grounds, a greater number of black pods, than in other parts of the cultivation.

7. In some Cacao countries (Surinam and Central America), the practice of breaking the pods in the field itself, and of allowing the shells and refuse to remain and rot on the ground as in Trinidad, is unheard of. The pods are picked and carted to the "works," then broken, and the refuse placed on the manure heap and properly treated. To ask the planter in the hilly districts to adopt this system, would be too great a tax on the labour and stock at his disposal, but pending further investigation, and as a matter of precaution, it is recommended that the following procedure be adopted:—(1) Where burning is not practicable, to cover all refuse with soil and bury it, or otherwise *completely* destroy it. (2) Or the "broken" pods may be chopped up small and covered with quick or temper lime. This in time would form a safe and valuable manure. (3.) All pods showing signs of attack should be carefully collected and destroyed. The probable home and nursing ground of the fungus would thus be destroyed.

8. In conclusion, the Sub-Committee is inclined to think that an undue importance has been attached in certain quarters to the question of disease amongst Cacao, which would never have arisen but for the publication of Mr. Carruthers' Report on Ceylon Cacao disease.

Complaints of the same character have arisen in Trinidad from time to time for many years past, but so far as can be ascertained no serious loss has occurred; but the question having been raised, the committee is of opinion that it should not be allowed to drop until thoroughly investigated.

It is highly probable that conditions of season have a great influence on diseases of the nature above discussed, and that given more favourable conditions, no more will be heard next year of "Cacao disease"; but bearing in mind that prevention is better than cure, the Cacao planter will do well to put himself in the position of the prudent householder, who when rumours of fever are in the air, looks to his sanitary arrangements and sees that his surroundings are kept sweet and clean.

P.S.—It will materially assist the committee if members whose crops during the past three months have suffered from "black pods," will put in writing their experience, coupled with suggestious and forward them to the Secretary Mr. E. Tripp.

PRODUCE AND PLANTING.

Tea and Coffee in America.—Although the people of the United States are not large consumers of tea, the representatives of the Indian and Ceylon tea-planters have yet considerable scope for activity, for China last year supplied 44·4 per cent. of the total imports of tea into the United States. Perhaps when the art of judicious blending with China is thoroughly understood, and the advantages from the point of view of purity which Indian and Ceylon tea possess, as compared with China, make a deeper impress upon public opinion, business will develop more rapidly. The Americans are, on the whole, coffee-drinkers, and the consumption of coffee was never larger than at present, although less than 4·4 per cent comes from India and Ceylon. The United States Government's official record of imports for the calendar year 1898 show gross imports of 804,250,988 lb.; exports, 23,231, 141 lb.; leaving net imports of 781,019,847lb., against 787,561,585 lb. in 1897, 621,429,664 lb. in 1896. This shows an average annual net import for three years, which practically represents consumption of 730,003,632lb., or over ten pounds per capita. Of the total imports of coffee 75.6 per cent. came from Brazil, 20 per cent. from the West Indies and other South American countries (except Brazil).

The "Magnificent Tea Industry."—This pamphlet, while attacking the policy of the Indian Government, pats the Indian tea-planter on the back. It says: "It would be far better for the Indian Government to spend part of its present surplus in teaching its subjects how to grow an improved stock of sugarcane and how to extract and manufacture the sugar by scientific methods. It is by means of scientific cultivation and scientific manufacture that the magnificent tea industry of India has been built up, and by the same means India could quickly create a sugar industry that no other country could rival. Instead of helping in the development of such an industry Lord George Hamilton proposes to throw India back upon methods of sugar production that were already ancient when the Honourable East India Company first received its charter from Queen Elizabeth."—*The Home and Colonial Mail.*

PLANTING JOURNALISM.

Apropos of the announcement of the result of our "*plébiscite*," the *Planter* recounts some of its own experiences in the matter of endeavours to meet the taste of its readers. Our contemporary's file of letters appears to bear a striking resemblance to our own. We could match some of the epistles almost word for word. The *Planter* discourses thus:

Planting Journalism is surrounded by difficulties; it is impossible to please everyone. In our issue of 31st December last, when we made somewhat of a new departure and introduced one or two innovations, we wrote in the opening "Echo" that we were aware of this difficulty, and were mindful of the tale of the old man and his ass. Looking back on former experience on this and other planting journals, it is amusing to note what widely different grounds the inevitable letters of complaint take. "Your paper is not so interesting as it used to be," wrote one correspondent; while another, whom we knew to be a well wisher of the journal, gave expression to his thoughts by penning us the following lines:—"I venture to say that, after a hard day's work, a planter likes better to see the opinions and letters, etc., of his fellow-planters, and an occasional bit of poetry (which can be thoroughly appreciated by a planter), than a whole lot of statistics and matters of record, which his eye skims over as a rule." Then he adds, "I think planters ought to assist you, and write articles and letters, etc., as far as possible, otherwise they have themselves to blame for not assisting you and thus getting a most interesting and instructive paper." We say "Amen" to this most sincerely. A "deficiency" pointed out by a third correspondent was that the journal "was too heavy. More light reading, to wile the weary hours away, is desirable: planters cannot always swallow nothing but tea." Recently, one of our oldest contributors deserted us, because "the *Planter* was getting too beastly scientific." Another adviser writes:—"Yours is a Tea paper, and there should be nothing but Tea in it. If we want light reading we can get it elsewhere."

An old contributor, formerly on the staff of the first tea journal, writes: I remember well a visit from another class of objector,—he was a shareholder. He remarked that he subscribed to the ——— for its lists of tea sales, its share market reports, and for its comments and reports upon the publications of public tea companies; and he protested with much warmth that we had not been "pitching into people" so much lately as of yore. I endeavoured to explain to our irascible friend that many grievances had been remedied, that the detailed management of tea companies had very considerably improved, that yearly reports and accounts were presented now, generally speaking, in a fuller and more explanatory manner than they were years ago,—although there was still room for improvement in this respect; and that economy had been carried out in Agency offices (on behalf of the companies they represented) as well as on factories. Our most troublesome critic was, however, a stolid old gentleman, who called at the office one day, and after an "all-embracing" harangue, wound up by saying:—"You don't give sufficient *statistical* information. Yours is not only a journal of current information on tea topics, but as I understand it, is a journal of *record;* so that a man shall be able to turn over the pages of your back volumes, and find particulars, which would otherwise be scattered here and there and everywhere, even if obtainable at all. Yours is not a newspaper; we have got more than enough of them and to spare. What we want is an accessible *record* of everything concerning the tea industry *especially* in the way of *statistics*."

Many cases might be given, most of them expressing the most directly contrary opinions, but from the few cited it will be seen that the position of any "class" journal is subject to much difficulty. In our opinion a journal devoted specially to planting has hitherto, and will always, find itself in the position which the well-

known fable of "The old man and his ass" has made so familiar to all of us. No journal can possibly please everybody. There will always be croakers of all sorts, but the paper that recognises it has a large field for usefulness before it, and does its best, according to the light afforded it, and the experience of its editor, should eventually be able to hold its own, and gain the appreciation of the majority. Planters have it in their power to aid their brethren very much by supporting a planting paper and by an interchange of experiences, but many seem strangely indifferent to the general advantage which would follow from this. Why this is so it is difficult to understand, but such is the fact. When the first tea journal was started. it was remarkably the eager rush there was on the part of planters to ventilate their views in its columns. There were always several pages of correspondence. This may have been owing to the men never having until then enjoyed the luxury of an organ of their own. The novelty of the thing appears to have long since worn off, that is, as far as Indian planters are concerned. Our Ceylon *confrères*, however, put us to shame They appear to have lost no interest in their special organs, which are always full of correspondence on all sorts of planting subjects, and always respond to any appeal for information. In scientific subjects we find that men possessing special knowledge are only too willng to impart it, as far as they can, to their less-informed brethren. We trust there may gradually be a revival of the old interest that was at one time so *practically* apparent, and that planting journals will have no reason to complain of their being required "to make bricks without straw" owing to the paucity of active contributors.

TEA, &c., COMPANIES.

Tyroon Tea Co., Ld.—Crop 1,918 maunds, average sale price 6 as. 11 p. gross, against 7 as. 11 p. the previous year. Profit Rs.4,834-13-2. Proposed dividend 4%. Estimated crop for 1899 about 2,000 maunds, with Rs.35 per maund.

Chundeecherra Tea Co., Ld (Sylhet).—Outturn 2,998 maunds, average price 5 as. 7 p. as compared with 5 as. 11 p. in 1897. Profits Rs.3,783-0-10. Estimate for 1899, about 3,500 maunds.

Eastern Cachar Tea Co.—Outturn 5,238 maunds, average price 5 as. 7 p. Loss Rs.4,675-11-9. Estimate for 1899 about 6,000 maunds.

Gielle Tea Co., Ld.—Outturn 1,579 maunds, average price 7 as. 6 p. Estimate for 1899 is 1,600 maunds.

Dessai & Parbuthia Tea Co., Ld.—Outturn 262,880 lb. An amalgamation has been effected between the gardens of this company and the Koleapani Tea Estate, as from the 1st January 1899.

Naga Dhoolia Tea Co.—Outturn 134,412 lb., average price 7 as. 1·22 p. Loss Rs.33,397-6-8. Estimate for 1899 is 180,000 lb.

Iringmara Tea Co.—Outturn 205,641 lb. Loss Rs.18,339-9-11. Estimate for 1899 is 240,000 lb.

Nahorjan Tea Co., Ld.—Outturn 131,210 lb., average price 6 as. 9·55 pies. Loss Rs.3,741-13-3. Estimate for 1899 is 148,000 lb.

Balijan Tea Co., Ld.—Outturn 329,032 lb., average price 10$\frac{11}{32}$d. Proposed dividend 7%, making 10% for the year. Estimate for 1899 is 306,000 lb.

Samanbagh Tea Co.—Crop 6,506 maunds, average price as. 5·3$\frac{1}{2}$ Profit Rs.14,905-10-7. Estimate for 1899 is 6,400 maunds.

Cutlacherra Co., Ld.—Outturn 1,745 maunds. Loss. Rs.10,031-11-4. Estimate for 1899 is 1,800 maunds, probably showing a loss of Rs.19,318-7-0.

The Eastern Produce & Estates Co, Ld.—The Eastern Produce & Estates Co. Ld., have declared a dividend of 4$\frac{1}{2}$ per cent. per annum.

The Balijan Tea Company, Limited.—The following is from the report of the directors that was to be persented to the shareholders at the sixteenth ordinary general meeting on 6th inst:—The manager's estimate was for a crop of 304,000 lb. The actual production was 329,032 lb., whilst the garden expenditure was below the estimate. The whole of the crop was sold in London, the average price realised being 10 11-32d. per lb. The accounts for the year, after charging the whole of the new machinery account brought forward from last year, viz., £758 11s. 7d., and the proportion chargeable on permanent building account, show a profit of £5,164 16s. With the sum of £4,242 6s. 5d. brought forward from last year (and after deduction of *ad interim* (dividend) there is a total of £6,462 2s. 5d. to the credit of the profit and loss account, out of which the directors recommend the payment of a final dividend of 7 per cent., free of income-tax, which, with the *ad interim* dividend of 3 per cent. paid on December 14 last, will make a total dividend of 10 per cent. for the year 1898, and leave £4,257 2s. 5d. to be carried forward. The manager's estimate for 1899 is 306,000 lb. of tea at a cost of Rs.1,02,954, which is equal to about 5 annas 4 pies per lb. at the garden. This includes the sum of Rs.11,250, which is the estimated outlay on permanent building account. Mr. C. T. K. Roberts retires by rotation from the office of director, and being eligible offers himself for re-election.

Meenglas Tea Company, Limited—The following is from the report of the managing agents:—The audited accounts for 1898 show a profit on the year's operations of £5,096 18s. 10d., carried to the credit of profit and loss account. Out of this sum an *interim* dividend of 3 per cent. has already been paid, and a further £600 added to reserve. It is now proposed to pay a final dividend of 5 per cent., leaving a balance of £1,218 2s. to be carried forward. The comparison of results for the past four years shows satisfactory progress, and is as follows: 1895, £2,875 16s. 3d.; 1896, £3,016 8s. 5d.; 1897, £3,644 7s. 7d.; 1898, £5,096 18s. 10d. Crop for 1898 was estimated at 600,000 lb., and the garden made 604,028 lb. This compares with 586,950 lb. in 1897, and 579,936 lb. in 1896. The average price obtained was 7.59d., as against 7.5d. in 1897, and 7.19d. in 1896. The area under plant at end of 1897 turned out on survey to be 888 acres, to which about 60 acres were added during 1898, thus making the total 948 acres Cost of this extension has been paid out of revenue as will be observed on reference to the accounts.

DISTRICT ASSOCIATIONS.

COORG.

Proceedings of a General Meeting of the Coorg Planters' Association, held at the Bamboo Club, Pollibetta, on Monday, 13th March 1899. Present:—Messrs. E. M. Breithaupt, W. Davies, G. L. Duncan, J. W. Finlayson, G. C. Garrett, H. G. Grant, R. Hamilton, Jas. Hume, O. Jones, A. Lambert, John Logan, H. M. Mann, H. Marriott, H. Robinson, W. H. Sprott, A. J. Wright, W. R. Wright and H. G. Parsons, Honorary Secretary, and

By proxy.—Messrs. W. M. Ball, H. F. Davy, C. G. Maclean, C. E. Murray-Aynsley, A. W. Ogilvie, J. S. Trelawny, and A. H. Wood.

Mr W. H. Sprott in the Chair.

Travellers' Bungalow at Pollibetta.—Read correspondence between Commissioner of Coorg, Executive Engineer and Honorary Secretary. Recorded. The Meeting not accepting the reasons given as sufficient, it was resolved, however, to take no further steps in the matter.

Pollibetta Hospital.—Read correspondence between Commissioner of Coorg and Honorary Secretary. Recorded, with regret that the Government were unable to do more in the matter.

Read extract forwarded by Commissioner of Coorg, dated 4th February 1898 (? 1899) from report of Civil Surgeon on Veerajapett Civil Hospital. Read Honorary Secretary's reply, dated 6th February, which was approved. The Association were unable to accept the statement without figures in support, and the Chairman remarked that he had urged Government, when making returns, to differentiate between coolies and estate coolies.

Plague Measures.—Copy of rules had been received by all. Chairman as member of Sanitary Board would watch interests of planting community. Action of the S. Coorg Medical Fund and correspondence with Government read and cordially approved by Association

U. P. A. S. I. Circulars.—Read letter from Chairman, U. P. A., dated 2nd February 1899 *re* resolution of Government of India on report of Committee of Inquiry, which was approved. This Association are, however, of opinion that, until the draft Act by the Government of Madras has been submitted, it is unnecessary to further discuss the terms of the resolution.

Land Record Cess.—The Honorary Secretary had received no reply to his letter, dated 6th January 1899, but had been credibly informed that it was the intention of Government to charge the salaries of certain Revenue officials to the department and in this way to work off all surplus.

Hatti-Madapoor Bridges.—A commencement was to be made on this important work and Rs. 5,000 had been allotted for the purpose. —*Recorded.*

Subscriptions.—The Honorary Secretary pointed out that the Association year ended on 31st May and that there were some Rs. 650 due for subscription which, according to the rules, should be paid in advance.

New Members. Proposed by Honorary Secretary, seconded by Chairman, that Messrs. H. Steel and W. R. Wright be elected members of the Association.—Carried *nem. con.*

Resignation of Honorary Secretary.—Mr. Parsons informed the Meeting that, as he hoped to leave for England in April, this would probably be the last Meeting he could attend. As the year ended on 31st May, the Chairman had kindly consented to carry on the work of the Association until an Honorary Secretary could be appointed at the Annual General Meeting.

In bidding farewell he would here take the opportunity of thanking all those who had evinced interest in the Association, and for the hearty support accorded to him for the past five years—five years of interesting work,—but at times somewhat exacting—and greatly increased owing to the foundation of the U. P. A. S. I. It was satisfactory, however, to hand over the Association with a membership roll that had risen from 63 to 80, and it was an honour to have represented a body commanding such respect as is due to its organisation.

In conclusion, although retiring from active work, his interest would not relax, and anything he could do for the Coorg Planters' Association would be willingly done.

There was one subject the U. P. A. S. I. might well take up, and that was an arrangement with some shipping company for cheaper passages to coffee-planters on the same lines as conceded to tea-planters,—this is eminently a U. P. A. question.

The CHAIRMAN, in appropriately returning thanks to the Honorary Secretary for his work for the past five years—work that he knew was not light,—asked the Meeting to agree to his acting temporarily, which was cordially approved. Mr. Logan seconded the vote of thanks to the Honorary Secretary, with whom he had had the pleasure to work for two years.

The following papers were laid on the table, and with a vote of thanks to the chair the Meeting ended.

H. G. PARSONS,
Honorary Secretary.

PAPERS LAID ON THE TABLE.

1. Report on Public Instruction in Coorg for the year 1897-98.
2. Précis of answers to the U. P. A. S. I. circular *re* ladybirds.
3. Proceedings of a Committee Meeting of the Shevaroy Planters' Association held on Monday, the 5th December 1898.
4. Wynaad Planters' Association. Proceedings of a General Meeting held at Meppadi on 14th December 1898.
5. Wynaad Planters' Association. Proceedings of the Annual General Meeting held at Meppadi on 4th January 1899.
6. Shevaroy Planters' Association. Proceedings of a Committee Meeting of the Shevaroy Planters' Association held on Monday, the 9th January 1899.
7. Shevaroy Planters' Association. Proceedings of a Quarterly General Meeting of the Shevaroy Planters' Association held on Monday, the 9th January 1899.
8. Central Travancore Planters' Association. The Annual General Meeting of this Association was held on Saturday, the 21st January.
9. Nilgiri Planters' Association. Proceedings of a General Meeting held at Ootacamund on January 27th, 1899.
10. Shevaroy Planters' Association. Proceedings of the Committee of the Shevaroy Planters' Association held on Monday, the 6th February 1899.
11. Wynaad Planters' Association. Proceedings of a Committee Meeting of the Wynaad Planters' Association held on 8th February 1899.
12. Shevaroy Planters' Association. Proceedings of a Special General Meeting of the Shevaroy Planters' Association held on Monday, the 13th February 1899.
13. Shevaroy Planters' Association. Proceedings of an Adjourned Special Meeting of the Shevaroy Planters' Association held on Monday, the 20th February 1899.
14. Wynaad Planters' Association. Proceedings of a General Meeting held at Meppadi on 1st March 1899.
15. The Coorg Plague Rules. (Issued under Chief Commissioner's Notification, No. 24, dated Veerajapett, 17th February 1899).

CENTRAL TRAVANCORE.

The Quarterly General Meeting of this Association was held on Saturday, the 8th April, at 9-30 A.M. at the Garrady Goody Bungalow. PRESENT:—Messrs. R. H. Goldie (*Chairman*); F. Bissett; W. H. G. Leahy; B. Laurie; H. S. Holder; L. G. Knight; D. MacArthur; Hon'ble V. B. Wilbraham, and A. E. Veale (*Honorary Secretary*).

The minutes of the last Meeting having been taken as read, the Chairman called on the Honorary Secretary to read the Report for the year ending 31st December 1898, which was as follows:—

MR. CHAIRMAN AND GENTLEMEN.—Owing to the unfortunate illness and consequent absence of Mr. Baker, our late Secretary, from the Annual Meeting of this Association, no Annual Report was presented to the Meeting. I have therefore drawn up a short report of the past year's proceedings to act as a substitute and which, I trust, will meet with your approval.

Finances.—Our expenditure for the year amounted to Rs.*2,880-1-4* inclusive of our donation of Rs.*1,000* to the American Market Fund, as well as Rs.*200* for the expenses of our delegate to Trivandrum, an item which does not often occur. The year closed with a credit balance of Rs.*77-9-0.*

Medical Fund.—Owing to the depression from which our Industry is suffering, we found ourselves unable to maintain so costly a Fund; the Fund was accordingly wound up, the Travancore Tea Estates Company taking over the Dispensaries and who make a charge for medicines, &c., to outsiders making use of the Dispensaries.

H. H. Government was approached on the subject of appointing a fully-qualified medical man to the District and acceded to our request by appointing Dr. Joseph, to whom we guarantee a sum of not less than Rs.100 per month, in addition to his grade pay as remuneration for the extra work entailed on him in visiting members of this Association.

Telegraph.—The Director-General of the Telegraph Department informed the Association that the extension of the line from Peermaad to Kumili was too costly to be undertaken.

In reply to our enquiry as to whether Telegraph stamps could be affixed to all telegram receipts, the Director-General stated that such a procedure was opposed to all Post Office rules; it was, however, optional for the sender of a telegram at a combined Post and Telegraph Office to send telegraph stamps in payment, and if sent to the full amount, the upper halves of the stamps would be affixed to the receipt.

Our share of the telegraph subsidy for the year ending March 31st, 1898, amounted to Rs *157-2-7*, a slight decrease on the previous year, and there is every reason to suppose that it will be still less this year.

Plague.—This terrible epidemic has, I regret to say, spread further south, and has, for months past, been spreading over towns in the Madras Presidency. With a view to prevent its outbreak in this state, H. H. Government have drawn up certain rules and regulations to which every one should pay strict attention.

Currency.—This most difficult of questions has been frequently before us. Mr. Acworth ably represented South Indian Planters before the Currency Commission.

The Report of the Commission is, I believe, to be published early in June and is anxiously awaited by all Indian producers.

American Market Fund.—We again subscribed largely to this Fund and have done so every year since it was started. From statistics furnished me by the Secretary of the Indian Tea Association, I find we are the only Tea Association in South India that has regularly subscribed.

That other Tea Associations should fail to support the Fund is much to be regretted.

That this Tea campaign so ably conducted by Messrs. Blchynden and Mackenzie is deserving of support from every Tea Planter is, I think, amply evidenced by the fact that the consumption of Indian and Ceylon Tea in America has increased from 3,000,000 lbs. in 1892 to over 13,000,000 lbs. in 1898.

Cattle Trespass.—Much annoyance and damage to the property of certain members of this Association by cattle trespass caused us to apply to H. H. Government for the erection of a cattle pound in the vicinity of the estate thus troubled. H. H. Government have accorded their sanction, and a site for the pound has been fixed on near the Kuttakarnum Chutram.

Roads and Bridges.—This is a subject which engages no small amount of our attention every year. I think we must all agree, however, that the roads have of late improved; but much still remains to be done. At the same time I fail to understand why large quantities of metal have been broken, if it is not to be spread. For months past it has been almost impossible—I may even say dangerous—for a horse to pass a cart, or for two carts to pass one another on certain roads, more especially on the Carrady Goody Hill—a road none too wide in itself to admit of any portion of its width being blocked by heaps of broken metal.

With regard to the bridges in the district, I do not think that I have ever seen them in a more dilapidated and unsafe condition than they are at present, and I trust the Chief Engineer will lose no time in putting them in thorough order before the approach of the monsoon.

Railways.—A light tramway line is shortly to be constructed from Ammayanayakanur to Uttamapolium and will eventually be extended to Kuravanooth. If rates for goods over this line are sufficiently low and when taken into consideration with the cheaper steamer freights always to be obtained at Tuticorin, no doubt some estates, more especially those on the eastern side of the district, will send their tea to Tuticorin for shipment rather than as at present to Cochin.

The promoters of the line expect considerable progress will have been made in its construction by the end of the current year.

Obituary.—We have to deplore the death of one of the oldest members of this Association—Mr. J. Burrows—who passed away early in the year. Deceased was on the point of leaving for England when death overtook him.

A. E. Veale,
Honorary Secretary.

Proposed by Mr. Laurie and seconded by Mr. Holder, that the Report be adopted. Carried *nem. con.*

Correspondence.—Read Honorary Secretary's letter, No. 3, dated 27th January 1899, to the Dewan of Travancore *in re* outlet roads to certain estates.

The Honorary Secretary informed the Meeting that although he had sent two reminders to the Dewan, he had not as yet been favored with a reply.

Read Honorary Secretary's letter, No. 1, dated 27th January 1899, to the Dewan *in re* Cottyam landing stage and Dewan's reply intimating that the matter had been referred to Chief Engineer for report. Recorded.

Read Honorary Secretary's letter, No. 2, dated 27th January 1899, to the Chief Engineer *in re* bridges.

The Chief Engineer, in reply, informed the Honorary Secretary that he had issued strict injunctions for the Pambanaar and Elephant bridges to be completed before the monsoon. Recorded,

Read letter No. 38/99 from Secretay, U. P. A. S. I., *in re* the proposed labour ordinance to be drafted by the Madras Government in accordance with the resolution of the Government of India regarding the report of the South India Planters' Enquiry Committee. Recorded.

Read and approved Honorary Secretary's letter, No. 25, dated 15th February 1899, in reply.

Read and recorded Honorary Secretary's letters Nos. 21 and 75, dated 12th February 1899, and 17th March 1899, to the Chief Secretary, Madras Government, *in re* Pulliar Suttu Bridge on the Kumili Ghât, to which no replies had been received.

Mortality on Roads.—Read letter from Cardamom Hill Magistrate giving cover to one from 1st-Class Magistrate of Peermaad suggesting certain rules to be framed by H. H. Government for prevention of mortality on roads.

The Honorary Secretary was instructed to inform the Cardamom Hill Magistrate that the suggested rules met with the approval of this Association, but that they objected to Peermaad being called feverish, as the District, taken as a whole, certainly was not so. Proposed by Mr. Leahy and seconded by Mr. Bissett,—"That "H. H. Government be asked to erect shelters on the main road from "every 10 to 15 miles for the use of coolies travelling to and from "the District." Carried *nem. con.*

Medical.—Read letter from Mr. H. D. Deane on subject of Association's guarantee to Government Medical Officer, and Honorary Secretary's letter in reply. The action taken by the Honorary Secretary was approved and it was resolved that the matter be left in his hands.

Kotwal-Glen Mary Tea Case.—The Honorary Secretary informed the members that he had sent the Britsh Resident copies of all complaints, and was now awaiting his reply.

Game Laws.—Mr Holder drew the attention of the Meeting to the way in which big game of both sexes was being exterminated and the numbers of persons now to be seen prowling around the confines of estates with guns intent on butchery.

Only recently a cooly had been shot by some person unknown who had been trespassing on the Woodlands Estate. In fact, it was becoming positively dangerous on some estates to walk along the roads even in broad day-light.

He therefore proposed. and Mr. Laurie seconded, the following resolutions, which were carried unaminously:—

(1) "That members of this Association do view with alarm the "manner in which game is being exterminated in the district and "do agree to do their utmost to prevent the possession of guns by "coolies and canganis on their respective estates and in every way "to try and protect the game surrounding them."

(2) "That the Dewan be requested to confer the powers as laid "down in Section 4 of the Travancore Game Preservation Regula- "tion on all members of the Committee of this Association."

It was further resolved: "That members' attention be drawn to "Section 3 of the Travancore Game Preservation Regulation."

The Pambanaar Arrack Shop.—Mr. Leahy in moving, "That the "1st-Class Magistrate be requested to have the arrack shop at the "Pambanaar removed to the Arooday, which this Association "considers to be the most suitable position for it and where it will "be under the surveillance of the Police," said this arrack shop was a source of constant danger and annoyance. Unlimited credit was given to coolies and canganis and he knew of one instance in which a cangany had been allowed to run up a bill of Rs.80. Drunken brawls were of frequent occurrence and in which Government subordinate officials were partakers.

People leaving the shop at night in a drink-sodden condition were in the habit of carrying naked lights, and having to pass, as they frequently did, many valuable buildings, it was a matter for surprise that some of them had not been burnt. Mr. Laurie, in seconding the proposition, endorsed the remarks made by Mr. Leahy, and stated that he too was a sufferer from the shop being within easy reach of his estate.

The proposition was carried *nem. con.*

Local Magistrate.—Proposed by Mr. Bissett and seconded by Mr. Veale:—"That the Honorary Secretary do write to the Cardamom Hill Magistrate with reference to the manner in which Europeans are treated by the 1st-Class Magistrate when attending his Court." Carried *nem. con.*

Artisans' rates of Pay.—Mr. Veale, in bringing forward this subject, said that they would all remember that at the last Meeting the Chairman had expressed a wish that rates of labour should be discussed during the present year. Up to now this Association had given but little attention to this subject, although it was one well within the province of an Association such as theirs. He thought it was a good thing to fix rates of labour for the guidance of members. By fixing a rate he did not wish to make it absolutely binding, but that members who found themselves from various circumstances obliged to break the rate, let them at once inform the Honorary Secretary or Chairman.

With regard to artisans' rates of pay, they had two classes of carpenters and masons in the district, *viz.*, (1) Cochin (principally Eurasians) and (2) Natives. Now the former invariably demanded Re.1 per diem and they certainly, in his opinion, were not worth it. They were certainly more lazy and sometimes inferior workmen; whereas the latter received anything from As. 8 to Re.1 per diem, according to their capabilities.

Sawyers, too, demanded higher rates of pay in the Periyar and on the eastern side of the district. The higher rate had come in when the Periyar Irrigation Works were in course of construction.

The time had come when every Planter should combine to reduce rates to the lowest possible: he therefore proposed—

(1) "That the rates for *all* carpenters and masons be fixed at the "rate of Re.1 per diem for the maistry and at As. 12 or less for the "remainder of the gang, according to their capabilities."

(2) "That the rate for sawyers be fixed at chs. 4 (chuckrams "four) per Thowaday or at Rs.4 per 100 superficial feet."

(3) "That members breaking the rate for any reason whatever "shall immediately inform the Chairman of the fact."

Mr. Goldie having seconded the propositions, they were carried *nem. con.*

Election of Committee Members.—Messrs. W. H. G. Leahy and H. D. Deane were by ballot elected to fill the vacancies on the Committee.

Removal of Sircar Buildings.—Read and approved letter from the Cardamom Hill Magistrate. Proposed by Mr. Holder and seconded by Mr. Wilbraham: "That Bleak Head be the local Magistrates' "bungalow and that the Sircar buildings at the 45th mile be "converted into a Travellers' bungalow." Carried *nem. con.*

Post Office Receipts.—Proposed by Mr. Bissett and seconded by Mr. Laurie: "That the Postmaster-General be requested to "have the names of senders of all V. P. parcels, registered articles "and unregistered parcels placed on the receipts." Carried *nem. con.*

The Chairman (Mr. R. H. Goldie) before closing the Meeting expressed his pleasure at the interest taken in the Association by every one and that although there were not as many members present as usual, he thought they had had a most successful meeting.

With a vote of thanks to the Chairman and Honorary Secretary the Meeting terminated.

The following papers were laid on the table:—

Proceedings of the Wynaad Planters' Association (3).
Do. Nilgiri do. do.
Do. Shevaroy do. do.

Indian Tea Association.—Sundry advertisements from Mr. Blechynden's statistics shewing amount subscribed by S. Indian Association to the American Market Fund.

1898. Original crop estimates and actual outturn, No. 67-0.

1898. Exports of Tea from Calcutta, No. 70.

Indo-Ceylon Section of the Paris Exhibition of 1900.

American and Foreign Committee's Interim Report for 1899.

U. P. A. S. I. Sundry circulars *in re* the proposed labour ordinance.

Travancore Government Gazette, Vol. 37, Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13.

Planting Opinion, Vol. 4, Nos. 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13.

PEERMAAD, *April* 13th, 1899.

A. E. VEALE,
Honorary Secretary,
Central Travancore Planters' Association.

NORTH MYSORE.

Proceedings of the Annual General Meeting of the Planters' Association, held at the Club, Balehonur, 22nd March, 1899.—PRESENT: Messrs. H. Edgington, O. Scot. Skirving, P. Reed, J. Harvey, L. Kingchurch, W. Maynard, H Pilkington, H. Campbell, F. Clifford, F. J. Parton, *Honorary Secretary.* VISITORS: Dr. Adolf Lehmann (*Agriculturist Chemist to the Mysore Government*) Dr. Pereira.

Mr. F Clifford, in the absence of the President, Mr. E. C. Bolton, took the Chair.

The accounts of the year having been audited by Messrs. E. Leslie and H. Edgington were passed.

The Honorary Secretary then read the Annual Report as follows:-

GENTLEMEN.—On behalf of your Committee I have much pleasure in laying before you the Annual report for the year now ending.

Accounts.—The Accounts of the Association are in a satisfactory condition The income derived from subscriptions amounted to Rs.1,593-11-0. The expenditure to Rs.1.483-8-6, and there is now a total credit balance of Rs 2.013, of which Rs.1,000 is allotted to the Reserve fund.

I regret to say that there are still 8 estates which have not yet paid their subscriptions for '9[illegible]-'99, but hope to receive them ere long.

Crops this year have been good, but any satisfaction we may feel on this account, is fully counterbalanced by the poor prices our coffee is now realizing.

The Plague has been very severe in several districts of the Province, but I am glad to say that during the year there have only been some four or five imported cases in this district but although we have not directly felt its baneful influence, we have done so indirectly, for it has interfered with the completion of various public works more especially those in connection with our communications. These, I regret to say, do not seem to have made any progress or improvement since this time last year. The Tadsa bridge, I understand, will not be ready for traffic until 1901, and the railway to Terrekerri and Shimoga, it is rumoured, will not be opened until October. As regards our roads, your Committee intended to represent at the Durbar the bad condition of the Terrekerri-Mangalore road between milestones 12 and 22 of the Balehonur-Aldur road, also of the inconvenience caused to our members residing on the Santaverri side by the non-completion of the Baboodan hill road. On the latter subject Mr. Oliver interviewed the Dewan, by whom he was requested to put the matter into writing. This I did on December 15th but up till now no reply has been received.

Chemical Manures.—You will have read in the annual book of Proceedings of the United Planters' Association that the Imperial Government had removed the import duties on certain chemical manures, *viz.*, Muriate of Potash, Sulphate of Ammonia, and Kainit Salts. The Imperial Government also has sanctioned the appointment of Dr Adolf Lehmann as Agricultural Chemist to the Mysore Government for a period of five years, and I am glad to say that he is now present amongst us, and I feel sure that we shall all benefit by his advice. The Currency Commission are now drawing up their report, but it seems, however, to be a foregone conclusion, that exchange will not be allowed to drop again below 1s. 4d and if the Imperial Government succeed in obtaining a large gold reserve, as they now seem bent on doing, it will, in all probability, continue to rise.

The Planters' Enquiry Commission.—The Government of India has at last instructed the Madras Government to draw up a Draft Bill based on Act V. of 1856 to alleviate the loss suffered by Planters in the Native States of Southern India.

Our planting Member of Council, the Honorable Mr. H. P. Hodgson, thinks that the matter will be discussed when the local Government go up to Ootacamund in April. We hope that Government will submit their proposals before they become law to the United Planters' Association, for the matter is of supreme importance and Act V., as it now stands, is in no way suited to our requirements.

Coffee-stealing.—No cases of coffee-stealing this year have been brought to the notice of the Association, in spite of the fact, that placards offering a reward of Rs.100 for information leading to the conviction of receivers of stolen coffee, were posted in the principal villages of the district. The absence of claims for the reward does not, I fear, mean that coffee-stealing has in any way abated.

The Maharajah passed through Koppa on his way to Shringerri, in December, and your Committee presented him with a short address of welcome which he was pleased to accept.

Mr. Carr, our popular Deputy Commissioner, is shortly going home on leave. We wish him a pleasant journey and trust it will not be long before he returns to Chickmaglur.

Our thanks are due to Mr. Frank Clifford for representing us on the Local Board Fund, and it is to be hoped that he will consent to continue his services for another year.

During the year under review there have been four Committee Meetings, the Proceedings of which are laid on the table together with some correspondence on various interesting matters.

In conclusion, your Committee begs to place its resignation in your hands and asks you to elect office-bearers for the ensuing year.

The Honorary Secretary then read an address from Mr. E. C. Bolton, who was unable to attend owing to illness.

GENTLEMEN,—At the last General Meeting held in this Club in the 1st March, 1898, you paid me the high and, unexpected compliment of electing me your President for the year that has just drawn to a close, and before resigning my office, it is my duty to render you some account of my Stewardship such as it has been, and I wish to take this opportunity of expressing my own sense of my shortcomings in so responsible a position, which I must ask you to attibute rather to my inexperience than to any lack of interest in the welfare of your Association.

I feel thankful that it is not my painful duty as it was that of my predecessor, to have to allude to any deaths among your members during the past year, and trust we may enjoy immunity in this respect for years to come.

The dark cloud that hung over the planting industry this time last year threatening to bring ruin to us all, has, we may congratulate ourselves, to a considerable extent rolled by, and the crop just gathered may be considered satisfactory by us all, but—there is always a "but," gentlemen,—the prices at present ruling for our produce in the London Market have, to a great extent, discounted the good returns for the past year.

The report just read to you by the Honorary Secretary has reviewed in detail the several measures that have engaged the attention of your Committee during the year just concluded, and those brought forward and discussed prior to August last were embodied and given effect to in the proceedings of the U. P. A. at the Annual Meeting in Bangalore.

It will be unnecessary for me to remind you of the good work that is being done by the U. P. A. in the interest of every Planter of every product in Southern India, and I would refer any one who is at all sceptical on this point to the proceedings of the parent body, published annually. The two most important subjects that have engaged the attention of the U. P. A. for some time are the Currency Question and the South Indian Planters' Enquiry Commission. With regard to the former there is nothing to say. The Commission at present sitting has not yet concluded its labours, and some time must elapse before we know whether the present ruinous and fictitious value of the Rupee is going to be maintained by the Government of India, thereby bringing practical ruin on every producer in this country I hesitate, gentlemen, to ask you to consider what will be the future position of every one of us in this room with a 16*d*-Rupee and pea-berry selling at 95s.

With regard to the Enquiry Commission you have all seen by the papers that Government propose to amend Act V. of 1866, which has hitherto been practically a dead-letter. Your Committee at its last meeting went carefully through this Act, clause by clause, and I think I am only echoing their opinion in saying that the amendment will have to be of a very drastic nature to suit our requirements in any way. However, until we know definitely the precise nature and extent of the proposed amendment, it would be premature to pass final judgment. This, Gentlemen, is all I have to say; but, before closing my remarks, I would ask you to pass a cordial vote of thanks to the Honorary Secretary of the very able way in which he has discharged his duties during the past year, and I can only say the Association is very fortunate in having secured the services of one who gives so much of his spare time, and so much of his spare energy in promoting the interests of your Association, and I am sure we are all greatly indebted and obliged to him.

I regret extremely that I am unable, through ill-health, to attend your Meeting to-day to give an account in person of my year of office, which I need scarcely say is a better disappointment to me. In tendering my resignation I would add that my movements are somewhat uncertain, as I may be leaving for Home about this time next year.

But should there be any desire on the part of the members to re-elect me, I am willing to accept office, and do my best to justify the honour.

Mr. O. Scot Skirving proposed, and Mr. H. Edgington seconded a hearty vote of thanks to Mr. Bolton and Mr. Parton for their services as President and Honorary Secretary, dwelling on the time and thought they had most evidently given to the work of the Association during the past year. Carried *nem. con.*

The Committee was then balloted for with the following result:—*President*:—Mr. O. Scot Skirving; *Members*—Messrs. C. Brown, W. Maynard, F. Parton, H. Pilkington, C. Bonner, and F. Clifford.

Mr. O. Scot Skirving thanked the Members for the honour done him in electing him President and agreed to undertake the Presidentship for the year.

Read letter from Mr. G R. Oliver *re* the buying and selling of coffee advocating the use of English weights as a standard, stating that at present the Mangalore maund is 28¾ lbs. English, and a candy 576 lbs. instead of a maund of 28 lbs. and a candy of 560 lbs. It is true that the native lb. is 40 rupees weight and the English 39 rupees in weight, but even then the difference is not calculated correctly, and, as it is presumed that English weighing machines are used by all planters and firms, it is an anomaly that native weights should be used.

Resolved that the Honorary Secretary address the South Mysore Planters' Association, and, in the event of their agreeing to co-operate that all Curing Agents be addressed on the subject.

Tolls.—Proposed by Mr. F J. Parton and seconded by Mr H. Pilkington, that this Association regret that the Government of Mysore deem it necessary to place tolls on the various larger bridges in the district, tolls being considered by many as detrimental to the distribution of grain.

Resolved that Government be addressed on the subject.

Agricultural Chemist.—Mr. O. Scot. Skirving proposed a cordial vote of thanks to the Mysore Government for appointing an Agricultural Chemist, and expressed the very great pleasure Dr. Adolf Lehmann's presence at the Meeting gave him.

He hoped that Government would enhance the boon already granted in Dr. Lehmann's appointment by establishing his head-quarters in Chickmaglur. He hoped also that Dr. Lehmann would kindly favour the Meeting with any remarks which at this stage he felt disposed to make on the science of Agricultural Chemistry that might have bearing on the cultivation of coffee.

Mr. F J. Parton, in seconding Mr. Skirving's proposal, hoped that, after Dr. Adolf Lehmann had made arrangements with the Mysore Government for the construction of a Laboratory, that he would be able te spend a long visit in the coffee districts and see for himself the physical and climatic conditions under which our coffee is grown.

Mr Chairman and Gentlemen,—I thank you for the honour you have done me, in inviting me to be present at this Meeting, and I wish to take this opportunity of expressing to you, and to all the other Planters it has been my privilege to meet, my gratitude for the hearty welcome which you and they have given me.

It would be useless to mention to you the objects of my visit to this estate, but I ought to say that my present tour is only a preliminary one, and simply for the purpose of becoming acquainted with some of your difficulties.

As I have been barely two months in India, I am in a large measure unacquainted with your climate, and have examined your soil with a mamootie only, I know practically nothing of the peculiarities of the coffee tree, and have not had the opportunity of making a single experiment, so it would be presumptuous on my part to speak to you on any of the subjects which lie nearest to your hearts. I should, however, like to ask for your support and co-operation in the work which the Mysore Government has asked me to undertake.

The Laboratory work will suggest methods or, in other cases, test results, but a part of the work will have to be carried out on experimental plots, or on your plantations. I hope that some experimental plots will be established, yet the great difference in climatic and other conditions in the state, make the experiments conducted on your own estates, other things being equal, of greatest value to you. I should be glad therefore if you would undertake some experiments for yourselves, and I shall of course give you all the assistance that lies in my power.

The subject of fertilizers is one that has been much spoken of. As you know, plants are composed of compounds of various elements, some of which are essential, or necessary for the growth of the plant, others are simply accidental or taken up because they happened to be present in the soil. The plant is not dependant on the latter. It could grow, if they were not present, but if any of the former were missing the plant could not grow. I doubt of their being any soil in Mysore in which one of those essential elements is absolutely absent, still there are probably districts in which plants suffer, because their roots are not able to obtain as large a supply of one or other of these constituents as is necessary for the perfect growth of the plant. It suffers from partial starvation. As you are aware, this starvation is generally due to the absence of available compounds of either Potash, Phosphoric Acid, or Nitrogen; one or more of these compounds, or possibly some other compound like lime, may be lacking, or, in other words, the particular plant to be grown may be unable to assimilate a sufficient quantity, for there is a difference in plants as well as a difference in soils; some plants, for example, can readily assimilate from a particular soil all the Potash they require, while another crop, on the same soil, would readily respond to a Potash fertilizer.

For a crop, the peculiarities of which are well known, an analysis of a soil may suggest the particular fertilizer which would give best results, but a chemical analysis is by no means absolutely necessary for finding out the requirements of the soil. You can easily do this on your estates.

"The proof of the pudding is in the eating." If a crop is benefited by a certain simple fertilizer it is evident that the soil was lacking in that particular plant food in so far as this particular crop was concerned, but in order to ascertain whether a fertilizer has had a beneficial effect or otherwise we must leave a part of a uniform piece of land, treated in every other respect in the same manner, unfertilized. To my mind an advisable way of conducting these fertilizing experiments would be to select as uniform a piece of coffee (uniform shade-soil-coffee, etc.,) as possible,

apply to a narrow strip, say, 20 or 40 feet running straight down the hill, a certain fertilizer, leaving a similar strip next to this unfertilized, follow this by a strip to which another fertilizer has been applied. Every strip to which a fertilizer has been applied will thus be separated, by a similar strip, of unmanured soil, which will serve as a standard for comparison. I shall not take up your time with any further remarks on this subject, but hope you will do me the honour of writing to me when you have time. The extent and the object of the experiment will have to determine the particular fertilizers used, and the rotation in which they are applied.

I should esteem it an honor if you would permit me to consult with you whenever you contemplate making an experiment, however small it may be. While speaking of fertilizers, permit me to say that the more evenly and the more intimately it is mixed with the soil (other things being equal) the better the results are likely to be.

Of course you know that certain fertilizers, such as Sulphate of Ammonia and Lime, ought not to be mixed together, as it would result in a loss of Ammonia; and that Saltpetre ought never be applied either just before or during the monsoons, as a heavy shower of rain would cause it to be washed away. But I am not yet in a position to say what would be the best time of the year to apply it. This might vary for different seasons and localities and would depend to some extent on whether the coffee requires a period of rest during the hot weather or not.

On the subject of digging, mulching, and green manuring, I hope to have something further to say later on. If my first impressions are true, it would be well to try and allow the leaves to remain on the surface as long as possible.

But I must not occupy your time any further, as I hope to have the privilege of attending some of your future Meetings.

After a vote of thanks to Dr. Lehmann for his most interesting address, and the usual vote of thanks to the Chairman and Honorary Secretary, the Meeting broke up.

(Signed) F. J. PARTON,
Honorary Secretary.

SOUTH MYSORE

The Annual General Meeting was held at Munzerabad Club, Saklaspur, on the 30th ultimo :— PRESENT: F. Lonsdale Allen, R. A. Anderson, Graham Anderson, C.I.E., I. E. Butcher, W. L. Crawford, I. G. Crawford, Thos. Hunt, W. Lowder, C. Lake, A. R. Park (President), E. M. Playfair, S. Sladden, and R. Taylor. Visitors—Messrs. Barclay and Roffey.

The President informed the Meeting that owing to sudden and severe indisposition, the Honorary Secretary, Mr. J. A. Harris, was unable to attend, and called on the Vice-President (Mr. Playfair) to read the following Annual Report :—

GENTLEMEN,—It is my pleasant duty to report that the somewhat gloomy forebodings expressed early in the year have not been realised, and that the season, on the whole, has been a moderately good one. The advices of sales of East India that have reached us indicate a depressed state of the market, which, owing to the increasing production in different parts of the world, seems likely to continue for some time. The cardamom crop was above average, but prices were lower, ruling from Rs.50 to Rs.60 per maund. Leaf disease has been less prevalent than for some years past. Crop prospects for the coming year are favourable, and the rain, which fell in February, has not, on the whole, been prejudicial.

The PLAGUE.—The terrible outbreaks of this disease in several parts of the Province have been an appalling feature of the past year, and the efforts of Government to stamp it out have been watched by this Association with sympathy as well as anxiety. It is satisfactory to notice how suddenly it collapsed in Bangalore, and it is hoped there will soon be a subsidence in Mysore. We may congratulate ourselves that it has so far practically been shut out of Kadur and Hassan, and our thanks are due to the Deputy Commissioners of these Districts and to those working under them for their untiring efforts in establishing and working an effective organisation.

Should members complain that the Association has achieved little during the past year, I would ask them to remember that the executive purposely refrained from action which would in any degree have harassed Government at a time when it was contending with this epidemic.

S. I. P. E. C.—The Resolution of the Government of India have been before you for some weeks. From the time taken in coming to a decision, one might have expected a fuller and more conclusive statement. It is satisfactory, however, that the general tenour is favourable, but, as was pointed out by the Chairman of the U. P. A., it is of the highest importance that, should a labourer be allowed to rescind his contract, the forfeit money should be deterrent and that six months' notice should be given. As regards the extradition proposals, if Government will not recognise Breach of Contract as a non-bailable offence, I think Magistrates should be obliged to inquire into the *bona fides* of the security offered. This, be it noted, is of equal importance with respect to cases within the jurisdiction of the Courts issuing the warrants. There appears to be no such obligation laid down in the Criminal Procedure Code. As regards the "other safeguards" referred to, it is advisable that we should endeavour to prevail on Government to make these as simple as possible, as otherwise the procedure might be found so cumbersome as to deter employers from applying for warrants.

AGRICULTURAL CHEMIST.—The outcome of the various discussions that have taken place, as far as Mysore is concerned, is the appointment of Dr. Lehmann, the Dewan exhibiting in the matter his accustomed liberal-mindedness All those who are interested in Agriculture cannot fail to be gratified at the appointment of so highly-qualified a Chemist, and I hope shortly we may learn what course the Durbar intend pursuing as regards his work. Meanwhile he has lost no time in showing a desire to become acquainted with the local circumstances, as is seen by his present visit to this District.

U. P. A. S. I.—I refer you to the "Proceedings" for full particulars of the business of the year. Since their publication two matters of interest have been the subject of correspondence :—

(1) *The Classification of Coffee* :—As Reuter now quote Mysore as well as other qualities, our wishes in this respect have been met, and as regards uniform sizing, it appears that the meshes in use are as nearly similar as the variations in size and shape of beans will admit.

(2) *Co-operation.*—This idea is a natural result of bad seasons, low prices, and high exchange. Whether practical or not, it is worthy of consideration, but if any scheme should take shape, it seems to me it would be wise at first to limit its operations to distribution, or, say, to promoting the sale of our produce in India, England or elsewhere.

CURRENCY.—The report of the Committee will probably be issued in the course of the year. There seems little doubt that they will pronounce in favour of a fixed exchange, and a future gold standard.

ROADS AND COMMUNICATIONS.—*Railways.*—Sanction for the extension of the line from Arsikere to Hassan has not yet been received. The Durbar still appear to hold the construction of the line to the West Coast in contemplation, but what route, and what gauge will eventually be adopted, and when it is likely to be commenced, are matters for conjecture only. It was announced in the *Madras Mail* some months ago that a Company had been formed for the purpose of introducing *Light Railways* into the Province, and I addressed a letter to Government at the time urging them to support the project, but am without further information.

Roads.—I reported the bad state of the Nudigiri-Saklaspur road, with special reference to that portion lying between the river and the Waddenhulla bridge, and immediate attention was promised. The Executive Engineer of the Hassan Division informs me that five miles of the Hanbal-Devarunda road have been traced, that the remainder will be done this season, and then the project will be submitted for sanction. Work has been resumed in a perfunctory manner at the north end of the Saklaspur-Chickanhully road after a most inconceivable delay, but the matter of compensation as regards some of the lands through which the trace passes is not yet settled (as is, I believe, the case with the Hanbal-Devarunda road) which might lead one to suppose that the Land Acquisition Act had been rescinded! The extension of this road to Chickmaglur was approved by the District Board, and an estimate has been called for.

Anjur Bridge.—I regret to say that the site has not yet been decided on, and that further delay in the construction of this urgently-needed work is inevitable.

Post Office.—I have reported several cases of irregularity, but there has been no result whatever, and I have come to the conclusion that it is useless to attempt to expose P. O. shortcomings. Such a state of things is not creditable to the higher officials.

Police.—General inefficiency and dilatoriness on the part of the Police have not infrequently been brought to my notice during the past year. Of specific complaints, one is the delay in serving warrants, and the difficulties placed in the way of maistries and others sent with them. I have reported this, but can record no improvement. Another is the failure of Inspectors, Jemadars and Daffadars to visit estates during the picking season, and it is alleged in some quarters that even Constables fail to call on their beat. I suggest that a strong representation be made to the Inspector-General regarding the general inefficiency and unreliability of the Malnaad force. The horrible murder of a Baskull cooly, returning from Mudigiri, after cashing notes, calls for prompt and intelligent investigation. I trust the perpetrators will de apprehended and convicted, for, if this crime should go undetected, as several of a like nature have done, lawlessness will run rife and a feeling of insecurity prevail.

Forests.—I have written the Chief Conservator of Forests to enquire if grants of land for cardamom cultivation have been made in the forests of Kubbenhully, Bisleh and Kemphully, and await his reply.

Local Officials.—At the request of certain members I have laid a serious complaint before the Deputy Commissioner against the officials of the Saklaspur Taluq Cutcherry, and an investigation has been promised. Great inconvenience has been experienced in the Belur Taluq owing to the Amildar not being invested with second-class powers. I have urged these being given, but sanction has not yet been received. In important taluqs of this description it is essential that high-grade Amildars should be appointed on whom there need be no hesitation about conferring such powers.

Medical.—As soon as the authorities are less occupied with plague, the matter of a European doctor in Chickmaglur should be taken up, and a scale of fees to be charged by Medical Officers of all grades in the District be submitted to the Senior Surgeon. The Civil Surgeon has promised to provide accommodatien for in-patients in Saklaspur and Mudigiri hospitals.

Members.—Messrs. Stewart, Woodbridge, Daly, H. M. Playfair and C. F. de Salis have resigned, and Mr. S. J. Wilson has joined the Association.

Accounts—Are laid on the table and show a balance of Rs. 287-9-0 at credit. I beg to place the resignation of my office in your hands, and, as I shall be going Home in April, do not offer myself for re-election.

The Report having been unanimously adopted, Mr. Graham Anderson, C.I E., then made the following remarks :—

Gentlemen,—I feel sure that every planter in Southern India is rejoiced to find that, after nearly 30 years of negotiations, the Government of India has been fully impressed with the justice of all that has been represented after studying the elaborate Report of the Southern India Planters' Enquiry Commission. In due course the various Planting Associations of Mysore will doubtless have opportunities afforded of studying drafts of the improved legislative arrangements which are to be substituted for the unsatisfactory and unintelligible laws which have hitherto existed and which have frustrated the objects for which their provisions were specially extended to the Planting Districts, by encouraging unscrupulous individuals to become dexterously dishonest. We in Mysore are specially gratified to learn that the beneficial influences calculated to result from the peculiarly favourable position of the Mysore Province, which is entirely surrounded by the territories of the Paramount Power, will in the future cease to be neutralised by the absence of equitable and reciprocal facilities for the execution of warrants and extradition We feel sure that sympathetic consideration will be bestowed on all arrangements which will be made for this Province in which the conditions under which industries are conducted differ considerably from those existing in Ceylon, Assam and other Planting Districts. We may feel perfectly confident that, in consultation with the Durbar, the Government of Madras will not experience any insurmountable difficulty in arranging for the maintenance of cheap, prompt and efficient justice as between man and man, be he employer or employee, and that with the clearly defined object of restraining unscrupulous individuals nothing will be permitted which be distasteful to those who have constant congenial employment always to offer, or which will in any way unduly sacrifice the freedom and best interests of hundreds of thousands of the labouring peasantry upon whose welfare and work the developments of industrial success entirely depends.

The Accounts were audited by Messrs. Butcher and Lake and passed:—

The Proceedings of the last General Meeting were then confirmed and signed by the Chairman.

U. P. A. S. I. Subscription.—Resolved that the amount to be subscribed be left to the discretion of the Committee.

U. P. A. S. I. Delegates.—Messrs Graham Anderson, C.I.E., G. Horne, and W. L. Crawford were elected.

Honorary Members.—Carried by acclamation that the Deputy Commissioners of Hassan and Kadur, the Sub-Divisional Officer of Saklaspur, and Mr. G. E. Ricketts, Assistant Conservator of Forests, be invited to become Honorary Members.

Postal.—Proposed by Mr. J. Crawford and seconded by Mr. Playfair that the Association urge the authorities to retain the P O. at Bellagode.

Committee.—The present members were re-elected.

A vote of thanks to the retiring Honorary Secretary was proposed by Mr. R. A. Anderson, in the following terms, and unanimously carried:—

"We are about to say good-bye for a time to Mr. Harris, our Honorary Secretary, who leaves shortly to enjoy a well-merited holiday in England. I feel sure I merely give expression to the sentiments of all my brother-planters when I venture to wish him and Mrs. Harris a most pleasant voyage and every possible pleasure and happiness among other friends and relations at home. Mr. Harris has performed the duties of Honorary Secretary of our Association for several years past and has won the esteem, regard and gratitude of our community for his devotion to his work, his proverbial courtesy and the untiring energy with which he has maintained the usefulness of this Association. During his term of office he has had to deal with many most difficult subjects, and whether we remember his speeches or peruse his written communications, we cannot fail to admire him as a most tactful and painstaking man of business in every way worthy of the unqualified confidence which he has always enjoyed. I feel perfectly sure that the successes which have been achieved during the period of his incumbency may, in a very large measure, be attributed to the prudence and skill which have at all times characterised the negotiations which it has been his duty to conduct for the maintenance and improvement of planting interests generally. I beg, therefore, to propose a most cordial vote of thanks to Mr. Harris and to assure him that we one and all most highly appreciate the valuable services which he has rendered during his tenure of the office of Honorary Secretary to this Association."

Mr. Park was elected President and Mr. Playfair, Honorary Secretary.

A vote of thanks to the Chairman closed the Proceedings.

MARKET REPORT.

Per Mail advices of 31st ultimo.

COFFEE.

The *London Commercial Record* says:—There is no improvement to report in this market. Colory qualities of all descriptions continue in fair request, but there is still a downward tendency for less desirable samples, and sales are made with difficulty. With regard to East India the feature of interest has been the first important sale of Naidoobatum; there was a good demand for the bold which sold at full prices, but great irregularity for the second size, some of which met with good competition at very full rates, whilst others were cheap. Costa Rica and Guatemala, which comprised the bulk of the catalogues, experienced a further fall of 1s. to 2s. per cwt A quiet tone has prevailed in futures, and prices shew a slight decline, closing as under:—

London	Santos	July delivery	29s 0d
New York	No. 7 Rio	„ „	5.15 cents
Hamburg	Santos	„ „	29 pf.
Havre	Santos	„ „	35 francs
Holland	Good ordinary Java		27 cents.

Imports Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
Tons	14,976	11,655	8,990	10.183
	Home Consumption.		Export.	
	1899.	1898	1899.	1898.
Tons	3,519	3,422	4,902	4,702

The preceding figures exhibit—

In the Imports a decrease this year of 1,193 tons
Home Consumption an increase of 97 ,,
Export an increase of ... ... 200 ,,
Stock an increase of ... ... 3,321 ,,

This week's auctions have passed as under:-

East India.—1,384 bags offered and mostly sold as follows: *Naidoobatum*, smalls 41s 6d to 47s 6d, middling to good middling 61s to 75s 6d, bold to extra bold 92s to 106s, pea-berry 85s 6d to 106s; *Mysore*, smalls 39s.

Costa Rica.—7,857 bags catalogued and about 4,000 bags sold—smalls 28s to 48s 6d, good to fine fine ordinary 34s 6d to 46s 6d, low middling to middling greenish colory 48s 6d to 60s, good to fine middling colory 62s 6d to 89s 6d, bold 73s 6d to 88s. very fine blue 92s to 101s 6d., pea-berry 51s to 103s 6d.

Guatemala.—1,039 bags mostly sold—smalls 26s to 27s 6d, fine fine ordinary 42s 6d, low middling to middling greenish colory 47s to 54s, good middling 58s, good bold greenish colory 75s 6d to 77s 6d, fine hard deep blue bold 92s, pea-berry 83s

Colombian.—987 bags offered about half sold - smalls 23s 6d to 32s, fine fine ordinary 44s to 47s, low middling to good middling bright gray 49s to 56s 6d, good middling faded gray and foxy 60s to 61s, bold colory greenish 64s 6d to 68s, bold mottled gray 70s 6d, good blue 75s 6d, pea-berry 40s to 53s.

Mexican —Of 199 bags offered only 40 bags sold—smalls 25s 6d, good bold blue 80s, pea-berry 58s 6d to 84s.

Venezuelan.—71 bags mostly sold—middling soft blue 54s 6d, bold ditto 69s 6d.

Salvador.—13 bags bought in.

Porto Rico.—167 bags withdrawn.

Bolivian.—35 bags bought in.

Receipts in Rio and Santos.

	1898-9.	1897-8.	1896-7.	1895-6.
Bags	7,461,000	9,136,000	7,388,000	4,710,000
Crop	—	10,461,000	8,680,000	5,489,000

Rio Exchange $6\frac{29}{32}$d, previous day $6\frac{7}{8}$d.

Bank rate 3%. Bombay Exchange closes at 1s. $\frac{31}{32}$d. Brazil Exchange $6\frac{29}{32}$d. Rupee paper $3\frac{1}{2}$% $67\frac{1}{8}$. Silver $27\frac{7}{16}$d. per oz.

Prices realized at auctions for some of the principal marks of East India :—

MYSORE.

	0	1	2	3	PB	T
Hossully Mysore		70-0 bid	49-6 bid	39-6 bid	88-0	36-6
Harris's Chick Mysore ...		90-6	62-0	44-0 bid	96-0	49-0
Jeccan U ◇ Mysore		72-0 bid	54-0	40-0	87-0	33-0
Do. do.		77-0	55-0	41-0	80-0	33-0
Kudunuhully Mysore ...	97-6	73-0	55-6	—	104-0	55-0
Maynard's Mysore RDB□ ...	no bid	48-6 bid	39-0	—	77-0 bid	34-0
Netrokul Mysore	no bid	46-0 bid	30-6 bid	—	no bid	32-6
Godanhully Mysore	92-6	60-6	41-6	—	95-6	46-0
MP&Co ◇ Barekodie Mysore ...	no bid	48-0 bid	36-0	—	82-6	33-0
Maynard's Mysore Devarakhan ...	no bid	47-0 bid	36-0	—	no bid	31-0
Hoolihundloo Mysore ...		no bid	53-0 bid	48-0 bid	85-0	38-0
MP & Co. Mackenzies Mysore ...	70-6 bid	47-0 bid	39-0	—	no bid	33-6
K T T Mysore	—	88-6	57-0	45-0	90-0	40-0
Merthi Cannally Mysore ...	76-0	54-0	35-0	—	70-0	33-6

	0	A	B	C	PB	T
Chetenhulli Mysore	86-0	66-0	56-0	—	89-0	50-0
JP & HB Guntanaik Mysore ...		no bid	49-0 bid	35-0 bid	76-6	32-0
Yellagode Mysore	70-6 bid	52-0 bid	40-0	—	83-6	31-0
Archully Mysore	86-0	59-6	45-0	—	91-6	34-0
Belgode Mysore	63-0	46-0	38-6	—	66-0	30-0
Murgaddi Mysore		62-0 bid	43-0 bid	36-0	79-0	32-6
A. S. Mavinkola Mysore ...		no bid	no bid	39-0	no bid	30-0

SHEVAROY.

	A	B	C	PB	T
Brooklands Shevaroy S ◇	80-0	53-0	—	75-0	—

NAIDOOBATUM.

	A	AA	B	C	PB	T
Hope WPC ...	104-0	97-6	74-6 75-6	46-6	106-6	—
Kelly WPC ...	103-6	93-0	65-0	45-0	88-0 bid	—
Helen WPC ...	99-0	92-6	61-6	43-6	86-0 bid	—
Tulloes WPC ...	104-6	98-6	64-0	44-0	87-0 bid	—
Barwood WPC ...	100-0	92-0	61-0	41-6	86-0 bid	—
Barham WPC ...	99-6	90-0	60-0 bid	43-6	84-0 bid	—
Lauriston WPC ...	99-0	96-6	60-6 60-0 bid	44-6	85-6	—
Guynd WPC ...	106-0	100-0	68-0 69-0	47-6	104-0	—
Do. ...	100-6	90-0 bid	61-6 bid	44-0	81-0 bid	—
Naiduvatum T ...	45-0 to 57-0					

COORG.

	A	B	C	PB	T
Koorghully	84-0	62-0	45-0	93-0	35-6
Aynsley	87-6	62-0	40-0	90-0	38-0
Mangles Covercoly Mountain ...	92-6	70-6	56-0	102-6	53-0
Mangles Hallery	84-0	57-6	39-6	89-0	37-0
Mangles Alicutty Mountain ..	84-0	55-6 bid	40-6	91-0	37-6
Faith Coorg	114-0	102-0	86-0	132-6	67-6
Mangles Santagherry	83-0 bid	58-0	37-0	92-0	43-6

NEILGHERRY.

	A	B	C	PB	T
Westbury	no bid	46-0 bid	37-0	63-0	—
Tuttapollium W ◇	65-0 bid	47-0 bid	37-0 bid	no bid	35-0

WYNAAD.

	A	B	C	PB	T
Panora Peak	67-0 66-6	49-6 49-0	38-0	82-6	33-6
Do.	65-6 65-0	48-6	40-0	81-0	33-6
Errumaculla	64-0 bid	46-6	37-6	71-0	32-6
Colarie	62-0 bid	46-0	33-0	69-0	32-6
Wynaad P & Co.	65-0 bid	51-6	36-0	80-0 bid	31-6

NELLIAMPATHY.

	A	B	C	PB	T
Nelliampathy Manalaroo	74-0	52-0	35-0	83-0	633

TEA.

Indian.—On account of the near approach of Easter, auctions were held only on Monday, when 21,100 packages were offered, compared with 30,700 packages in the previous week and 27,800 packages at this period last year. Buyers were very eager to secure all descriptions under 9d per lb., which were again dearer, while medium to fine Pekoes met with better competition. The enquiry for Broken Pekoes on the other hand continues somewhat limited, particularly for tippy parcels over 1s per lb., which now look comparatively cheap.

For 17,700 packages on Garden account $9\frac{3}{4}$d per lb. was obtained versus $7\frac{1}{2}$d per lb. for 19,400 packages, and 8d per lb. for 14,900 packages in 1898 and 1897 respectively.

In the month the following have been printed on importers' account:—

	1899.	1898.	1897.
Pkgs	127,500	129,600	143,000

which will bring the total of the crop sold to date to, say, $1\frac{1}{4}$ million lbs. over that disposed of to the 31st March, 1898.

Ceylon.—The quantity brought forward was moderate, comprising 19,000 packages, contrasted with 21,000 packages on the 21st instant, and 26,500 packages a year ago.

There was very spirited bidding for all sorts, especially the lower grades which in most instances advanced $\frac{1}{2}$d per lb. Medium, both leafy and broken, also attracted more attention, and though quotations were somewhat irregular, they participated in the upward

movement. Fine and finest were in small supply and about maintained their value.

The average is 9¼d per lb. On the 23rd instant it stood at 8⅞d per lb. and in 1898 it was 7¼d per lb.

In March the following passed the hammer:—

	1899.	1898.	1897.
Pkgs.	92,900	124,900	111,000
	(Avge. 8⅞d per lb.)	(Avge. 7¼d per lb.)	(Avge. 8¼d per lb.)

Java.—In the absence of sales there is nothing special to report.

For the month the total offered was:—

	1899	1898.	1897.
Pkgs. ...	3,900	6,500	6,500
	(Avge. 7¾d per lb.)	(Avge. 6d per lb.)	(Avge. 6¼d per lb.)

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report dated March 30th, 1899, says:

QUANTITY BROUGHT TO AUCTION IN LONDON

From 1st June to Date.

	Indian.	Ceylon.	Java.
1898-1899.	1,436,994 pkgs.	943,058 pkgs.	38,463 pkgs.
1897-1898.	1,416,651 „	1,002,222 „	35,534 „

21,158 pkgs. Indian
19,410 „ Ceylon
— „ Java
} Total 40,568 packages were offered in public auction this week.

Particulars of the quantities of Indian and Ceylon Tea re-exported from Great Britain are shewn below. It must be remembered that many of these countries receive a considerable portion of their supplies direct from India and Ceylon.

INDIAN.

	1898.	1897.	1896.	1895.	1894.
U. S. A. ...	705,829	624,711	902,619	908,743	708,921
Canada ...	1,459,183	1,132,850	847,362	780,225	711,284
Newfoundland ...	47,014	47,328	58,235	42,982	56,407
Turkey ...	273,940	247,033	383,775	319,247	506,254
Holland ...	474,509	522,110	415,593	341,435	297,065
*Germany ...	1,528,401	1,098,703	406,647	425,100	353,995
Chili	210,623	206,525			
Uruguay ...	41,436	35,439	† 279,137	218,628	162,300
Argentine Republic.	70,802	44,487			
France ...	56,347	48,221	51,996	57,802	44,337
S. Africa ...	565,561	441,201	326,361	213,986	158,344
*Russia ...	1,377,019	537,083	273,722	68,170	53,669
Channel Islands ...	288,113	277,249	225,753		
Denmark ..	238,670	91,111	91,230		
British W. Indies...	37,637	33,801	29,024		
Belgium ...	73,522	57,693	...	595,363	498,706
Sweden & Norway..	43,743				
Roumania ...	40,863	265,695	108,186		
Malta and Goso ...	30,464				
Other places ...	282,824				
Total lbs. .	7,846,500	5,711,240	4,399,640	3,971,681	3,551,282

CEYLON.

	1898.	1897.	1896.	1895.	1894.
U. S. A. ...	1,299,716	1,624,774	1,408,084	1,423,573	811,368
Canada ...	1,865,450	1,376,679	1,265,906	1,033,646	957,843
Newfoundland ...	200,380	185,215	154,114	85,354	102,472
Turkey ...	37,693	16,812	14,422	29,090	16,260
Holland ...	255,185	26,046	248,792	216,422	214,689
*Germany ...	3,577,526	3,475,236	2,679,897	2,288,895	1,544,763
Chili ...	273,176	255,363			
Uruguay ...	39,460	29,892	† 316,630	267,328	181,123
Argentine Republic.	68,439	60,231			
France ...	89,207	75,424	75,300	84,846	81,719
S. Africa .	737,232	541,105	446,042	300,151	200,487
*Russia ...	1,605,701	1,578,389	767,551	496,923	328,044
Channel Islands ...	454,082	413,494	405,013		
Denmark ...	286,361	169,619	285,279		
British W. Indies...	96,880	93,590	86,925		
Belgium ...	108,327	75,341	...	920,843	732,252
Sweden & Norway..	90,137				
Roumania ...	8,700	450,675	342,708		
Malta and Gozo ...	65,691				
Other places ...	363,843				
Total lbs. ...	11,523,186	10,683,885	8,496,663	7,147,071	5,166,020

† S. America *probably the bulk of Tea exported to Germany was for Russia.

Indian. A further rise has taken place in the market, anything up to 9d. showing fully ½d advance upon last week's rates, with considerable eagerness in bidding. Teas above this price were very firm Avgs.:—"Ass. From. T Co. Khobong," 1/2. "Runglee Rungliot," 1/1¾; "Con. T & L Jafflong," 1/1.

Ceylon. Hardly anything is now obtainable in whole leaf under 8d, the market having advanced fully ½d. on all Teas up to nearly 10d per lb, with somewhat excited bidding, medium brokens now participating in the improved demand. Avge. for wk. 9·30d., Agst. 7·15d. same wk. 1898.

Ceylon Tea sold on Garden Account, 1st Jan. to date 1899, 263,258 pkgs., av., 8·40d. 1898, 294,636 pkgs., av., 7·64d.

		1899.	1898.	1897.	1896.
Pekoe Soug	(Ordinary leaf; fair liquor)	8d.	5¾d.	6d.	6d.
Pekoe	(Ordinary leaf, little twist; fair liquor)	8¾d.	6½d.	7d.	7¼d.
Pekoe Soug	(Rather bold leaf; indifferent liquor)	7¾d.	4½d.	4¾d	5d.
Pekoe	(Somewhat bold leaf; indifferent liquor)	8d.	5½d.	5½d.	5½d.

Bank Rate 3 per cent. Exchange on London three months sight:—Calcutta 1/4⅛ Colombo 1/4⅛.

IN THE UNITED STATES.

The *American Grocer* of 15th March, says:—Prices obtained at the auction sale on Wednesday last did not sustain the open market on Blacks. Pingsuey Greens were firm, but the offering was light. Moyunes showed strength on all grades. Amoy Oolong fell off ½ @1c, as did Foochow. Formosas also declined. India and Ceylon steady. No change was manifest in Japan.

IN CANADA.

The tea market, particularly in regard to Ceylons, continues to gather strength, and the fact is becoming more and more emphasized that, not since 1879, has it been in such an interesting condition.

With low-grade teas costing what they are to-day, profit in the 25c. packet tea must be getting to an unsatisfactory point indeed.

COCOA.

At Tuesday's public sales 5,766 bags were catalogued, which elicited but a very moderate enquiry, only 1,950 bags selling at about steady rates. Of 1,585 bags Trinidad offered 400 bags sold, fine red 75s. 6d, fair to good 71s 6d to 74s, common dark 63s. 47 bags Grenada partly sold at 71s for fine. 45 bags Demerara about half sold at 73s for fine red. Of 158 bags Dominica only a few bags sold at 65s 6d. 496 bags Bahia brought forward and 80 bags sold at 65s for common grey. 30 bags Surinam found buyers at 70s to 72s, being fully late rates. Of 241 bags Samana 80 bags sea damaged sold at 64s 6d. 190 bags Guayaquil were catalogued, of which 30 bags sold at 71s for greyish Caraquez. 2,803 bags Ceylon about half sold at 76s to 82s for good to fine bold red, 69s to 74s 6d for middling to fair, 64s 6d to 68s for common to fair Native, 60s to 65s 6d for pickings, and 58s 6d to 60s per cwt. for common dark.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

	1899.	1898.	1897.	1896.
Imports, B.P. ..bags	47517	60829	42793	50127
Foreign ...	16341	41117	20279	20520
Home Con, B.P ..	23429	31527	25443	21637
Foreign ...	15056	15533	19579	16924
Exports, B P.	13985	8491	12846	9569
Foreign ...	10979	9318	12100	6262
Stock, B.P.	55686	80850	83780	84865
Foreign .	42830	49766	49919	73699

PEPPER.

Black—The market is firm and prices have sided in sellers' favour. About 200 tons Singapore are reported sold, viz., fair quality on the spot at 5 3/16d to 5¼d, April-June shipment at 5 9/16d, June-August at 5 9/16d, and July-September at 5⅝d.

At auction on Wednesday 160 bags Aleppy were bought in at 5½d for good heavy; 11 bags sea-damaged Singapore realised 4¾d per lb.

White is also dearer, but is quiet at the close. About 100 tons have been sold, viz., fair Singapore on the spot at 8¾d, April-June shipment at 8⅝d, May-June and June-August at 8¾d; fair Penang on the spot at 7⅞d, and June-August at 8¾d to 8¼d.

At public sale on the 29th inst, 101 bags Singapore retired at 9d to 10d, and 33 bags unlimed Penang at 8½d per lb.

GINGER.

Cochin.—There are no signs of improvement in demand, and prices have again experienced a fall. 801 bags 79 cases offered and 275 bags sold—medium and small, partly bold bright Calicut washed 26s, brown rough Calicut Sorts partly mouldy 22s to 22s 6d, smaller ditto part shrivelled, mouldy 21s to 21s 6d, and tips ditto 18s 6d per cwt.

Jamaica in fair request at satisfactory prices. 531 barrels, &c., offered and 450 barrels, &c., sold, as follows :—Medium part bold washed 72s 6d to 79s, leaner and darker ditto 66s to 69s, ordinary lean dark to good ordinary 58s to 65s per cwt.

INDIA RUBBER.

The market is quiet with sellers of fine Para at 4s 4d. Very little business done this week.

CARDAMOMS.

The Ceylon shipment, from January 1 to February 28 were :—

	1899.	1898.	1897.	1896.
Lbs.	95,827	81,034	70,585	59,153

and for the week ending March 7, 1,282 lbs. were shipped.

QUININE.

Manufactures advanced their prices last Saturday, German brands in 100-oz. tins and 1,000-oz. lots being raised to 1s 9d., Imperial and Whiffen's the same, but Howard's was raised by 4d. per oz. to 1s. 10¼d. in tins (100 oz), and 1s. 11d. in 1-oz. bottles. Other salts are advanced 3d. and 4d. per oz. The speculation market has been changeable, a reaction setting in when it became known that the net result of the Amsterdam auction was not so brilliant as was imagined. On Friday confidence was restored, and a good business was done at the following rates :—B. & S. or Brunswick, 1s. 8¾d. to 1s. 9⅛d. spot; April delivery, 1s. 9¼d., and up to 1s. 10¼d. for October. On Monday the market was quiet in anticipation of the London bark-sales. These gave a renewed stimulus to the market, and on Tuesday about 100,000 oz changed hands at 1s. 9d. to 1s. 9¼d. on the spot, May delivery at 1s. 9¼d. to 1s. 9½d., August 1s. 9¾d. to 1s 10d., and October 1s. 10d. to 1s. 10¼d. To-day the market is very dull, and spot sales have been made at 1s. 8¾d., with no indication at the close of further change until after the holidays. From the United States we hear that there has been a good daily demand—*e.g.*, the turnover on March 17 was 40,000 oz. all for foreign account. Manufacturers there are practically out of the market, and first-hand quotations are nominal.

Production of Quinine in U. S. A.—The *Chemist and Druggist* writes :—In our issue of February 25, page 356, we put the production of quinine in the United States at 3,333,000 oz. annually. This was on the authority of the manager of Messrs. Powers & Wightman, Philadelphia, who gave the output of quinine by American manufacturers in 1897 as 3,336,168 oz. A well-informed New York correspondent writes to us on March 8 "that the quantity manufactured in the States at most is not over 1,500,000 oz. It certainly is not 2,000,000 oz. If the bark itself is taken on a 4-per cent. basis, which would be ample, it could only produce 2,000,000 oz., but one must not forget that a great deal of the bark imported into America is used for pharmaceutical purposes." The imports of bark in 1897 were, we find, 2,537,693 lbs., so that, (1) Messrs. Powers & Wightman's manager is wrong as to quinine-output, or (2) American quinine-makers sell foreign quinine as their own.

CINCHONA BARK.

Although the high expectations entertained with regard to the last Amsterdam sale were not altogether realised, nevertheless the demand was tolerably brisk. Concerning the 3,239 kilos. of sulphate of quinine withdrawn, about 562 kilos had been sold prior to the sale, as we mentioned last week, this leaving only 2,677 kilos. unsold. The following amounts of various descriptions were offered: *Succirubra*, 147,458 kilos.; *Ledgeriana*, 331,467 kilos.; Calisaya, 575 kilos.; *Officinalis*, 1,157 kilos; *Hybrid* and other sorts, 56,419 kilos. Of these amounts 45,741 kilos. consisted of root bark. Government bark formed 31,578 kilos., and Private bark 505,198 kilos. The maximum price of *druggists'* bark was 83 cents. not as misprinted 183 cents.

The London March auctions took place this week. They were awaited with great interest, and came quite up to expectations. The bidding was keen, especially for the richer bark, which fetched remarkably high prices, and the result was an advance of 12 per cent. on the Amsterdam auctions of last week, and over 45 per cent. on the last London auctions, the unit coming out at 2½d. against the equivalent of about 2d. in Amsterdam and rather over 1⅝d. at the last London auction. Out of 3,446 packages containing nearly 600,000 lbs. of bark, 2,294 packages containing nearly 400,000 lbs. were sold. The following shows the purchases of the chief buyers stated in pounds of bark :—

Howard's.	Mannheim and Amsterdam.	Brunswick.	Frankfort and Stuttgart.	American and Italian.	Paris.	Imperial.	Miscellaneous.	Total Sold.
lbs. 64,599	lb. 49,076	lbs. 30,646	lbs. 35,365	lbs. 205,728	lbs. 2,268	nil.	lbs. 6,637	lbs. 392,319

The prices of the various descriptions were as follows: *Calisaya* Bolivian cultivated quill sold at 6d. to 1s. 2½d. Bolivian flats at 8⅝d. to 1s. 1⅝d.; Bolivian chips at 1s. 1¾d. *Ledgeriana* : Ceylon chips and shavings sold at from 4⅞ to 1s. 1⅜d.; East Indian sold at 7¼d. to 10⅞d.; Java sold at 5½ to 1s. 3½d. *Officinalis*: Ceylon chips and shavings sold at 7d. to 11¾d.; East Indian chips and shavings at 3½d. to 1s. 0¾d. *Succirubra* : Ceylon chips and shavings sold at 4½d to 11⅜; East Indian, at 3¼d. to 9¾d.; South American, quill and chips at 7d. to 7⅞d.; African, 4½d. to 8¾d. The offerings were divided as follows : *African*, 351 packages ; *Ceylon*, 649 packages.

(Average for all India 9·66d.) *March 30th.*

Garden.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust and Varions.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price.
Travancore ...	**814 p**	**8·66**												
Arnakali ...	107 p	8½	15	9	38	8½	24	9¼	2	8¼	14	8¼	14½c	5⅞ 7½
Carady Goody ..	48 p	7⅞	30 p	†7½ 8¼	7	7¾	...	.	6	7¼	...		5 p	6 6¾
Fairfield ..	21	8		...	9	8¼	8	8¼	2	7⅞	1	7½	1	6½
Glenmary ...	120	8¼	80	8¾ †9¾	22	8¼	..		...	...	...	...	18	8½
Isfield T Co Isfield ..	75	8½	...	...	46	8½	29	8¾						
Kanan Dev Hil A	117½c	8¾	-	...	29½c	8¾	57½c	9¼	31½c	8¼				
,, M...	142½c	9¾	-	...	75½c	9½	36½c	11¼	31½c	8¾	..	...	.	...
Penshurst ...	138	8½	72	8¾ 9	30	8½	...	..	25	8¼	...	.	11	8
Travan T Cey Pam..	46 p	8¾	7	9½	12	8¼	22	9¼	2	8	...	..	3½c	6½
Wynaad ...														
Richmond ...	11 p	9¾	4 p	1/1	4	9	...	...	3	7¾				

PLANTING OPINION.

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N. B.—Remittance, should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 5th proximo. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Kotagiri. 21*st April—Rainfall.*—On 14th in. 0·20; 15th 0·53; 16th 1·20; 17th 1·60; 18th 0·12; already in. 7·78 this month against an average due of only in. 4·07 for the whole month of April. It is impossible to tell now what damage has been wrought on the coffee by this abnormal fall. It is feared that six weeks hence will reveal a sad tale. To-day weather is holding up a bit and shows signs of sunshine. We don't look forward during the whole of the S.-W. Monsoon for as much rain as we have had last ten days.

CINCHONA AND QUININE.

The movements of Cinchona and Quinine during the last few months have attracted a considerable amount of attention in the commercial circles directly interested, and among cultivators of the bark. From the chief markets of the world have come periodical reports that have been eagerly looked for, and cause and effect and prospects have been discussed with very keen interest. The recent boom has calmed down for the present, and prices have receded; but there is still a powerful undercurrent setting towards a fully maintained, if not an enhanced, level of values. The amount of quinine consumed annually is enormous. Quantities are mostly declared in *ounces*, but they mount up to tons. The *Chemist and Druggist* states, for instance, that at the Amsterdam auctions of 23rd ultimo the amount of bark sold was about 400 tons, and that this represented over 20 tons of sulphate of quinine. This for one auction, and there are ten auctions during the year. If, therefore, the tonnage mentioned were an average one, it would mean that over 200 tons of quinine was sold and bought in Amsterdam in the year. As a matter of fact,

says our contemporary, the quantity has considerably exceeded the 200 tons of late years. In 1898, 238 tons were sold; in 1897, 230 tons, and 258 tons in 1896. The average of five years is nearly 218 tons a year, and this at Amsterdam alone and only at the public auctions. To this there has to be added an unknown quantity, representing what is sold privately between the auctions. Then, though Amsterdam is the most important market, London still sells more bark than the equivalent of all the quinine consumed in the United Kingdom The same contemporary remarks on this point that 2,296 tons of cinchona bark were imported into Great Britain in 1898. Some of this, of course, was made up of a fraction of the bark we have already noted as sold in Amsterdam. The rest came mainly from India, Ceylon, Africa (*viâ* Portugal) and South America. Then there are United States, France and Italy, all of which have quinine factories, and buy bark in Amsterdam and London, and sometimes import direct from the producing countries. If one wished to get at accurate figures the simplest plan would be to take the exports from Java, India, &c., and ignore European and American imports. If we did this for the year 1898 we should see that, roughly, Java exported 12¼ million pounds of bark, India three million pounds of bark, Ceylon 975,000 pounds, Africa 250,000 pounds, and South America 220,000 pounds, a total of 16,695,000 pounds or 7,408 tons. Remembering the difference in the content of the barks, and estimating roughly, but, neverthless, quite near enough to make no difference for present purposes, we see that in 1898 the producing districts sent to the manufacturing centres 325 tons of quinine locked up in bark. And the actual consumption probably represents at least 300 tons, if not the full 325 tons referred to.

It has been proved by the course of prices that the greatly-increased shipments of last year were not enough for the world's needs, even though manufacturers were also able to draw upon fairly heavy stocks of bark in hand at the beginning of the year. In fact, 325 tons of quinine was not enough for the world's demand. There is depression just now, but this is merely a natural reaction after a sudden rise. The cinchona position does not favour "bears," for although the Java exports in March are quite up to the average, they still leave a 15 per cent. shortage on the quarter's supplies, and it is reported that every scrap of bark available in Java has been shipped, owing to the high rates paid for bark. The temporary depression is due to no falling-off in consumption, but to a slackening of operations on the part of speculators There is an important demand to be expected from America, too, for American purchases have not been heavy, although it is certain that stocks there lately reached an unusually low level. On this point the *New York Commercial* recently stated that in New York the available supply of quinine was said to be practically exhausted, but it was probable that small lots might yet be obtained. Several parcels had arrived from Chicago, St. Louis, Baltimore, and other points. All had been purchased previously for foreign account, and had already been shipped to London. Stocks were very much depleted, and it was probable that the consuming trade might find itself short of quinine when the regular spring consuming demand set in. Deliveries were still being made on old contracts at low prices, but those contracts would all expire about the middle of April, and then the full extent of the improvement would be felt. "There are some in the trade," said the New York paper, "who look upon the recent rapid upward movement in prices as a speculative bubble which is liable to burst at any moment; but a number of conservative dealers believe that the so-called bubble is a solid ball, and that there are good and substantial reasons for the advance.

We chronicle a quieter market this week There have even been allusions in Home mail advices to something in the nature of "a small panic"—because after jumping up 8*d.* prices receded 2*d.* or so. Hamburg reports a quieter disposition, factories holding out fairly well, but second-hand buyers are inclined to realise their profits. In New York quinine was quiet, makers offering at 40 cents. (1*s.* 8*d.*), second-hand sellers at 36 cents. (1*s.* 6*d.*); but cinchonidine had advanced to 20 cents. (10*d.*) after a good business (30,000 oz.) at 18 cents. (9*d.*) per account of manufacture. Latest London reports show that on March 29th, the second-hand spot price for German sulphate in 100-oz. tins in 1,000-oz. lots or more was 1*s.* 8¾*d.* On March 30th a fair business was done at 1*s.* 8¾*d.* to 1*s.* 8⅞*d.* on the spot, up to 1*s.* 9⅛*d* to 1*s.* 9¾*d.* October delivery. The next week's business opened on Tuesday with marked depression, small spot sales being made at 1*s.* 7½*d* This easier tone prevailed on Thursday and sales were again effected at that figure, but the market closed at 1*s.* 8*d.* and 1*s.* 9*d.* for August delivery. OnFriday there was a complete absence of buyers, and the closing price was nominally 1*s.* 8*d.* per oz. Telegrams also show a fall in the value of Cinchona, but there is no sign of serious weakness in these figures and whatever may be the fate of speculators the quinine market appears to us to offer every encouragement to the planter of cinchona bark. He can afford to smile when he sees how a few thousand pounds of bark sway the markets at home. There is, on the whole, a steady demand, and the supply does not appear to be equal to it.

THE COFFEE MOVEMENT IN THE UNITED STATES.

The *American Grocer*, in giving its usual monthly remarks on the Coffee Movement, states that if allowance is made for February being a short month, the deliveries of coffee, while not as heavy as in December and January, were greater than for any month since May, 1898, and only 13,851 bags smaller than for the same time in 1897. The following table shows the deliveries in the United States for the first two months of 1899, as compared with the same period in 1898:—

	1899.	1898.
January	568,087	560,754
February	431,321	452,505
Total two months...	999,408	1,013,259

After the excessive withdrawals, in anticipation of a duty, in the spring of 1898, deliveries fell far below the monthly average, and did not recover until the fall of 1898, growing larger each month since October. In 1896-97 the average monthly deliveries were 424,049 bags, rising in 1897-98 to 503,023 bags, due to the carrying of heavy stocks out of licensed warehouses; and yet the monthly deliveries for 1898-99 average 497,435 bags, or within 5,591 bags of last year's record. There seems to be only one conclusion, *viz.*, that coffee consumption has largely

increased and is gaining fast. In Europe the January and February deliveries were 1,179,908 bags, against 1,227,304 bags for the same months in 1898. Unfortunately for planters, however, the production has not fallen off to an extent sufficient to warrant the belief that supplies will soon fall short of the world's requirements. Although the total visible supply of the world on March 1 was 6,522,044 bags, against 6,024,928 bags at corresponding date in 1898—a gain of 497,116 bags, but 78,719 bags less than January 1, 1899, and 606,756 bags smaller than on November 1, 1898, when the total visible supply reached the highest point on record, or 7,128,800 bags; and although the total receipts of Rio and Santos coffee from the crop of 1898-99 (July to February) were 6,891,000 bags, or 1,555,000 bags less than for the same time in 1897—99, but 65,000 bags more than in 1896-97, our New York contemporary concludes that there is not a sign to indicate that coffee is not to continue to sell at very low prices for another two years. The visible supply is equal to about one-half the world's yearly crops; and, if the yield in 1899-1900 (as now estimated) beats the record, we may look from now on for a steady increase in the visible supply.

London advices are certainly not much more encouraging. The last Coffee auctions of which we have particulars showed a great excess of supply of all descriptions compared with the moderate demand; they dragged along for days without much benefit to all concerned. Prices declined further, and only such lots enjoyed any attention as were obtainable at buyers' idea of prices. But London is often a poor buyer when its sons are busy making plans for a coming Bank holiday.

CURRENCY AND TEA.

Mr. G. L. Acworth has returned from England, and has been caught *en route* by a busy and very badly informed Colombo reporter, who has sounded him as to his opinions on the subjects of Currency and Tea. It is annoying to be told that one's name is "well remembered," when the man who makes the statement can neither spell the name correctly nor state the real connection in which the name is remembered. The reporter of the *Times of Ceylon* welcomes "the return of Mr. G. L. Ackworth, who was formerly Chairman of the Southern Districts Planters' Association of India." The Editor adheres to the incorrect spelling of the surname, and varies the other nomenclature by saying "formerly Chairman of the South Indian Districts Planters' Association," another Association of which we, in Southern India, know nothing. We give elsewhere the reporter's account of his interview with Mr. Acworth, though that gentleman has not allowed himself to be "drawn" very much. The last touch, about Mr. Acworth being *unable* to give much information with regard to his own estates, is very pretty. As if every inquisitive interviewer had a right to question a man as to his private property and affairs!

Mr. Acworth's remarks lead us to suppose that he looks forward to a 1*s.* 4*d.* rupee, a fairly good time for tea during the next six months, and then a recrudescence of Chinese competition. It is not a very sanguine view, but it is certainly a prudent one. Above all things it is to be hoped that the promise of a spell of increased prosperity will not cause tea-planters to go in fully for coarse plucking or for large extensions so as to increase their outturn. Mr. Acworth touched upon the former of these two points, and our pleasure at welcoming him back is enhanced by the feeling that he will give wise counsel on both. We see he means to stay as short a time as possible. It is to be hoped that this will not be too short to permit of his presence at the next annual meeting of the U. P. A. S. I. The absence of Messrs. Parsons and J. A. Harris (and seemingly Mr. Jno. G. Hamilton also) will be greatly felt unless there is some very powerful counterpoise.

MR. H. O. NEWPORT IN QUEENSLAND.

The March number of the *Queensland Agricultural Journal* contained the following:—"The extension of the coffee-growing industry in Queensland, especially in the Northern portion of the colony, having drawn the attention of the Department of Agriculture to the necessity for instructing planters, present and prospective, in the best methods of conducting planting and curing operations, the services of Mr. Howard Newport have been engaged. Mr. Newport is a coffee-planter of eleven years' experience in India, where he successfully managed a plantation at Melrose, Yercaud, in the Madras Presidency. He also visited Ceylon, where he applied himself to the study of coffee culture in that island. He is at present visiting all the districts where coffee is being grown, and will advise planters on the best methods to be adopted in all branches of the industry in order to ensure success." Since then, however, things have changed considerably, for owing to the death of Mr. Cowley, the late Curator of the Kamerunga State Nursery, Mr. Newport has been temporarily appointed Curator, without prejudice, apparently, to his duties as Instructor in Coffee Culture. This will give him excellent opportunities to pursue practically some of his favourite studies, while it will enable him to keep in touch with coffee-planters. The chief difficulty in these gentlemen's paths appears to be the scarcity of labour, especially in the South. But they have a climate that a white man can work in, and when we learn on good authority of a crop of 28 cwt. off 600 odd trees, and block only "a bit shuck" after it, we cannot but believe that soil and climate are favourable to coffee. "An easy 10 cwt. on it now with a promise of 20 next year; no leaf disease, and no bug," reads like an interpolation for "Alice in Wonderland," but we are assured that it is not an exaggerated statement. The *Cairns Argus* says of the industry:—"The recent consignment of Cairns coffee sent to London, to test the value, by the Department of Agriculture, brought only 48/- per cwt., but with the assurance that it would have brought 75/- two years ago—in other words, that this coffee was equal to any brand placed on the London market. (sic!) Or at least it is capable of being made so. The plants want maturity, which is no fault of the Cairns coffee planters." It looks as if Mr. Newport had secured an appointment in connection with an industry that is full of promise. If the Labour difficulty be overcome, there is no visible reason why Queensland should not produce coffee largely and—make a profit out of it.

A PRIZE ESSAY.

In continuation of our efforts to induce planters to write—as only planters can write—on practical questions connected with their industry, we confirm the offer made in our issue of 25th ultimo of

A New Prize
of
Rupees one hundred

for the best essay on "The lines that a Madras Labour law should follow." The aim of writers should be to point out, *briefly* and *concisely*, the lines they think the Madras Government should follow in amending Act V. of 1886 in accordance with the resolution of the Government of India anent the report of the South of India Planters' Enquiry Committee. The following are the rules of the competition :—

1. Write on one side of the paper only.
2. Give your name in full, and state address (not for publication, except in the case of the winner).
3. Be as brief and concise as possible.
4. Cite your authorites where possible.
5. Mark your MSS. "Prize Essay Competition"
6. Submit not later than 20th May, 1899 (in Madras).

It should be clearly noted that all essays sent in will be the absolute property of *Planting Opinion*, and that that the proprietors will have the right to publish them, in full or abridged or revised, in *Planting Opinion* or elsewhere, and to republish in pamphlet or book form. No limit of length is fixed, but brevity is strongly urged. Rs. 100 will be remitted to the winner immediately after publication of the prize essay.

COOLY CRIMPING IN CEYLON.

Our Colombo contemporaries have lately devoted a good deal of space to correspondence and edititorial remarks on alleged "wholesale crimping of coolies up country." It is asserted that a number of South Indian planters—whether two or four is far from clear—are working at different points up country, with a good deal of method, "regardless of expense," and on a very large scale. In more than one quarter the number of coolies it is desired to take over to South India is stated to be between seven and eight thousand; and demand is said to run chiefly on Arcot coolies. To obtain them *viâ* Ceylon appears to be a roundabout procedure, but the inference is that the Travancore planter prefers the Arcot cooly who has had experience on Ceylon estates rather than the same individual in his pristine simplicity. However this may be, if the stories referred to have any foundation in truth, it would seem probable that certain Travancore planters would bring a reproach upon themselves and their fellows. Fair competition in the labour market is right and proper, but the stories referred to point to more than this, and we cannot suppose that South Indian planters, as a body, approve of offering excessive terms in order to attract labour away from estates on which it is employed. The district for which the coolies are required is said to be 25 miles from Madura, so there should be no great difficulty in localizing the complaint made. If it be a just one, we trust that steps will be taken to mark the general sense of disapproval with which we feel sure planters must regard the operations alluded to. A little ostracism might have a wholesome effect, and we would suggest that no planter should be admitted to membership of a District Planting Association if he is known to go beyond the bounds of what is generally considered fair in his efforts to procure a sufficient supply of labour.

We allow the above remarks to stand, though since they were penned Ceylon accounts have, we are glad to say, been modified considerably. The *Times of Ceylon* now states that it has been assured by Mr. A. Fairlie, who represents Messrs. Finlay, Muir and Co. in Ceylon, that the only foundation for the reports to his certain knowledge was the fact that Mr. Maitland S. Milne—who has recently gone over to North Travancore, after having had charge of Tyspane estate, Kotmale, while the permanent superintendent, Mr. J. A. Martin, was in England last year—wanted a gang of coolies from that estate whom he knew; and that his younger brother, Mr. A. B. Milne, who had been under him on Tyspane, and is now in the Nawalapitiya district, had arranged, with Mr. Martin's consent, to take over 40 coolies, whose total advances come to Rs.1,250 or Rs.31 per head. This was all that had been proposed; and Indian coolies from Ceylon, whether heavily indebted or not, would, it was pointed out, as readily return to their villages as labourers recruited in South India itself. Mr. Fairlie added that the gang named had not been actually taken on yet; and he had just written to Mr. Davidson in Travancore—who while in Ceylon recently was entirely in Mr. Fairlie's company, and did no "recruiting"—to say that, if even taking over a single gang upset the labour market in Ceylon, it was a question whether it were not better to abandon the idea. The little "storm in a tea basket" is probably over by now, but doubtless the Ceylon kangany has managed to turn it to profitable account. He appears to be a not inexpert "wrecker."

MATÉ.

Writing in the *Lancet*, Dr. Gordon Sharp has a good deal to say about maté, and what he says makes it pretty clear that the so-called Paraguay tea is never likely to become popular as a beverage. Dr. Sharp's object was to place before his dyspeptic patients a beverage which would be a good substitute for ordinary tea, and, as coffee and cocoa had been tried and found wanting, he turned his attention to maté. First he tried it upon himself, and although he appears to have commenced the experiment in high hopes of success these were soon doomed to disappointment. He found the beverage anything but pleasant to the taste, and repeated draughts of it, duly seasoned and extending over a week, produced in him feelings of the utmost disgust, the persistent taste being not the least disagreeable symptom. He also tried an etherial extract of the maté, and the following is his graphic account of the results:—"In an hour there was nausea with saliva rising into the mouth, and vomiting was only with a great effort averted. This sensation continued more or less for six hours—that is, till bedtime. Two hours after taking the extract there was great discomfort in the region of the transverse colon, but no diarrhœa. These conditions were crowned by a sleepless night and a headache next morning which disappeared after breakfast. The aroma of maté is a constant companion all the day following the taking of the extract. The extract may have had some slight diuretic action. The maté remaining after exhaustion with absolute ether was ex-

amined and was found to contain caffeine and tannin as its chief constituents. An infusion tasted strongly of tannin and was found to be a most insipid beverage, showing how little caffeine has to do with the exhilarating properties of the caffeine-containing plants, as in the case of China tea. There can be little doubt that maté has not a flavour peculiar to itself, but has simply that of the holly order to which it belongs, for some ordinary holly-leaves were roasted, and their aroma was similar to that of maté." In fact Dr. Sharp himself did not acquire a taste for maté, and as for his patients, he says they preferred dyspepsia! No wonder, for he remarks :—"The flavour lingers, and cannot be described in words. There is little hope of maté finding favour with those who have once tasted China tea." Perhaps this may set at rest the minds of any tea planters who have heard that the *Südamerikanische Rundschau* (*South American Review*) predicts a future for Paraguay tea, and states that Herr Alfred Heiniger recently left Berlin for Asuncion on a mission of inquiry regarding this product. The chief object of Herr Heiniger's journey is to ascertain whether a monopoly of the maté export to Europe on the part of a German syndicate would be profitable. He would have discovered what he wants to know if he had stayed quietly at home and read the *Lancet*.

TELEGRAPHIC QUOTATIONS.

	April 22	24	25	26
LONDON—				
Bar Silver	27 7/16	27 9/16	27 13/16	28¼
Bank Rate	3%	3%	3%	3%
Coffee				
Mysore, Av. (B) size ...	65s.	65s.	65s.	
Ceylon	105s.		...	
Stock, tons	...	...	19442	
F'night's landings ...	...	...	4900	
,, deliveries ...	..	..	2200	
Cinchona, per unit ...	2¼d.	[firm]	...	1 5/8d. (easier).
Monthly sales, pkgs. ..	...	...	..	1,200
Cocoa ...	76s.	76s.	...	
NEW YORK.—				
Coffee—Fair Rio ...	6¼	6¼	6¼	6¼
,, Futures, July ...	5·88	5·80	5·80	586
Silver—Comml. Bars ...	59¾	59⅞	60½	61¼

NOTES.

The Currency Committee. We give to-day an abstract from the *Madras Times* of the second volume of evidence.

"The Green Hills." A tale of the Shevaroys is told by a writer in the *Madras Times*. We give it on another page for the delectation of readers on the "Green" and the "Blue" and other hills.

Cinchona Bark. We hear, says the *Ceylon Observer*, of 400,000 lb. of six per cent. cinchona bark being sent off from one property in Southern India. This, at present prices, should bring a very satisfactory return.

North Darjiling Tea. Says the correspondent of a Calcutta contemporary :—Good teas are being made generally and are more flavoury and brisker than is usual at this time of year. Coolies are plentiful, and everyone of them is on plucking.

Breaks and Packages. The *I. P. G.* advocates universal adoption of half-chests for tea, except for fresh markets, when it thinks that quarter-chests would be preferable, and that it considers the breaks might be reduced to 20 packages and upwards. The idea is to "meet the views of our best supporters—the smaller retail distributors."

London Quotations for Teas. When comparisons are instituted between Reuter's Tea quotations and those of Messrs. Gow, Wilson & Stanton, it must be borne in mind that the latter quote No. 1 "Pekoe Souchong ordinary leaf, fair liquor," the former No. 2. "rather bold leaf, indifferent liquor." It is certainly, as the *Times of Ceylon* observes, a pity that there should be two different quotations wired out, as they are apt to confuse.

"Markets are hardening." This is how a Canadian advertiser of Tea opens out, and he then asserts that "purchases are being made in New York and Chicago for re-shipment to England." Probably many customers will know no better; but if such purchases have been made at all, they must have been very little ones. The truth appears in our "Market Report," where interesting news from Canada will be found.

The Colombo Tea Sales. At the sale held at Colombo on the 19th instant, about 11,091 pkgs. = 886,624 lbs. were offered, of which about 7,817 pkgs. = 623,555 lbs. were sold. Prices were very irregular, and the tendency generally was downwards. Among the finest teas in the sale were, says the *Times of Ceylon*, Devonford, Mt. Everest, St. John's, and Ben Nevis. Among low-grown teas, good invoices were offered from Pallagodde, Glencourse, Kelani, and Eila.

"Cheesiness" in Tea. Recent remarks of Mr. Thos. Brown and the letter from "Interested," published on another page of this issue, lend support to Messrs. Geo. White & Co's assertion that "cheesiness" in tea does not result solely from the use of immatured wood for tea-boxes. There would seem to be no room for doubt that one cause is some defect in the manufacturing process. The matter is an important one, and deserves to be thoroughly investigated.

The London Tea Market. In their cable of 20th instant to Colombo. Messrs. Gow, Wilson and Stanton reported a fractional decline in prices of Tea generally, and a weak market for teas wet quality. Fair liquoring Ceylon Pekoe Souchong 8*d.* (¼*d.* down) average 8½*d.* (½*d.* down). Reuter reported : "Common kinds easier;" 21,000 packages sold out of 27,000 offered. Indian Tea averaged 10*d.* (¼*d.*) up, and of it also 21,000 packages were sold out of 27,000 offered.

South Sylhet Coffee. The local correspondent of the *Planter* writes :—The weather we have been having seems to suit this down to the ground, and as it swells its berries is producing strong and vigorous

wood for next year's crop. I am topping all my bushes as they come to about 2½ feet and making them develop their bottom primaries. The secondaries in a great many cases are pushing away three and four from a joint which are being handled out as they appear.

Given away, &c.

How is this for a bold advertisement? "Earn a bicycle by selling Blank's teas, &c. 150 lbs. for highest grade Bicycle (ladies' or gents'); 125 lbs. for second-grade Bicycle; 100 lbs. for Youths' or Maidens' Bicycle; 75 lbs for Boys' or Girls' Bicycle; 25 lbs. for Mackintosh or Silver Watch; 30 lbs. for Bookcase or Peek-a-Boo Camera. *Express prepaid. Write for particulars.*" It hails from America, of course.

Light Railways.

Messrs. Martin & Co., of Calcutta, Agents for Mr. Arthur Koppel, of Berlin, have favored us with an admirable book of illustrations showing the varied uses to which light railways and tramways are put. Views of a forest railway with animal traction in Sumatra, of rope haulage plant in South Africa; a railway in a coal mines district in India, another in brickworks in Germany; of a military railway in Russia; of platform wagons in a chocolate manufactory, and of electric railways elsewhere, show that these light railways can be adapted to many purposes.

Tea in Bengal.

The total number of tea gardens in Bengal during last year was 520, as against 483 in the previous year, the principal increase being in Jalpaiguri district. The total area under tea is 128,037 acres, an increase of 22,360 acres. Of this 102,204 acres are under mature, and 25,863 under immature plants. The total quantity of leaf manufactured is about 2,000,000 lbs. more than in the year preceding. The industry gives employment to about 127,000 persons, an addition of about 40,000 having been made to the labour force employed in the previous year.

Indian Labour in the Straits Settlements.

The British India S. N. Company has entered into an agreement with the Federated Malay States for the conveyance of assisted agricultural labourers from India. That Government contracts to buy from the company six thousand tickets per year at the reduced rate of eight rupees for a passage from Negapatam to Penang (the tickets being supplied to the agent of the Government at Negapatam), the company undertaking to maintain twenty-six sailings for the year. Supplementary tickets will be issued to certain coast ports from Penang at reduced fares.

Insect "Indicators."

A Wynaad correspondent writes to the *Madras Mail*:—"A notable feature in connection with the flowering of all three varieties of coffee, Liberian, Hybrids, and Arabica, this month, has been the extraordinary profusion of winged insects which swarmed upon the open blossoms, and consisting, in addition to several species of bees, of hawk-moths and butterflies, both of the common brown kind, as well as of the more brilliantly tinted types. This phenomenon was more marked than usual, and, according to well accepted doctrine, it may be taken as a hopeful indication for the current season's crop prospects."

Indian Corn and India Rubber.

"The Director of the 'National-Chamber of Commerce' in France has addressed the following note to the National Society of Agriculture: A new use for maize has just been discovered in America and gives considerable prospects to the grain-producers in that country. After extracting the oil from the maize, the process seems to consist in toughening it with an equal quantity of raw rubber; a substance would thus be obtained which for certain purposes would be equal to the best rubbers and far cheaper. As oil of maize does not oxidise easily, the rubber which is manufactured with this oil would remain supple and would not become cracked like the rubber which is made from other products."

Leguminous Manures.

Seeing that the subject of manuring with green leguminous plants is again cropping up, the *I. P. G.* would urge upon planters the raising of the Sensitive Plant *(Mimosa pudica)* and the common Balsam. Both of these grow wild in Assam, and those who demur to putting them down between the rows of tea on the plea that they would take too much out of the soil, might raise them on roadsides, the banks of ranks and other suitable places, where they could be reaped by the scythe and carried by pitchfork to be hoed in (when in full though unripened pod) to the places needing them. Early draining *bheel* land is admirably suited for growing these plants. But the fact must not be lost sight of that to prove of value the plants must be hoed in in as fresh a state as possible, or the nitrogen they contain will be lost in evaporation.

Tea Deliveries in the States.

A Washington despatch says:—"The withdrawals of tea from the Customs House have increased materially since it has become generally understood that the present duty is not likely to be modified for a long time to come. The general imports of February last were 6,606,516 lb., valued at $782,076, as compared with imports of 4,862,715 lb., valued at $656,928, in February of last year. The withdrawals for consumption during February last were 4,686,088 lb., valued at $632,897, and the duties collected were $468,608. The largest withdrawals for consumption were at New York and Chicago. The amount in the former city was 3,062,409 lb., and in the latter 1,100,659 lb. The next ranking port was San Francisco, where the withdrawals were 283,368 lb., and the next was the district of Minnesota, where a tea examiner was recently appointed, and where the withdrawals were 137,238 lb."

"Jyree Tea."

A planter writes as follows to his journalistic namesake in Calcutta: "The following is an extract from a book in my library:—'*Hop Tea.*—Is a species of tea prepared from common hops in Kent. It is manufactured much in the same way as Indian tea, and used chiefly to blend with the ordinary teas of commerce. It is claimed to be healthy and wholesome, from the fact that the *lupulin* of the hops counteracts or neutralises the excess of tannin contained in Indian teas. It, however, greatly enhances the price.' The hops of commerce consist of the strobili (female flowers or cones) of the *Humulus luputus*, but I believe the leaves of the hop plant contain the same virtues as the fruit. Can it be that

the Jyree leaves are simply hop leaves? As is well known a pillow stuffed with hops, or with hop leaves, is a 'popular means of procuring sleep,—a hop pillow' giving refreshing rest to the wakeful when every other sleep-producer has failed. I am inclined to think that the hop plant has something to do with the so-called *Jyree* tea."

The Cost of Labour in India.

Figures furnished by Consul-General P. F. Patterson appear to have caused some surprise in the United States. The Consul-General reports that the labourers of Bengal, Madras, and Bombay subsist on rice, wheat, barley, and other food-grains. Of rice they can buy eighteen to twenty pounds for a rupee (32 cents), fourteen to sixteen pounds of wheat, or twenty-three pounds of barley. Several of these food-grains are usually cooked together, and the quantity consumed by each person is about one and one-half pounds per day, costing an average of 2½ to 3 cents. With this food—rarely with meat of any kind—the labourers of India, especially the coolies, who do the hardest kind of manual labor, are remarkably healthy, with muscles well developed, and their endurance in carrying heavy loads long distances is something wonderful. It would hardly seem possible, says Consul-General P. F. Patterson, that the wages received ($1.80 to $7.50 per month) would enable the laborers to more than exist; but a majority of them, by their frugal living, not only support their families, but save money.

Hybrids.

The following remark concerning vegetables should be carefully noted by tea and coffee planters, for in the future these plants should repeat the history of hybrids in vegetables:—"Few people are aware of the fact that new varieties of vegetables of great merit are often produced and brought to perfection by a little careful selection of crosses between different varieties or species. Sometimes this work is very easy, and at other times it is quite difficult to fix the resulting product into a distinct variety." What *can* be done is shown in the fact that a very fine round podded bean has been produced from a female plant of the Jackson wonder dwarf lima and a male plant of the Yosemite Mammoth Wax. The first plant resulting from this cross in no way resembled either parent, being a strong growing vine with a large number of green pods, producing nearly 200 beans of a speckled grayish color. When these were planted no two of them produced beans that were alike. There were two that seemed to be very distinct; one of them was named Wonder Wax, and it is described as a wonder among wax beans. Pods are very round and of good size and excellent quality, being a nice yellow color. In season it is one of the very earliest, and it is very productive.

Lady-Birds.

Thus the Kumaon correspondent of the *Planter*:—It is now a matter of history what the Southern Indian planters did to import the lady-bird from Australia, and how after expending Rs. 3,000 (wasn't it?) the experiment totally failed. Last year I made some observations on lady-birds seen up here in Kumaon in my garden. This year I have been on the look-out for them and I find the place everywhere alive with them nearly. All fruit trees have two or three on them after a little looking, and the other day I undertook to pull up a strong plant of Artemesia and turned out ten from one plant. Now as there was some hundreds of Artemesias in the place, I fancy several thousand lady-birds must have been about at the time if the first example held good for the rest. The other day I went for a walk through some oak jungle and sat down after a time when two came down out of an oak tree and fell at my feet showing them to be pretty general. I have a notion lady-birds would travel through India from the Himalayas with perfect success in cases lightly-made covered with gauze and provided with a few living insect-infested plants or freshly-kept shoots for the journey; it seems to me the way they were attempted to be imported from Australia was too scientific by half for living insects.

Coffee in Sumatra.

A correspondent writes to the *Ceylon Observer*:—The long continuance of low prices is hitting hard osme few here who rushed into coffee when the prices were most inflated, trusting to be able to borrow later on. Alas! no money is to be found for coffee at present prices. Some of the most careful who went in before the period of inflation, made calculations which were prepared to stand a fall in price to $20 per picul, though they never really anticipated having to face the music set in such a minor key. These looked upon the affair as an investment, and are consequently rubbing along, though not yet making fortunes! A few, however, with small capital, went in purely and simply on the spree, and that of the wildest; and the corners of their mouths are considerably turned down just now. However, these prices cannot last for ever. One thing here is assured, and that is crops. Thanks to the soil, these come "whether or no," and the seasons do not affect Liberian to nearly the same extent that they do its more aristocratic brother. The original 20-year old trees have this year borne enormously. Five to six *catties* clean coffee per tree, which is equal to 6⅓ to eight lb., and one old giant is estimated to have yielded no less than *15* catties. Pro-di-gious!

LETTERS TO THE EDITOR.

"CHEESY TEAS."

Sir,—In your issue of 18th ultimo you published under the above heading a letter from Messrs. Brooke, Bond & Co., Ltd., in which they deal with this subject, and attribute the cause "to sappy, immature timber of unsuitable type "being used in the manufacture of tea chests on the Indian "and Ceylon plantations," and, certainly, if the result of their warehouse inspectors' work, for three weeks, is reliable, the number of defective chests is formidable. There are two remedies:—*First*, be more careful in selecting and drying the timber from which chests are made. *Second*, have all tea bulked by Messrs. Brooke, Bond & Co., Ltd!

There seems, however, to be a difference of opinion as to the cause of this "cheesiness," and as it is a matter of very considerable importance to planters, and those interested in the Tea industry, we would like to draw the attention of your readers to Messrs. Geo. White & Co.'s annual report on the Tea Trade for 1898, dated 23rd March last, which was specially dealt with by the *Madras Mail* of 14th April

1899. Reference is made to the manufacture of Tea and the Report says :—

"There were indications, however, at times that the firing in the "'driers' had been executed too quickly and at an excessive tem- "perature, thus destroying the flavour of the leaf operated upon, "and imparting an odour foreign to tea. To this some attribute "the so-called 'cheesiness,' which has given much trouble to "sellers and dissatisfaction to buyers more or less throughout the "season, particularly in the earlier months. That it was caused by "the use of unsuitable wood could *not* always be the case, as many "of the complaints have arisen with regard to parcels in *metal* "*packages*"!

This would seem to show that Messrs. Brooke, Bond & Co.'s experts are not just as up to date as they might be, and, if their opinion is solely acted upon, we fear this trouble of "cheesiness" will never be eradicated.

It looks as if a gross injustice had been done to the "wooden chests;" but, in any case, it is a matter which calls for the most serious attention of all Tea planters and those

"Interested."

21*st April*, 1899

GENERAL ARTICLES.

CEYLON TEA IN AMERICA.

The following is from a copy of a letter from Mr. Wm. Mackenzie, dated New York, March 20th, reporting generally on the state of the tea trade in America :—

Discrimination against China-Japan meets with no approval from the Home Government, who have to take a wide and general view of the Empire's affairs.

See the enclosed cutting. (Given below.)

It is astonishing how the dealers here are sticking out against the rise in the London tea market for lower grades

The importers had Calcutta and Colombo teas on hand—bought before the rise which began two months ago. These teas have been arriving during the last three weeks basing their prices on the recent rise, the importers have been loudly boasting that they would not sell under present London values. But one after another has been selling his teas one-half per cent. under London value to please the trade, and steal his neighbour's customers.

The trade has for years been getting China blacks (Congous) at 6d. and under, and last year got our P. Souchong at 3¾d to 5½d With another year of low prices, we would, I think, have entirely killed the China blacks. But the rise has driven importers to enquire for these again.

During my trip to the West. I had chiefly in view an enquiry into the success or otherwise of the demonstrations scheme I started last November-December *re* Pittsbury, Detroit, Buffalo and Boston. I have been getting weekly returns of those sales since we began demonstrating. I sent you some of those before leaving England. I was shown those of past four weeks all exhibiting a steady increase.

	Feb. 18th.	Feb. 25th.	Mar. 4th.	Mar. 11th.
Detroit ...	702 lb.	673 lb.	584 lb.	711 lb.
Buffalo ...	617 „	737 „	749 „	804 „
Pittsburg .	649 „	773 „	617 „	934 „
Boston* ...	460 „	1,210 „	1.440 „	1,685 „
	2,428 „	3,393 „	3,390 „	4,334 „

* A snow-storm stopped deliveries.

Those demonstrations were in connection with——'s tea. He had previous to last October been pushing his tea in those cities. some for twelve months, some for two years. He at first met with great encouragement, as the grocers took small quantities 5 to 20 lb. on the strength of his promise to advertise the tea This he did splendidly, and at a great expense, spending in Boston alone £20 to £30 a week in the best papers. His sales, however, gradually fell off—but perhaps because his advertising roused U. S. firms to make a push with similar teas. Grocers returned his teas instead of paying for them. He became disheartened and was gradually reducing his advertising. I was afraid he would retire from the States, in which case, his U.S. rivals would revert to their first loves, Chinas and Japans. I proposed substituting demonstrations for advertising and offered to contribute: so far the success has exceeded expectations and when I put it to his Managers in all four cities, "whether they would have advertising or continue the demonstrations," they with one accord answered "Let us have both, but if one must go, let it be the 'advertising.'"

One of the travellers selling the tea in Boston said, what I have often urged:—"I have been selling those teas since—— started in Boston. I failed miserably with the advertising. I have succeeded splendidly since the demonstrations were started *Every packet bought from advertisements, makes enemies, because of the way the tea is made.*

The demonstrators show the people how to make it—and make friends for us."

I have been interrupted by several callers. Mr. Blechynden has returned. It is not quite certain yet what the Indian Committee are to do. I shall not know till I see them in London, which I hope to do within a fortnight.

The last week for which I gave you the sales here (we are having demonstrations) ended March 11th. For week ending 18th, I have, so far, had the return from Boston only—it is the largest on our record, 1,740 lb.

About Chicago, and the West, I have much to say; but must postpone it. All goes well, however, so far as the packet business is concerned, but bulk teas are too dear in London for the market, as it is, low grades may take.

Greens.—In Mr Blechynden's report to his Committee he says about *unfermented teas:*—"Some samples of these Oolong teas made in India, were sent me early this year. They were found so suitable for the market, and firms were so ready to give immediate large orders, that I have had to revise my opinion. I now believe that there are certain districts in India, where Oolong teas of a character to command a ready sale can be made, and if such teas are produced *there is practically no limit to the business that could be done*," *&c.*

Those Indian greens I mentioned in my letter of 14th were packed up at once. Unfortunately there were only a few hundred cases, whereas thousands could be sold. These could be sold easily, whereas our blacks *for price* are unsaleable, being too dear.

An importer bought some Ceylon greens lately He has twice told me the people to whom he sold them, could not get rid of them—as they were good and pretty, but different from the kinds used here. These people have *now* wired to him to reserve for them any other similar Ceylon greens he could get.

Yours truly,

(Sd.) Wm. Mackenzie.

CANADA.

FRICTION OVER THE FAILURE OF THE HIGH COMMISSION—THE REFORM OF THE SENATE.

Montreal, March 12th.—I learn on good authority that there have been frequent inter-changes of communications between the Government at Ottawa and the office of the Canadian High Commissioner in London during the past fortnight, chiefly relating to the reports that have reached the British Colonial Office concerning the effect of the failure of the High Commission on Canadian sentiment. Notwithstanding that all the correspondents of London journals in Canada described the feeling over here as one of great and keen disappointment, an effort is now being made to create the impression that there is great rejoicing over the fact that the markets to the south are still closed to the luckless Canadian producer. It seems almost needless to say that this is very far from the truth, but it suits the politicians at Ottawa to have it believed. The exports of Canadian produce to England have fallen off by several millions of dollars during the past three months in spite of the efforts made by the Government and private enterprise to force sales. Coming at the same time with the closing of their hopes that the coming season would have seen a brisk trade across the border, the disappointment has been doubled, and, whatever may be said to the contrary, there is a feeling abroad that Canada's only remedy for the chronic unrest in which the country is kept is to assume entire freedom of action in her relations with other countries, more particularly with that to the south.

The evils of the present system are making themselves apparent in many ways. At the present moment there is friction between the provincial Legislature of British Columbia, the Dominian Government at Ottawa and the Colonial Office in London, arising out of the anti-Chinese and anti-Japanese legislation of the first named. The British

Government finds its policy with regard to China and Japan hampered by the exclusion policy of British Columbia, and is bringing pressure to bear on Ottawa to induce the latter to modify its alien legislation to suit the exigencies of England's Chinese and Japanese policy. But the British Columbia working-men, who curiously enough are largely emigrants from England, think more of their own interests than of high politics, and insist on being protected against Chinese and Japanese cheap labor. This places Ottawa in a dilemma, for if it coerces Victoria to please London it may drive the former into resistance and perhaps secession; while, if it fails to satisfy London, the value of Canada as an "ally" of England, as it is becoming the fashion to say, is just a trifle doubtful.

NOTES ON ECONOMIC PLANTS.

We extract the following from the report of the Royal Botanic Gardens, Ceylon, for 1898 :—

TEA.

The total export is once again larger than in any preceding year being 119,769,071 lb., against 116,054,567 lb. last year. Exchange has been very steady at about 1s. 4d., and prices have been low, but with a tendency to rise later in the year.

The extension of this cultivation has now practically ceased; but large areas planted during the last few years continue to come into bearing, so that for some time yet the total output will probably slowly increase. One of the most promising features of the past year has been the large increase in the export to countries other than the United Kingdom, America taking 2,180,188 lbs., against 830,873 lb. in 1897, and Russia 2,714,003 lbs., against 439,349 lbs., whilst the export to other countries has also increased very much. Australia now takes the large amount of 15,126,891 lb. The net result of this has been an actual decrease of the export to the United Kingdom by 2,796,226 lbs., which should help to improve the prices obtained.

The cultivation as a whole has been favoured by the absence of disease, but signs are not wanting that this immunity is gradually coming to an end, and that, like all other cultivated and wild plants, tea will have to contend with enemies both of insect and fungous nature, whose ravages will be rendered more easy and destructive than is the case with wild plants or the smaller crops by the great expanses of land which are covered with tea to the exclusion of other plants. During the past year unusual drought in the early months and a partial failure of the south-west monsoon have decreased the yield of tea considerably. A number of insect enemies have done damage . . . . . and the "gray blight" fungus of Assam, which is one of the most troublesome pests with which the Assam planters have to deal, has been more injurious than usual. It has been in the Island for many years, and is chiefly prevalent in the Yakdessa, Kotmale, and Pussellawa districts, though cases of its occurrence have been noticed in many others. The disease seems to spread more readily at low elevations. Though at present comparatively unimportant, this may become a very serious pest if planters are not upon their guard against its first appearance, and do not take care to eradicate it as far as possible when noticed. Other fungi have at times been noticed upon the tea, but none very commonly

A few small estates of tea, &c., have of late been allowed to go out of cultivation, and this raises a question of much importance to the planting community. Unlike coffee, tea when abandoned, does not die out, and consequently these estates form places in which both fungi and insects can, so to speak, develop a taste for tea which they may not have had before, and from which they may afterwards spread to the great detriment of cultivated tea elsewhere. Wherever practicable, abandoned tea, &c., should be destroyed.

The chemistry of tea cultivation and manufacture is now being made the subject of exhaustive study by Mr. M. Kelway Bamber, the expert engaged by the Planters' Association, and it is hoped that the methods of manufacture will be improved in consequence and become less haphazard than is at present the case.

COFFEE.

The export again fell largely, being only 13,313 cwt., as against 19,383 cwt. in 1897, and 86,009 cwt. in 1890. Native as well as plantation coffee has shared in this fall.

A number of varieties of Arabian coffee have been received from the Java Botanic Gardens, and are now growing at Peradeniya. Plants of the hybrid (Liberian-arabian) are also doing well, but of course it will be some considerable time before we can obtain any crop from them.

CAMPHOR.

There has been little application for this plant during the year, and considering the long period which must elapse before any return can be got, and the simple chemical constitution of this substance, this is hardly to be wondered at. It appears probable, however, that solid camphor can be obtained from the twigs and leaves, and, as the tree coppices well like cinnamon, this may prove a profitable method of cultivation, unless the present high price of the drug falls. Some prunings from the trees at Hakgala were sent to Mr. S. A. Owen, who obtained solid camphor from them by distillation at the rate of 15 lbs. to the ton —*Ceylon Observer*, April 7, 1898.

CACAO.

The export has again risen from 34,503 cwt. to 36,982 in spite of the ravages of the cacao canker which has been a troublesome pest during the year. The life-history of this fungus has been very thoroughly invesitigated during the year by Mr. J. B. Carruthers, the expert engaged by the Planters' Association. His observations and conclusions, with recommendations for treatment of the disease, have been published in pamphlet form by the Association. The treatment of the pest now rests with planters of cacao themselves, and there seems no reason to apprehend very serious danger to this cultivation if proper pains be taken to attack the disease promptly wherever it may appear. As was predicted, the planting of the hardier *Forastero* varieties is extending, and the old varieties are being steadily replaced by them.

CARDAMOMS.

The export of this product has slightly fallen, being 531,473 lbs., against 582,830 lbs. in 1897. The cultivation has been a very profitable one in some districts, and the area devoted to it is being rapidly extended in the northern districts of the Central Province. A caterpillar pest which has done some damage is described in Mr. Green's report.

Other Spices.—The total exports of Cinnamon continue to increase; that of chips has risen from 1,067,051 lbs. in 1897 to 1,414,165 lbs. in 1898. Vanilla continues to be planted in small quantities. Of nutmegs, cloves, pepper, betel-pepper, ginger, &c., all of which are on trial in the gardens, there is nothing of special interest to report here.

INDIA RUBBER.

A great deal of attention has been given to this product during the year. Mr. J. Parkin has spent the bulk of his time, since March 20th, in the laboratory here, carrying out chemical and physiological investigations into the processes of tapping and coagulations, &c. A tour was made in March to the Ratnapura and Kalutara districts to see the plantations of Pará rubber made by the Forest Department and on various estates. These trees are growing very well on the whole, and some have yielded very good rubber in promising quantity. The trees in the gardens have done well, and yielded a large quantity of seed, much of which was sold by auction at an average price of about R27 per 1,000. A large quantity of seed was also sold from private estates.

Early in the year a circular was published dealing with the cultivation, tapping, and probable yield of Pará rubber. The climate and soil necessary were pointed out, and the land really well suited to this tree in Ceylon was estimated at 10,000 acres, chiefly situated in the Ratnapura and Kalutara districts. In view of what is stated below, and of the fact that many persons are planting the tree at comparatively high levels or in otherwise unfavourable localities, I take this opportunity of calling renewed attention to the above estimate. Unless some much improved method of cultivation is discovered, or the price of rubber rises even higher than it now is, the chance of a profitable return in unfavourable localities is small. The tree itself grows as well in Ceylon as in its native home Brazil; but the yield of rubber is very much less, and is less even than that obtained from similar trees in Java and the Straits. It should, therefore, not be planted in any but the most favourable localities available.

The whole question of what tree to plant has, however, been reopened, when, so far as Ceylon was concerned, it might have been thought settled in favour of the *Hevea*. By the aid of machinery it is now possible to separate the pure or nearly pure caoutchouc from the latex or milk of any rubber-yielding tree, and the rubber so prepared has apparently the same quality, whatever tree it may have come from, and at the same time is very much purer than any natural rubber, even the best Pará. When rubber thus prepared comes upon the market in quantity, the probable result will be that for some time it will obtain higher prices than any ever

before obtained, but soon the price will fall to that now obtained for the best natural rubber, and the latter will fetch only a lower price. When the *Hevea* is tapped, as has hitherto been done in Ceylon, there is always a large proportion of the latex which dries on the tree, owing to its extremely syrupy nature. This yields a scrap rubber, which at present fetches a good price, and it was upon this price that the estimate of pecuniary return given in the circular was based. The price of this, however, as has just been pointed out, will almost certainly fall. The rubber milk that collects in the tins or shells used in the tapping can of course be treated by machinery, and will fetch a high price; but the average price will not be improved owing to the poor value of the scrap rubber, which cannot be thus dealt with, and may even be lower than the estimate given. The whole question therefore stands in need of revision.

Further than this, the use of the machinery equalizes the quality of the rubber derived from different trees, and now it is no longer important to choose the trees which gives the best natural rubber, but rather that tree which yields the most rubber. There can be little doubt that the tree which gives the best return in this way will, for most districts of south-west Ceylon, be found to be *Castilloa*.

In view of the importance of the conclusions thus briefly indicated, it is proposed to publish details in the course of the next few months. The machine methods of preparing rubber have been patented. Mr. Parkin has also elaborated methods of preparation which are simple and inexpensive, and yield very good results. It is unfortunate that there is so little *Castilloa* in the island that it is almost impossible to make a really fair test of the yield in different localities.

Both the new methods of treatment of milk above mentioned lend themselves well to the obtaining of rubber from young stems, and experiments are in progress to test whether the cutting of young plants, when eighteen months old or less, will give a good yield; if this prove to be the case, it will of course obviate the present necessity and risk of waiting ten years for a return on the capital invested. Those who have large quantities of seed might well try broadcast sowing, or close planting of seedlings, for cutting at a year or eighteen months old.

CINCHONA.

The export has risen to 975,784 lbs., against 653,346 lb. in 1897, and 1,309,560 lbs. in 1896. Prices have somewhat improved, and, though it would be perhaps unwise to recommend any extension of the cultivation, there seems some prospect of a return from those trees already in cultivation being obtained for some years to come.

THE INDIAN TEA ASSOCIATION.

At a meeting of the General Committee of the Indian Tea Association held on the 10th instant, letters of 24th February, 3rd, 10th and 17th March from the Secretary, Indian Tea Association, London, in connection with the American Market Fund, which had been previously circulated, were brought up for consideration and disposal. Under cover of his letter of 24th February, Mr. Tye had forwarded copy of a circular letter of that date to members of the Association in London covering a copy of the Interim Report of the American and Foreign Tea Committee, and asking whether they would be prepared to support a new levy to be raised for the purpose of opening out new markets for Indian tea. The General Committee had noted this circular, but it did not appear from the letter accompanying it to be quite clear whether the General Committee here would be justified in proceeding with a new levy until further instructions had been received from London. It was accordingly agreed to telegraph to Mr. Tye, asking him for the views of the Committee in London upon the question. The General Committee observed from the letter, dated 10th March, that the London Committee had decided to keep up, in conjunction with the Ceylon Committee, the joint advertisements of Indian and Ceylon tea in the United States until the end of the present season, but that Mr. Blechynden's special mission would be brought to a close at the end of April. The arrangements in connection with the forthcoming Exhibition at Paris, had again been the subject of considerable correspondence and the General Committee were now awaiting further detailed information as to the allotment of space, and the intentions of the London Committee generally with regard to the representation of Indian tea at this Exhibition.

Read telegram of 5th April from the Chairman of the Assam Branch of the Association, with reference to the proposed appointment of a Scientific Officer for the Tea Districts. Mr Buckingham suggested that a letter should be written to the Government of Bengal, asking for assistance towards the expenses of such an officer on behalf of the districts of Darjiling, the Duars and the Terai. This telegram had been despatched in connection with the Committee's letter No. 710 of 21st February, to the Chief Commissioner of Assam, and the reply thereto, dated 14th March, from the Officiating Secretary to the Chief Commissioner. In this letter the Committee had placed before the Chief Commissioner a statement of the advantages which would accrue to the industry by the appointment of a scientific expert, and had asked whether any assistance could be afforded from Government funds for the purpose of securing the services of such an officer. In his reply Mr. Cotton had stated that, while he realised the importance of the object in view to the tea industry and the Province generally, he regretted that he was unable to hold out any prospect of being able to contribute from Provincial Revenues towards the expenditure which would be involved. The Committee agreed to act upon Mr. Buckingham's suggestion, and address the Government of Bengal, asking for assistance and pressing the claims of the Tea Districts of Darjiling, the Duars and the Terai. It was to be stated in this letter that the General Committee were considering the means by which a scientific officer should be appointed to carry on investigations in those districts and also in Assam, and the Kangra Valley and H. H. the Lieutenant-Governor was to be asked whether, in the event of a scheme being worked out, the Committee might look to the Government of Bengal for assistance in defraying a portion of the expenses which would be incurred.

TEA, &c., COMPANIES.

The **Ceylon Tea Plantations Company's** profit for last year was £44,502. The usual 15 per cent. Dividend is paid, and £5,000 carried to Reserve. £5,000 is written-off for Depreciation, and £4,000 carried forward. The crop for 1898 was 7½ per cent. below the previous year's.

The **Imperial Tea Estates Company** pays 4 per cent.

The **Standard Tea Company** has earned £11,343, and pays the usual 15 per cent.

The **Alliance** has earned £5,209, and pays 7 per cent. for the year.

The **Sunnygama Company** has only been able to pay an interim Dividend on the Ordinary shares.

The **Gartmore Ceylon Tea Company, Ltd.**, declare a dividend on the ordinary shares for the year 1898 of 6 per cent.

The **Vellikellie Tea Company of Ceylon, Ld.**—The report states:—The result of the working is not very favourable, but as much so as could be anticipated from the weather conditions. The yield of the Estates has been 90,539 lb., of which 85,145 lb. have been shipped to London, and sold at a gross average of 10·08 per lb. The crop for 1899 is estimated at 210,000 lb. The Working Account discloses a surplus of receipts (£919 17s 11d) which, after the addition of the balance brought forward (£47 8s 6d) and the deduction of dividend on Preference Shares (£142 10s 0d), leaves sufficient for the payment of a Dividend of 2 per cent. free of income-tax, on Ordinary Shares (£705), and a balance to be carried forward of £119 16s 5d in respect of preliminary expenses, income-tax, etc.

The **Highland Tea Company of Ceylon** has declared a Dividend of 3 per cent., making 5 per cent. for the year.

Newara Eliya Tea Estates Co., Ld. has declared a Dividend of 3 per cent., making 6 per cent. for the year.

The **General Ceylon Tea Estates Co., Ld.** has issued a report, but declared no Dividend.

Rajnagar Tea Co., Ld.—Loss Rs. 14,781-10-2. Crop 4,441 maunds 39 seers; average price 5-1.72 per lb. against As. 5-11.87. Estimate for 1899, 5,000 maunds; expenditure Rs. 1,17,000. Area under tea, 803.25 acres.

Pashok Tea Co., Ld.—Outturn 2,142 maunds; average 10d. per lb; gross as in previous year. Dividend of 8% recommended. Esitmate 2,100 maunds at a total expenditure of Rs. 74,600.

Holta Tea Co., Ld.—Loss Rs.1,419-3-1; average As. 6-5.18, as against 7-9.26 for 1897.

Chalouni Tea Co., Ld.—Profit Rs.79,453-15-1. Interim dividends of 10% paid on 20th October and 29th December; final dividend at same rate now recommended, making 30% for the year, with

Rs.15,000 carried to Reserve. Crop 7,462 maunds, averaging 8d. against 7⅝d. in 1897. Estimate for 1899, 7,750 maunds at a gross outlay of Rs. 1,74,404, including about Rs. 12,000 for additions to building and machinery.

Punkabaree Tea Co., Ld.—Crop 1,130 maunds, 30 seers; average As. 4.80 per lb. against 5.35 in 1897. Loss Rs.9,106-2-3. Estimate 1,500 maunds at a cost of Rs. 30,500.

Burnside Tea Co. of Ceylon, Ld.—Crop 3,56,455 lb.; made tea, 116¼ maunds tea seed; 202 lb. cardamoms; average for tea 6¾d. Profit £395-4-1. Dividend of 2 % proposed.

Meenglas Tea Co., Ld.—Profit £5,096-18-10. Interim dividend 3%; £600 added to Reserve; final dividend of 5 %proposed. Crop 604,028 lb., averaging 7.59d as against 7.5d in 1897.

Ederapolla Tea Co of Ceylon, Ld.—Crop 447,026 lb. average 6¾d. Profit £2,068-4-4. Dividend of 5% recommended, and £300 for reserve, making this £1,000.

Kelani Valley Tea Association, Ld.—Crop 578,169 lb. averaging 6½d as in previous year. Profits £1,094-14-10. Dividend of 5% recommended.

Yatrypanlota Ceylon Tea Co, Ld.—C rop, 1,135,794 lbs., beside 8,628 lb made from purchased leaf, average 5.35d. per lb.; average cost f.o.c. 3.62d. per lb. Profit £7,665. Dividend @ 6% paid on preference shares; 4% paid on ordinary shares proposed.

Grob Tea Co., Ld., Assam.—Crop 4,134 maunds, averaging 7as. 3p. as against 8as. 6p. in the previous year. No dividend on preference shares. Estimate for 1899, 4,450 maunds at a cost of 6½ as. per lb. laid down in Calcutta.

Bandarapola Ceylon Co., Ld.—Crops 395,270 lb. tea, 195 cwts. cocoa; average of former 6,155d. against 6,008d. in previous year. Dividend of 5% proposed.

The **Nuwara Eliya Estates Company** pay 6 per cent. for last year on the Debentures. The profit was £8,000, against a profit estimated in the Company's prospectus of £31,000.

New Dimbula Company.—The following is from the *Investors' Guardian*, of March 25th:—

New Dimbula Company, Ld. (61,124).—Registered March 16th, with capital £100,000, in £1 shares to acquire the business of the New Dimbula Company, Ld. (incorporated in 1895), and to carry on in Ceylon and elsewhere the business of planters, growers and exporters of tea, coffee, cocoa, and cinchona. The subscribers are:

	Shares.
W. S. Bennett, Tower House, Slough, tea planter	1
Henry Brooks, St. Peter's Chambers, Cornhill, E.C., merchant...	1
Herbert Brooks, St Peter's Chambers, Cornhill, E C., merchant	1
H. T. Brooks, St. Peter's Chambers, Cornhill, E.C., merchant..	1
W. Jordan, The Acacias, Loughboro' Road, Brixton, merchant	1
A. Crabbe, 52 Gracechurch Street, E.C., merchant	1
E T. Wise, Hillgrove, Altyre Road, Croydon, clk	1

The numbers of directors is not to be less than three nor more than seven; the first are the directors of the old company; qualification £300; remuneration £500 per annual dividend. Registered office, 52 Gracechurch Street, E.C.

THE NILGIRI AGRI-HORTICULTURAL SOCIETY.

At a recent Meeting of the above Society, the following letter from Sir J. B. Lawes, Rothamsted, dated 27th February, 1899, to the Honorary Secretary, Nilgiri Agri-Horticultural Society, was read:—

"Dear Sir,—Your letter of the 6th has reached me, and I am forwarding you a copy of our cash memoranda sheet. I have only within the last day or two received a copy of our Publication of 1890 to the end of 1898, bound in one volume, altogether our Publications are comprised in seven octavo and three quarto volumes, and only a few days ago, Sir H. Gilbert and myself thought India was entitled to receive one or more copies. A great number have gone to the United States, and some to most of our Colonies. Copies have also been sent to various European libraries. I am afraid that the greater portion of our work is not suited to such a climate and such crops, as are grown in India. At the same time as we advance in knowledge, we find that the law of growth becomes more simple, for instance, although I cannot grow rice or sugarcane I feel quite certain that if I could have the climate suitable for these crops and could grow them in my wheat, barley or oat field—the manure would act in the same manner—or to put the matter in plain words, nitric acid is the chief food of all the graminacian plants throughout the world. You may possibly be interested in tea, coffee, or other crops, which are not annuals; with these nitrates of potash or soda, salts of ammonia, are, if anything, too active, and nitrogen is better supplied in form of bone-dust, cakes, or other organic substances rich in nitrogen. You will probably understand that the object of our investigations is to lay down the law of growth, rather than to apply it to practice; if, however, I can be of any service to you, it will give me much pleasure to answer any question.

Believe me, yours truly,
(Sd.) J. B. Lawes.

Read also letter from Mr. A. C. G. Nicholson, of Halacary, Coonoor, dated 25th March, 1899.

My dear Minchin.—Many thanks for sending me Sir J. B. Lawes' letter, but I have no question to ask, as we have been in direct communication with him, Gilbert and Voelcker through my cousin, H. B. Evans, and we are rapidly coming to the conclusion that, though artificials are an enormous advance on the old system of manuring, yet nitric acid is not the form of nitrogen suitable for the coffee-plant; but until we can secure the nodule bacteria suitable or peculiar to coffee, and a suitable medium for its culture, we are in *statu quo*. I do not agree with Sir J. B. Lawes in what he says about bone; if we had no leaf disease, he would be correct; but we must have a rapidly soluble manure to help the trees through their worst months, or the wood weakens. I am open to conviction, and I am trying a combination of bone, with soluble nitrates and phosphates this year; hitherto having been careful not to mix supers with bone, so as not to reduce the solubility of the supers.

Perhaps the judicious mixture may do better and it is certainly a little cheaper, which is a great consideration just now.

Your sincerely,
(Sd.) A. C. G. Nicholson.

Resolved that these letters be printed for the imformation of members, and the Honorary Secretary be requested to express to Sir J. B. Lawes the thanks of the Society for his interesting letter, and for the very valuable memoranda of experiments he has sent us, which are available for the use of members on application.

CEYLON TEA IN 1898.

A VALUABLE BROCHURE.

The *Times of Ceylon* says:—Of the making of books having Ceylon tea as their subject there is no end. Every week almost one such volume comes into our hands; but few of them have been a more concise, up-to-date, and interesting brochure than one which we have just received from Messrs. Tarrant, Henderson & Co. It is a quarto volume of 32 pp. enclosed in stiff red-bound covers, and supplies a full report on the position of Ceylon tea in 1898. It is a valuable manual, and, well illustrated, it is an attractive book of reference. The pictures comprise an agricultural and topographical map of Ceylon; photos of tea in its various stages, beginning with the tea bush itself with an explanation of the mystic terms—Flowery Pekoe, Orange Pekoe, Pekoe Souchong, and Congou; then there are types of cooly women plucking the leaf; men and women weighing in; rolling; fermenting; sifting; packing; and, finally, shipping; while this series is supplemented by another showing the extent of the mills wherein Messrs. Tarrant, Henderson & Co. carry on their business, pictures being given of their stores and barbecues; their packet-making and filling department; their carpenter's shop; their tea-tasting room, and their native staff; while to all the foregoing is added a reproduction of our local tea sale room. There are in all 27 plates in the work. The letterpress states concisely and with unimpeachable accuracy the position of Ceylon tea in the year under review (1898), and is full of statistics for the year. It is also instructive to the tyro in the tea-trade, the work comprising a glance at the origin and development of the tea trade; a brief history of Ceylon in its commercial aspect; and chapters on field-work on an estate, weeding, pruning, the tea plant, leaf plucking, tea manufacture, withering, rolling, rollbreaking fermentation, firing, sifting and sorting, and bulking. Then comes a description of the local sales; an essay on the quality of Ceylon teas; a list of local tea averages for 1898; the estimates for 1899 compared with those of 1898; a review of our shipments of tea, and

then a variety of most useful tables regarding freight, exchange, &c. The book is one that ought to be on every planter's desk, and certainly no one interested in Ceylon should go home without one, as it comprises, in a nutshell as it were, all the information that one is likely to be asked about respecting the island and its principal industry. The work, we believe, is the compilation of Mr. J. A. Henderson, on whom it reflects the highest credit.

LIFE IN THE WYNAAD.

On March 23rd, the *Times of Ceylon* published some notes from a Wynaad planter respecting the career of a number of Ceylon planters, who have migrated to that "land of promise," and it now gives from the same pen some further details of the life up there. We take the following extracts :—

IDEAL WEATHER.

Since the 28th ultimo we have been favoured with ideal weather in the Wynaad for all growing crops, as well as for young clearings of tea and coffee. Between the 6th and 25th of last month no rain fell, the skies were cloudless, and a certain amount of East wind was prevalent on three or four days in each week ; but the easterly gales were much less in evidence this Spring than is usual in the district during the first quarter of the year. On the evening of the 25th ultimo, thunder was audible far away to the East in the Mysore country, followed by a drizzle some miles inside the Wynaad boundary ; and, three days later, it was obvious that we were "in for the blossoming showers" to which so much importance is attached on all coffee plantations in S India. The following is a record of the rainfall since the 28th ultimo ; but this register is by no means the heaviest in the taluk, as, upon some properties, the aggregate rainfall approaches 8 inches :—

March	28th	... ·90	April	10th	... ·50
,,	29th	... 0·5	,,	11th	... ·90
April	1st	... ·40	,,	12th	... ·60
,,	2nd	... ·60	,,	13th	... 1·55
,,	7th	... ·15	,,	14th	... 0·5
				Total	... 5·70

COFFEE.

It is a well established fact in Wynaad that, as a general rule, Liberian coffee opens its blossom upon the sixth day from the occurrence of the first heavy shower in March ; Arabica following four days later, though the writer has known of Arabica coming into bloom upon the ninth day, and of "spike" upon the same variety bursting only upon the twelfth day after a heavy fall of rain. The variation in the blossoming periods between Liberian and Arabica is, therefore, believed to be the reason why the results of natural cross fertilisation between these varieties of coffee have been so rarely observed in South India. Following the seasonable weather already detailed, we have had a wonderful show of blossom all over the district both upon Liberian and Arabica coffee, and in this connection the following facts call for special allusion, as they constitute, so far as the writer is aware or been able to ascertain, a new "record" in such matters. The coffee estate on which the rainfall particularized in these notes was gauged is planted with Liberian trees, at about 10 feet apart, all through the Arabica ; the Liberian being now in its tenth year, while the Arabica ranges in age from 10 to 19 years. This property has been treated during the past decade with an exceptionally liberal quantity of both cattle manure and "artificials." The ·90 shower, which fell on the 28th of March, brought out a fine Liberian blossom on the 3rd instant, and started all the remaining "spike" on the trees ; the same storm resulted in the whole of Arabica coming into full blossom on the 7th idem ; while the shower of the 1st of the month forced the remaining Liberian bloom, amounting to fully half of the total, out on the same day as the Arabica. So that here was witnessed the unique spectacle of

BOTH SPECIES OF COFFEE IN FULL BLOOM,

simultaneously ! According to the opinion of Mr. John Cameron, the much-respected and popular Director of Parks and Gardens in the Mysore Province, the probabilities are very strongly in favour of the Liberian coffee on the plantation referred to having been "pollinated" by the Arabica, and, assuming this very unusual phenomenon to have actually occurred, the chances of the Liberian crop, which may be harvested on the estate a year hence, if utilised as seed, producing numerous original hybrid Liberian-Arabica plants are very encouraging, more especially as both Liberian and Arabica suffered from a very mild attack of *Hemileia vastatrix*, in the past season, and the myriads of winged insects—such as bees, butterflies and hawk-moths present during the blossoms was unprecedented. A certain proportion of the Liberian trees, upon which a comparatively small first, and a very heavy second blossom opened, have been specially marked, with a view to their crop receiving exceptional treatment. The importance attached to the cultivation and extension of hybrid coffee by Mr. Cameron and others competent to form a disinterested judgment on the question should be an apology for touching at such length on this topic, as I judge it to be a theme calculated to interest Ceylon planters, equally with those in South India! So far, nothing can be more satisfactory than the appearance of the coffee and the crop prospects in Wynaad; and the impetus given to young clearings, both of tea and coffee, is most marked everywhere, while old tea will continue to flush all over the country.

A LABOUR HINT.

Another local rumour credits a well-known Ceylon planter, who is already largely interested in Wynaad territory, with the intention of "annexing" a further tract for tea. Wynaad residents and landed-proprietors are prepared to welcome as many immigrants from your island as may elect to settle in the taluk, where the "Pioneers" have already succeeded in making themselves popular, but the one point on which we are to a certain extent uneasy is as to the possibility of these friends organising a combination to enhance the local scale of daily wages, with the idea that, by offering a higher rate of pay to the classes of labour hitherto employed in Wynaad, the labour market will be more largely supplied. If such an opinion is held amongst Ceylon men, they would be well-advised to modify it, as any attempt to enhance coolies' wages would prove a most fatuous policy, while it would undoubtedly add to the outlay on the cultivation of tea gardens where the cost is already higher than in Ceylon, and this without attracting more of such labour.

MR. G. L. ACWORTH AT COLOMBO.

The *Times of Ceylon* of 19th instant announces the arrival of Mr. G. L. Acworth by the SS. "*Rome*" on the 16th instant and his departure for Travancore on the 19th. Our contemporary says :—He is uncertain as to the length of his stay in Southern India, but it will be as short a time as possible. The main object of his return to the East is to pay a visit of inspection to his properties.

In the course of a talk with a representative of the *Times of Ceylon*, who enquired

THE PROBABLE RESULT OF THE CURRENCY COMMISSION,

Mr. Acworth remarked that it was absolutely impossible to say definitely what the outcome would be, or its effects, but the general opinion was that the standard of fifteen rupees to the sovereign would be fixed. There was, he said, a tremendous amount of evidence given at the enquiry, but the bulk of it was of an official character. The enquiry opened in May last, continued throughout the sitting of Parliament, and began again in November, finally concluding in March of this year. He anticipates that the report of the Commissioners will be issued about June.

"It is certainly possible," observed Mr. Acworth, "that the Government of India will succeed in their endeavour to popularise the use of gold. A rather curious fact was told me the other day by one of the Madras Members of Council, who stated that three sovereigns had been tendered in payment of taxes at one of the local Treasuries. This was probably the first instance, since the closing of the mints, in which gold had been willingly tendered in payment of taxes. It is, I consider,

A MOST INTERESTING AND SIGNIFICANT FACT.

The Indian Government had been endeavouring to bring this about ever since they closed the Mints."

Turning to the question of the tea prospects, Mr. Acworth said he anticipated

A FAIRLY GOOD TIME FOR TEA

during the next six months. "There is," he remarked, "a certain scarcity of tea now, but I dare say there will be a big drop in the autumn."

Mr. Acworth incidentally mentioned that he met a China Tea merchant the other day, and learnt that there would be large shipments of tea from China this year –larger than had been the case for many years past.

"That is our difficulty," said Mr. Acworth. "whenever we fall short, China can very rapidly make up the deficiency. It will be a very great pity, however, if this leads to a great deal of coarse plucking."

"One point in our favour is

THE ENORMOUS RISE IN COPPER.

The whole of the wages in China are paid in copper. We may grumble very much at being handicapped as regards the rate of exchange, but, as a matter of fact, things are equalized by the fact that all wages in China are paid in copper, which, as I have already said, is now at an enormous premium."

"It is also interesting to know," Mr. Acworth observed, "that the merchant I was talking to was one who took a great interest in the Foochow Tea Improvement Company, which he told me had been a dead failure. Machinery was got out and they set to work in the only district which they could get at. The latter was old and worn-out, and the leaves turned out so hard and tough that in rolling they broke. The merchant, to whom I was speaking, however, said he believed success would be met with if the machinery was transferred to the new districts where some of the really good teas were."

"As China has been greatly opened up," remarked Mr. Acworth, "it is quite possible that machinery may soon be erected in the more paying districts."

Mr. Acworth, who has, with Mrs. Acworth, been staying at the Galle Face Hotel, was unable to impart much information with regard to his own estates, as he is himself going to gather particulars.

TEA MANUFACTURE.

Withering.

The *I. P. G.* contains a paper from which we take the following excerpts:—A good wither is a *sine quâ non*. It is indispensably necessary to the preparation of first-class tea. The process has for its object the extraction of part of the moisture contained in the leaf, so that it may be rendered soft and pliable for the subsequent process of rolling.

In treating of the more salient points (the general principles being well known), it is assumed that the leaf has been brought into the tea-house in a proper state as to age, etc., for if *bad* leaf (*i.e.*, over-ripe, tough. leathery leaf, etc.) is brought in from the field, no subsequent operation will ever convert it into good tea.

In seasons or drought great attention requires to be paid to the withering process, for at such times there is much less sap in the leaf, and less moisture to evaporate than is the case during or immediately after rain. Consequently, if the leaf is over-withered the juice becomes so thick by the time it is ready for oxidation, that it will not oxidize properly, no matter what the condition of the atmosphere may be.

Leaf commences to decay, sooner or later, after it has been plucked, the decay being dependent upon the state of the weather and the condition of moisture in the leaf. To make tea of really good quality, strength and flavour (all the conditions being similar) leaf should be manufactured assoon as possible after being plucked.

Natural withering, by means of a free supply of light and of cool air (*i.e.*, air at the normal temperature of the surrounding atmosphere), is by far and away the best A cold wither, in a cool, dry atmosphere, produces the best results. The great desideratum is abundance of *space*, for spreading out the leaf thinly and evenly, so that nature's gentle, cool, perfectly dry draught of air may play over it. Excepting in fine, bright, dry weather, however, it is next to impossible to wither leaf by natural means. The process would take so long in wet or damp, cold weather, especially during the rainy season, owing to the humidity of the atmosphere, that even if ample space was available, some more expeditious method than is attainable by natural means has to be adopted.

Artificial withering has, therefore, to be resorted to, the agent employed being *heat*, but the least heat employed the better. When a damp atmosphere or low temperature prevails, the air saturated with moisture cannot take up that evaporated from the leaf unless raised (expanded) or dried by heat. Heat has to be utilized when there is danger of a block in the work from leaf accumulating faster than it can be manufactured, or, when from the too great time occupied in withering, there is the danger of the leaf getting tainted and acquiring an obnoxious smell. The application of artificial heat, however, is not conducive to high-class quality. Only so much as is absolutely necessary should be employed, and then only as a last resource, when withering cannot be affected by natural means.

When excessive heat, or when the moist heat is applied, it scorches, or it bakes, stews, or otherwise damages or deteriorates the leaf, rather than withers it Wet leaf placed in too great heat bakes and damp heat volatilizes the essential oils in the leaf. These are all most important points to remember. Too great heat, moreover, dries the edges of the leaves and in other ways renders the leaf unfit for the subsequent process of rolling.

The heat (more correctly designated warmth) should be of such a character that the temperature, while absorbing moisture, should, without any approach to scorching, steaming or baking, render the leaf soft and flaccid for rolling, and for generating that oxidation, which should ensue on the bruising of the leaf cells *in* (not before) the rolling. The heat should be under perfect control, regulated and accurately employed. What is really required is heat in motion, and an exposure of the leaf, by a constant but gentle motion, to an equal temperature over all its parts, the warm air percolating, thoroughly and equally, through the whole of the leaf. Gross and coarse as leaf is in forcing weather when the atmosphere is charged with vapour, better teas would be made if we could only wither it off sharp, without steaming or baking it in moist heat before rolling.

Moist heat is undoubtedly prejudicial to obtaining a good wither. At the same time it must be remembered that the leaf on the bushes is far from the same at all seasons of the year (as has already been stated), so that the leaf brought in to the factory from the field varies very considerably at different times. The flush obtained during the months when damp, hot weather prevails is of forced growth, rank, and the teas made from it, though manufactured under the most favourable circumstances, will have a certain *coarse* flavour. No manipulation will entirely eradicate this (with our present appliances), but careful treatment in the process of withering, although it may not secure first-class tea, will certainly ensure better tea than would otherwise be obtained.

The best and most flavoury teas are made when the weather is cool. because then the flush is not of quick, forced growth. Another favourable season, at the commencement of manufacture, is when the weather, in addition to being cool, is dull and cloudy, with a fair amount of rain. Teas made at the latter end of the season, when the cold weather has set in, are also generally very flavoury. Teas are invariably flavoury when the weather is cool, with a fair amount of rain. Teas are wanting in flavour when the weather is warm and rainfall is short. Teas manufactured from leaf taken off bushes which have been heavily pruned and have consequently yielded a succulent flush, are not flavoury, and, as a general rule, are always wanting in strength. From the time withering is started the operation must be continuous. There should be no check in the process from currents of cooler air than that which is being employed. An even temperature is essential.

Perfect withering (when heat is employed) consists in removing all superfluous water from the leaf as speedily as possible (the faster the process the better), without disturbing the oils, juice, etc., while just sufficient heat (warmth) is applied to reduce the fibre of the leaf to the soft condition required for rolling. It is best accomplished by a strong draught of moderately warm and quite dry air, desiccated by either decomposition or absorption, or both, passing over the whole surface of the leaf. As long as the juices are kept uninjured, the more the leaf is withered the better the quality of the tea. The presence of too much water in the rolled leaf affects the subsequent process of oxidation injuriously. Leaf is properly withered, if, when held tight in the hand, it does not crackle and keep the shape into which it has been pressed. Properly withered leaf is best told by touch, which experience gives after a time. Leaf to give a good "make," *i.e.*, twist and colour of infusion—a new-penny, bright-copper outturn—must be properly well withered, soft to the touch, not dry or crisp. Leaf well and properly withered should, when ready for rolling, have much the feeling of a fresh kid glove when compressed in the hand.

MANURING TEA.

The *Ceylon Observer* publishes the following statistics of practical experiments conducted by Mr. Joseph Fraser, and their results, calling attention to the facts that, all the experiments, save one, shewed a profitable return even on the first year's crop; but that a second year's crop must be realized before a fair conclusion can be arrived at as to the most economical and most durable as well as profitable application.

Manure Experiments from 18th Feb. 1898, to 13th Feb. 1899.

No. of Fields.	1	2	3	4	5	6	7	8	9	10	
Particulars of Manure applied per acre.	No Manure.	400 Blood meal. 200 Basic slag.	200 Basic slag. 150 Sul. of potash.	400 Blood meal. 150 Sul. of potash.	250 Basic slag. 400 Blood meal. 150 Sul. of potash.	200 Blood meal. 250 Basic slag. 200 Sul. of potash.	400 W Castor Cake. 400 Fish. 100 Sul. of Ammo. 100 Nitrate of Potash.	800 Castor Cake. 200 Basic slag.	800 Castor Cake. 200 Bone meal.	1,120 Extra Dissolved Guano.	
Tea secured per acre ...	706·752	888·608	855·243	954·738	1,054·774	1,079·449	1,023·006	1,090·505	961·516	1,206·105	
Increased yield over unmanured plant ...		182	148	248	348	373	316	384	255	499	
Cost of plucking and manufacture to f.o.b. 12¾ cts. ...		23·20	18·87	31·62	44·37	47·56	40·29	48·96	32·51	63·62	351·00
Cost of manure and application ...		39·19	27·24	45·55	53·91	45·81	53·75	42·44	42·92	98·50	449·31
Total cost of increased yield ...		62·39	46·11	77·17	98·28	93·37	94·04	91·40	75·43	162·12	800·31
Amount realized fo increased yield 33·76		61·45	49·97	83·74	117·51	125·95	106·70	129·66	86·10	168·49	929·57
Profit per acre over the unmanured area		·94	3·86	6·57	19·23	32·58	12·66	38·26	10·67	6·37	129·26
Lbs per acre of essential ingredients in the manure applied.	Nitrogen.	44·80	Nil.	44·80	44·80	22·40	79·60	50	56	134·40	
	Potash.	Nil.	75	75	75	100	48	10	10	22·10	
	Phos. Acid.	34	34	Nil.	42·50	42·50	27·16	52	66	56	

Mr. Fraser remarked :—"With the exception of field No. 2, they have all paid for the manure and most show an excellent profit besides. The results in yield next year will show more accurately which will give the best paying results per acre for a two yearly application—what is the best *now* may not by any means show the best results at the end of the two years.

"The suppression of one essential ingredient in 2, 3 and 4 shows clearly their relative importance. Nitrogen being the dominant element, Potash the next and Phosphoric acid the last, which agrees with my previous experiments.

"The Basic Slag through its free lime helped in several instances apparently to bring the nitrefying organisms into play and helped to render the inert nitrogen available for plants. Next year's results will further test this point. So far as appearance of the bushes is concerned, they look best in the following order: 5, 7 (castor cake, fish, sulphate of ammonia and nitrate of potash) 10 and 6, 9 show most fungoid-affected leaves and a falling-off in the vigor and succulence of the flushes and 8 shows a falling-off to a more limited extent. This may be owing to the lack of available nitrogen during the dry weather."

On 21st inst. Mr. Joseph Fraser sent Messrs. Freudenberg & Co. the analysis of a fair sample of the average soil of the experimental plots as follows:—

The results represented the composition of the fine earth of the soil, *viz.*, that portion which passes through a sieve having 40 meshes to the linear inch.

	Per cent.
Water lost at 212° Fahr.	55·50
*Organic and volatile matters ...	11·900
Soluble in standard hydrochloric acid oxides of iron	11·720
Alumina and Manganese oxide	16·127
Lime...	·461
Magnesia	·690
Potash	·245
Phosphoric Acid	·153
Insoluble silicates and undetermined matters...	53 154
Total ...	100·000
*Containing Nitrogen	·135

The soil is well supplied with lime, potash, phosphoric acid and magnesia. There is a fair amount of nitrogen, but this is relatively the most deficient element of plant food present; and from the analysis we would expect this soil to be more responsive to the nitrogenous elements in manures than to the potash and phosphoric acid. The air-dried soil contains a high percentage of water, *viz.*, 5·55 per cent, or in a drier condition of the atmosphere 4·20 per cent. The high percentage of alumina accounts for the soil being thus retentive of moisture.

(Signed) M. COCHRAN, F.C.S.,
City Analyst.

STRANGE TEAS AND THEIR "CHARACTERISTICS."

"I have before me," writes a gentleman interested in tea, "two handbooks for the tea trade, one written by an Englishman, the other by an American. Both treat on the subject of "Tea Blending" as an art.—"I give one or two extracts :—

"Darjeelings from Terai (Terai is below Darjiling) are probably the best teas that are brought to England; for full flavour and rich strength they are unequalled." This is, indeed, news to Terai planters, and if they do not "buck up" and send these teas to the home market this season they will have no one but themselves to blame. The handbook has certainly spoken its best for the Terai and its teas. Such a high opinion is not held of any of the other tea districts. Dehara Dun teas are thought little of. They are said by the Englishman to be "high burnt and rather sour. Occasionally the flavour is rather earthy. They are not very much sought after." The American is of the same opinion. They are, he says, "high fired, loosely made; deteriorate rapidly, and become sour or rancid on exposure to the atmosphere in a very short time. The liquor is frequently *earthy* in taste." The infused leaf of Chota Nagpur teas, it is stated, are "very bright, the liquors are fresh and flavoury, but also weak and sickly." Chitagongs are pronounced as "thick, heavy and strong in the cup and *nutty* in flavour. They are good useful teas for blending purposes from their great strength and positive character." The following paragraph is beyond my comprehension: I leave it to some South Indian

planter to champion his own cause. "Neilgherry (Madras).—The Neilgherry Hills produce fancy green teas. The black teas from these hills are, perhaps, the most inferior of all Indian teas. When Neilgherry teas were first imported, the flavour was decidedly objectionable. It has now slightly improved, but is still far from perfection. The liquor is thin, and the dry leaf black and tippy. These Neilgherry teas from Madras must not be confused with the Assam Neilgherry teas, which are strong, rough, and pungent." Where, Mr. Editor, are the Assam Neilgherries? Where also is Rangurth? It is said of the teas from this district (?),—"the infused leaf is bright, the liquor is fine and fresh, but thin and inclined to be sickly." Will some Rangurth planter inform me where he is? —*Planter.*

COFFEE EXPERIMENTS IN CALCUTTA.

Indian Gardening publishes the following letter:—Dear Sir,—I send you six twigs, marked A.B.C.D.E.F., taken from coffee bushes in the Society's Gardens, showing results of manurial experiments commenced last November.

A. is a branch of *Coffea arabica* 30 inches long, bearing 2 axillary clusters, averaging two flowers to each cluster, and 8 leaves. Unmanured.

B. is a branch of *C. arabica* 16 inches long, bearing 24 clusters, having an average of 4 flowers to each cluster, and 18 leaves. This bush was given two table-spoonsful of *Ichthemic* only.

C. is a stem of *C. arabica* 24 inches long, 36 clusters, each averaging 4 flowers and 12 leaves Treated with double the above quantity of *bone meal.*

D. is a branch of *C. arabica*, and has 37 clusters of flowers, and is 36 inches long, with 21 leaves. Three spoonsful of *bone meal*, and 3 of *Ichthemic* were given to this.

E. is a twig of *C. liberica*, unmanured, 14 inches long, 1 cluster with two, and the other with one flower, and 5 leaves.

F. is a twig of *C. liberica* treated with the same quantities as D., 14 inches long, 16 clusters of flowers, on an average 3 flowers to a cluster.

Coffea liberica was heavily pruned, while *C. arabica* remained uncut.

So far the above experiments show that *Ichthemic* used alone produces greater leaf growth and abundance of flowers. *Bone meal* less leaves and larger flowers; while a mixture of the two results in scantier growth of leaves and more abundant production of flowers.

It yet remains to be seen what the yield in berries will be; from all appearance each flower on the bushes appears to be "setting" fruit. By an unfortunate mistake the bushes of *C. liberica* were heavily pruned, but in comparison to *C. arabica* they produced nothing like the quantity of fruit. The bushes are about 12 years old, and are planted under the shade of mango and other trees.

Though the experiments were commenced but five months ago, there has already been a distinct improvement in the bushes as regards production of flowers. The experiments will be continued, but it would be interesting to learn that others had taken up similar experiments in Calcutta and Assam.

At present all bushes of *C. arabica* and *C. bengalensis* are loaded with flowers, the former giving off a delicious perfume and forming a most charming picture with their pure white flowers in shady glades.

Yours faithfully,
P. Lancaster.
Secretary, Agri-Horticultural Society of India.

Metcalfe Hall,
Calcutta, 17th April 1899.

[Note.—We are much obliged to Mr. Lancaster for the specimens sent. B. C. and D. appear to us to be particularly robust and healthy specimens, and show what benefits they have derived from manuring, compared with A. Bone-meal is a very valuable fertilizer for Coffee, and being cheap and easily procurable, it ought, we consider, to be largely used on coffee estates. "Ichthemic Guano" is also a valuable fertilizer, but being very expensive (compared with bone-meal), it will not be within reach of the planter. The specimens of *Coffea liberica* do not show to advantage; but that may be due, as Mr. Lancaster explains, to the bushes having been severely pruned. We shall watch with interest the setting of the berries.—Ed., *I. G.*]

BRAZILIAN DEPRECIATION.

Last week I gave some general information about the economic and financial position of Brazil, shewing that although the country has unlimited possibilities for the production of wealth, it has for the past ten years been paying its debts by raising fresh loans and issuing paper money as fast as it can be struck off the plates. This is a deplorable condition of affairs; yet in the circumstances, and considering the inexperience of the country's rulers, it was probably unavoidable. Under the Empire, Brazil had always paved its way and it held the unique position of being the only South American state which had religiously honoured its obligations.

When the Republic was constituted it had to live up to this tradition; if it had failed to do so it would most likely have succumbed at the outset. But it had also to face difficulties undreamt of under Don Pedro. The first President had not settled down in his chair before half a dozen claimants were in the field, jealous of his advancement and power, eager to hold the reins themselves, and ready to test the feeling of the country not only by the ballot-box but also in the battlefield. Accordingly, for some years, Brazil was in a perpetual state of revolution and anarchy, and those nominally in power had to find money for the campaign by fair means or by foul. It was only to be expected therefore that they would draw on European investors as long as they were permitted to do so, and would then resort to more questionable methods of raising the wind.

Since then each Government for the time being has floundered frmo one mistake into a worse, with the result that now the country can only by a miracle escape complete default and utter discredit. If its Parliament and Executive had had any training in the theory and practice of good government they might have been able to escape some of the alluring pitfalls temptingly spread before them; as it is, they seem to have blundered into every one and created others which the student of political economy could scarcely have dreamt of. I have spoken of fresh borrowing to pay debts and the abuse of the printing press, the latter being perhaps the most dangerous from the financial heresy to which a country could resort. But in other ways the Government has gone hopelessly astray, and it seems to have pretty well exhausted all the obvious methods of running the show in the worst conceivable manner.

To prove this it is only necessary to allude to a few patent facts. For years past Brazil's expenditure has been far in excess of its revenue. It would have been a very simple matter to reduce expenditure, and it would have been still easier to increase the revenue without adding to the burdens of the people. As I have said before, 25 per cent of the expenditure could be saved without reducing the efficiency of the administration by as much as a brass button if some check were imposed on the notorious leakages which are now winked at. On the other hand, the taxes, direct and indirect, imposed by the Goverment, would yield 100 per cent. more if honestly and properly collected. At least, that is what Brazilians, who "know the ropes," tell me. But instead of devoting their attention to these points, the Legislature has gone on increasing import duties and the like till commerce is absolutely overwhelmed with the burden, and instead of supplying the wants of many, it can now only pander to the luxuries of the few.

The result is that trade is steadily declining, and instead of the imports yielding more revenue from the higher duties imposed, they produce less every year The latest change in this respect is the law passed recently requiring 30 per cent. of the customs to be paid in gold. The result is that duties, which were already far too high, have been increased from 30 to 50 per cent.; yet Congress passed the measure without apparently paying the slightest attention to its probable effects. The trading community and the independent press have united in denouncing this imposition, but they are powerless unless they foment another revolution, and that will not help matters. And besides, the fact that the customs duties are ridiculously high, the regulations seem to have been drafted with a view to creating the greatest amount of friction and annoyance possible—possibly to give the customs officials as many opportunities as possible of levying blackmail on importers and foreign agents. Under the circumstances it is surprising that the country has managed to retain any foregin trade at all, and the fact that it has, bears eloquent testimony to the possiblities of the country if it were properly governed.

Now let us examine the effect of this policy on the country's securities. We have no means of ascertaining the present value

of the Internal loans, but assuming that they have depreciated to the same extent as the paper currency, they would now be worth only one-fourth of their face value. As regards the External loans, we have the Stock Exchange quotations to guide us, and the following table shows to what extent the various issues have fallen. I may remark that they have recently been very much lower than the prices marked, and but for a lingering faith (quite unfounded, alas) that the great house of Rothschilds would safeguard the bondholder's interests, the quotations would doubtless have fallen 50 to 100 per cent. further:—

Loan.		Present Amount.	Price.	Dep'tion.
1879	4½ p.c.	£2,276,387	63	£842,268
1883	4½ p.c.	3,292,000	64	1,185,120
1888	4½ p.c.	5,298,600	63	1,960,482
1889	4 p.c.	18,388,200	62	6,987,516
1895	5 p.c.	7,331,600	70	2,199,480
W. of Mins	5 p.c.	3,388,100	64	1,219,716
Funding	5 p.c.	1,926,466	89	211,910
	Total	£41,901,353		£14,606,492
Provincial, etc, Loans—				
San Paulo		£688,500	92	£55,080
Rio de Janeiro		503,000	67	165,990
Parana		197,400	32½	133,245
Santos		86,700	99	867
	Total	£1,475,600		£355,182

From the above it will be seen that the National Loans, amounting at present to about 42 millions, are depreciated to the extent of 35 per cent., while the State and City loans have lost 24 per cent.. In addition there are £1,500,000 Treasury Bills outstanding, but apparently they are all in the hands of the Rothschilds, and at any rate no quotation for them is ascertainable. I notice, however, in a recent issue of the *Jornal do Commercio* of Rio de Janeiro, that it is intended to pay off these Treasury Bills at once, and in any case Messrs. Rothschild stipulated that they should be a first charge on any funds received from the sale or lease of the Brazilian Central Railway which has hung fire for the past 18 months or more. —*Weekly Sun.*

THE COMING TEA BOOM.

"J" writes in *Capital*:—That hope springs eternal in the human breast was never better exemplified than in the tone just now of all the papers connected with the tea industry. If any of our readers will just trouble to turn up the papers at this time last year, and read the gloomy forecasts for the season, and, later on, the suggestions thrown out for auxiliaries to tea, as the industry was on its last legs, and still later on (till within a month or two ago) the pathetic reference to the great army of unemployed tea planters, who were knocking about Calcutta without the wherewithal to buy a meal; one can scarcely believe their own eyes that such a brief period could have transmogrified the situation as now represented in our planting papers: in fact, the change of front reminds one of the "Rejuvenation of Miss Semaphore"—a modern miracle! What can be the meaning? Is it a bait laid out to catch the unwary investor?—a sort of walk-into-my-parlor sort of business, for we fail to find anything to account for the buoyancy which is at present on. We do not deny that the figures of consumption, etc., are much more encouraging than they have been for some time, but provided all the districts make good crops this year (which they are all pointing to just now) the outturn for shipment to London will be at least two millions more than last year, which is quite enough to have its corresponding effect on the market price of tea at home. The stock of tea at present in London, notwithstanding the depletion which has taken place for some months, is more than equal to a six months' requirement, so that there is always a large surplus to fill any immediate want; and, until this surplus is depleted to almost zero, it is utter nonsense papers writing of a probable dearth of Indian tea. Such a course as we are referring to can have but one end, and that is disaster; poor, worthless stocks will be boomed, and gardens opened out, and the public taken in; last year showed what a panic the production of a few million extra pounds caused on the stock exchange; even properties, which were well known as sound investments, sharing to such an extent in it that they could with difficulty raise their finance, and, then only, at ruinous rates. Any one going to a bank, and asking for accommodation, and offering tea shares, had a reply, "Faugh, a drug in the market; our instructions from home are not to touch tea." What a change a few months has wrought over the scene Your bank manager meets you with a smiling countenance: "Certainly, certainly, hypothecate the crop, and we will make advances;" in fact, we hear of one or two cases in which money is being advanced to open out new concerns. *Cui bono?* Echo answers, for whom?

We by no means look upon tea as a bad investment, but there have been so many "booms" in it since its infancy that we would advise a little more sobriety now that it has got to maturer years, and those who walk in this way will reap the benefit. One of the greatest curses the industry has had to contend against has been the promoter—the modern Hooley, and we see signs of several such being on the warpath already, and we simply utter a word of warning in time as we feel confident the Calcutta agency houses if combining together could stop such a thing. It must be always remembered that tea has a great deal to contend against, and should give a 10 per cent. dividend, when many other investments are giving 5. Consider what a cholera scare, a shower of hail, a bad breakdown in the machinery (not to mention many other things) mean in a large concern. A season's prospects may be ruined in an incredibly short time, and we think that every one will agree that 10 per cent. is not too much to expect from tea. Let our readers examine the share list for 1898, and finding a 10 per cent., or even an 8 per cent. dividend against that company, they may then consider these a safe investment, but nothing under that.

THE BRAZILIAN COFFEE MARKET.

The following is the detailed weekly report on the Brazilian coffee markets from the *Rio News* of March 14. On Monday the Rio market opened firm with business done freely between packers and factors on bases of 12$700 and 12$800 per arroba for No. 7 type. There was also a good demand on the part of the exporters, but their ideas were based so low, owing to the state of exchange, that the packers refused to consider their offers and were firm on 12$700 per arroba No. 7, at which 12,000 bags were disposed of in the course of the day. In Santos the market was firm, with good average selling at 7$900 per 10 kilos. The news from New York and Hamburg reported slight falls, while insignificant rises took place in Havre and London. The local market was not quite so firm on Tuesday, but between factors and packers a fair amount of business was done on bases which ranged from 12$600 to 12$800 per arroba for No. 7. The shippers held out for a reduction of price, but notwithstanding that they could buy from 100 to 200 reis less than on the previous day, the known sales at the end of the day did not exceed 10,000 bags. In Santos prices were also less than on Monday, good average fetching 7$800 per 10 kilos. All the foreign markets reported small falls. On Wednesday the Rio market was very dull, with only a few lots offered for sale. The business between packers and factors was arranged on bases of 12$400 and 12$500. The American shippers held aloof for the most part, as they could not come to terms with the packers, and of the 10,000 bags sold during the day the European shippers were the principal buyers. The Americans confined their small transactions to choice lots, and the general base of the day was 12$400 per arroba for No. 7 type Good average in Santos had dropped to 7$750 per 10 kilos. There was no news of interest from foreign markets. There was more animation in the local market on Thursday, but no change in the rates of the previous day as far as business between packers and factors was concerned The demand on the part of the shippers was chiefly confined to the selected types, but in spite of the low offers of the American exporters the packers were firm, and the 9,000 bags sold were bought on bases of 12$400 and 12$500, at which latter rate the market closed firm. In Santos good average fell to 7$700 per 10 kilos The foreign markets were unchanged during the day Friday was a dull day here. The packers bought readily from the factors on a base of 12$500 per arroba for No. 7, but the purchases made by the latter were mostly of choice coffee, which was bought in on a base of 12$500. Santos remained un-

changed from the previous day. New York reported a fall of 10 points, and Hamburg a small drop, but Havre and London were practically unchanged. On Saturday the local market was again dull, and the few transactions realised between packers and factors were on bases of 12$400 per arroba No. 7. The shippers again concerned themselves only with select types, and 7,000 bags were sold for 12$400 per arroba. There was no change of interest in Santos or abroad.

A BIT OF THE TRUTH.

The most pertinent and startling question ever asked is this—"*What is truth?*"

A Roman Governor propounded it once, under circumstances which greatly worried and perplexed his official mind. And he was not the first man or the last—not by myriads. So far as I know there has been no satisfactory answer. Some people (radicals and come-outers of various sorts) fancy that in this, the tail-end of a rather braggart and conceited century, they have flushed a fairsized covey of truths by firing speculative shotguns into every wayside bush and bog.

But have they done it? No, gentle reader, no. They have put up crows and sparrows, the same crows that picked the bones of the cave dwellers, and the same sparrows that sold two for a farthing in the time of Pilate. There were plenty of fools of old, and there are plenty now. The ancient doctors, indeed, prescribed some horrible stuffs as medicine—they used electuaries of viper's flesh and recommended pomegranate seeds for toothache because those seeds resemble human teeth. Very shallow and silly, to be sure, this sounds to us. But if you wanted to find things that come very near matching them in modern practice, I could show you where to look. On my table I have a list, of about 300 new "remedies" introduced to a suffering world within the past twelve-month. "Must be some good ones among them," do you say? Possibly. Time will tell. Meanwhile let us stick to whatever we are sure of. "We learn how to cure diseases," said Celsus, "by experience, not by reasoning."

"Some of the greatest truths in medicine," said a learned Scotch doctor, "came by the humblest means; not by synthesis or venesection, but by the observations of peasants and the experiments of motherly women.

Concering a medicine discovered by one such woman, thousands of stories have been told and letters written. Here is an example:—

"For many years I have suffered from indigestion and weakness. I seemed to have no energy for anything. I had a poor appetite, and what little food I ate caused me violent pains at the chest and between the shoulders. Frequently I had attacks of giddiness, and when I stooped I suffered from an unnatural rush of blood to the head. The pain which I was called upon to bear was often very severe; it affected all parts of my body, and at night I got little proper and refreshing sleep on account of it.

"As time went on and the complaint grew fixed upon me, I came to be exceedingly weak, and now and again was obliged to take to my bed. I lost flesh and became quite thin, living, as I did, only on milk, beef tea, and other kinds of liquid food. It will be understood, of course, that I had medical care, besides attending the South London Dispensary. Yet I received no benefit from what was done for me.

"It happened that in January, 1889, a freind, Mr. Pullen, told me he had suffered in a similar manner and been cured by a remedy called Mother Seigel's Syrup. Acting on his suggestion I got a bottle, and after having taken it found great relief. Presently my appetite returned and food no longer distressed me. Convinced that Mother Seigel's Syrup was adapted to my ailment, I continued the use of it until it was no longer needed. My health and strength were re-established, and I have since been well. This medicine had done what no others had been able to do. My husband, who suffered from biliousness, used it with the same result. You have my free consent to publish this brief statement if you desire to do so."—(Signed) Mrs. Julia Massey, 133, Lorrimore Road, Kennington, London, S.E., January 20th, 1898.

There is no royal road to the discovery of truth or knowledge. Anybody may find it anywhere. It is not always he who seeks that finds. Valuable discoveries are usually made by what, for lack of a better word, we call accident. The medicine that *cures* is the medicine we want, no matter whether it is old as the earth or was picked up yesterday in the fields by a child. That Mother Seigel's Syrup *cures* is proved by a cloud of witnesses. *It is a bit of the truth.* Therefore it will not die out, and nothing can take its place.

MARKET REPORT.

By Mail advices of 7th inst.

COFFEE.

The *London Commercial Record* says:—The public market reopened yesterday, when very heavy supplies were catalogued, but not more than one-third was able to be brought forward, the remainder being postponed. The quantity offered consisted almost entirely of Costa Rica and other Central American descriptions, the demand for which was irregular and, in many instances, a decline of about 2s per cwt. was accepted, but fine colory qualities sold with fair competition at about previous prices. "Futures" have been quiet and rather easier here, but on the Continent and in New York prices show a slight advance, closing rates being:—

London	Santos	July delivery	28s 9d
New York	No. 7 Rio	„ „	5.20 cents.
Hamburg	Santos	„ „	30 pf.
Havre	Santos	„ „	35¼ francs
Holland	Good ordinary Java		27½ cents.

The Dutch Trading Co. announce their next public sale for Tuesday, 11th instant, at Amsterdam, when 21,260 bags, 20 cases Java, &c., will be offered. Good ordinary is valued at 27½ cents.

Yesterday's auctions passed off as under:—

Nyasaland.—28 bags withdrawn.

Jamaica.—32 barrels 4 bags passed the hammer unsold.

Costa Rica.—3,855 bags mostly sold, good to fine ordinary 35s 6d to 41s, low middling to middling blue 47s to 56s, good to fine middling blue 58s to 76s, dull to fine bright bold blue 72s to 94s, fine bold 100s, pea-berry 60s to 87s.

Guatemala.—Of 325 bags catalogued 200 bags sold, fine ordinary brownish 40s 6d to 41s, good middling 63s 6d to 64s, pea-berry 45s to 69s 6d.

Salvador.—Of 130 bags offered only 8 bags sold, pea-berry 70s.

Nicaragua.—Of 45 bags offered, 3 bags pea-berry sold at 56s.

Colombian.—971 bags offered, and 700 bags sold, low middling to middling 48s to 54s, good to fine middling blue 55s 6d to 64s, good to fine bold blue 8s to 684s 6d, pea-berry 49s 6d to 71s.

Receipts in Rio and Santos.

	1898-9.	1897-8.	1896-7.	1895-6.
Since July 1				
Rio	2,665,000	3,702,000	2,977,000	1,991,000
Santos ...	4,907,000	5,552,000	4,562,000	2,760,000
Total ...	7,572,000	9,254,000	7,539,000	4,751,000
Crop	—	10,461,000	8,680,000	5,489,000

Auction sales to-day, which consisted of yesterday's postponed catalogues, embraced 4,940 bags East India, 448 packages Jamaica, 3,418 bags Costa Rica, 711 bags Colombian, 599 bags Guatemala, 145 bags Mexican, 228 bags Ecuador, 219 bags Nicaragua. Biddings were very slow and up to 4.30 p.m. the second sale had not finished. East India growths took up the greater portion of the time and were quitted at easier rates.

TEA.

Ceylon.—Public sales last month were rather larger, *viz.*:—92,900 packages bringing 8⅞d per lb., contrasted with 8½d per lb. for 73,300 packages in February, and 7¼d per lb. for 124,900 packages in March, 1898.

The feature of the month has been the steady rise in value of common to fair grades, quite 1d per lb., as these descriptions, from all producing countries, are becoming gradually scarce and there is no prospect of a further supply, except from Ceylon, for several months to come. There was excited competition at the auctions for Pekoe Souchongs, Pekoes and Broken Teas up to 8½d per lb., so that very little of the former was obtainable at 7¾d per lb., while the other sorts hardened in sympathy. Medium Pekoes and Broken Pekoes below 9½d per lb. were also in more request and generally dearer, but above that prices for the most part ruled irregularly, though the lines with attractive cup on the whole benefited by the better market. Quality was in most instances of a useful character, and the brisk flavour possessed by many invoices was liked by the trade. Finest lines were scarce, and only a few high quotations were recorded.

Deliveries are somewhat disappointing, although taken for the

nine months from 1st July, 1898 to 31st ultimo they exceed the imports by fully 1 million lbs., being 68,555,000 lbs. *versus* 67,489,000 lbs.

For the month of March:	1899.	1898.
Imports	8,190,084 lbs.	7,874,612 lbs.
Deliveries	7,310,692 „	8,095,844 „
Stock, 31st March ...	18,105,766 „	18,074,342 „

No public sales have been held in London. Messrs. Gow, Wilson and Stanton issue no circular, but as the month's figures have been published since their last circular was sent out, they write—

The increased deliveries of Indian tea are very encouraging, while the reduction in the stock is very marked. The smaller Ceylon deliveries during the past few months are doubtless accounted for by the somewhat higher prices which ruled for the lower grades of these teas during the greater portion of the season." The figures referred to are as follows:—

Deliveries of Indian tea during March were nearly one million and a half pounds above March last year. This brings up the increase in deliveries of Indian tea for the first ten months of the season to 13¼ millions ahead of the corresponding period last season; while the stock is 6½ millions below that at the end of March 1898. Smaller Ceylon deliveries are doubtless accounted for by the higher relative prices at which the lower grades of this growth were selling during a large portion of the season; but it is satisfactory to notice that the stock is practically the same as a year ago.

Movements (in lbs.) of Indian and Ceylon Tea from—

	1st June 1898 to 31st March 1899.		1st June 1897 to 31st March 1898.	
	Indian.	Ceylon.	Indian.	Ceylon.
Imports ..	134,212,606	77,266,270	133,389,215	78,782,754
Deliveries ..	119,886,559	76,153,798	106,572,938	80,661,592

IN CANADA.

The *Canadian Grocer* reports:—The strength of the Indian and Ceylon market is still the feature of the grocery trade. Some consignments have been stopped in transit and ordered to be forwarded to London, Eng., where they have been sold to much better advantage than they could have been here. This has, of course, added strength to the local market. It is understood that shipments consigned to the United States have also been stopped in transit and forwarded to London. Local brokers report an active demand for Indian and Ceylon teas on spot at about 14c. There are very few of these to be had, and, although quite a lot of these teas were sold during the past week at this figure, those who now have any are holding them over at less than ½c. per lb. more. Some pekoe souchongs on spot, which sold here a month ago at from 12½ to 13c. are now held at about 15c. The advices received here from Calcutta and Colombo indicate a very strong condition of affairs there also. A private letter received in Toronto this week stated that the writer was afraid that they would not for some time be able to get good teas to sell at less than 20c.

Japan teas are for the time being neglected, and prices are nominally firm.

On account of the high price of Indian and Ceylon teas there is quite a demand for China black teas. The teas wanted are chiefly from 10 to 11c. per lb., but, as there are not many of these teas offering, there have not been many transactions.

China green teas appear to be as firm as ever, and holders fully expect that the market will rule even higher than it is now.

COCOA.

Public auctions have been suspended owing to the Easter holidays; the private transactions have not produced any material change in prices, their extent being somewhat small.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

		1899.	1898.	1897.	1896.
Imports, B.P.	bags	54050	65246	47372	54172
Foreign	...	18986	43375	21882	19557
Home Con., B.P	..	25141	33708	27418	23150
Foreign	...	16012	16500	21070	17770
Exports, B P.	...	15110	9519	14644	10271
Foreign	...	11660	9455	12824	6700
Stock, B.P.	...	59392	81058	83186	86515
Foreign	.	43888	50920	48147	72462

PEPPER.

Black.—The market is firm in tone but business is quiet. On the spot sales of Singapore have been made at 5¼d to 5$\frac{9}{32}$d basis fair. For arrival no sales reported; June-August shipments has buyers at 5$\frac{9}{16}$d.

The shipments of Black Pepper for the month of March compare as follows:—

	1st half.		2nd half.	
	1899.	1898.	1899.	1898.
U.K.—Sing ... *nil*	40	70	50	*nil*
„ Penang ... 40		170	*nil*	170
	40	240	50	170
Continent ...	30	160	70	120
United States ...	220	20	110	70
Total tons...	290	420	230	360

In *White* very little business done. Singapore, June-August (s.) is quoted at 8¾d, and Penang June-August at 8$\frac{3}{16}$d.

The shipments of White Pepper for the month of March compare as follows:—

	1st half.		2nd half.	
	1899.	1898.	1899.	1898.
U.K.—Sing ... 140		60	80	*nil*
„ Peng ... 50	190	240	90	230
		300	170	230
Continent ...	*nil*	100	120	30
Total tons ...	190	400	290	260

SULPHATE OF QUININE

Has suffered a decline of 1d to 1½d per oz. on sales to secure profits, but as all the cheap stuff offering is bought up by large holders of the article any depreciation of values can only be temporary At the moment, however, the market is disorganized. B&S or HB has been sold on the spot at 1s 7¾d down to 1s 7d, June delivery 1s 8¾d down to 1s 8½d, and August at 1s 8½d per oz. About 100,000 ozs. are reported sold.

Closing Report:—A semi-panic, and almost all positions done at 1s 6d. including August, but at the close no sellers under 1s 7d. 30,000 to 40,000 ozs. sold.

INDIA RUBBER.

With the holidays and buyers occupied with the large April tenders there is scarcely a transaction to report in Para, and sellers of fine hard at 4s 4d, soft at 4s 4½d; scrappy negroheads neglected. Dull competition in to-day's auctions and prices easier generally.

CARDAMOMS.

Mysores and Malabars of medium qualities have been dealt in to a fair extent at from 1*s.* 10*d.* to 3*s.* 3*d.* per lb. A large quantity will be offered next week. The Ceylon shipments from January 1 to March 14 were—

	1899.	1898.	1897.	1896.
Lb.	124,683	101,269	73,800	64,902

For the week ending March 14, 28,856 lbs. were shipped.

CINCHONA.

The Ceylon shipments for the week ending March 14 were 22,832 lb., bringing the total from January 1 to that date to 141,576 lb., as compared with 164,188 lb., on the same date in 1898, 87,355 lb. in 1897, and 72,056 lb. in 1896. In Amsterdam last week 1,134 bales of bark were received from Java. The bark shipments from Java during March 1899 have been 977,000 Amsterdam lb., against 700,000 in 1898, 504,000 in 1897, 557,000 in 1896, 449,000 in 1895, 522,000 in 1894, and 626,000 in 1893. The totals from January to March were: In 899, 2,025,800 Amsterdam lb.; 1898, 2,356,000; 1897, 1,350,000; 1896, 2,073,000; 1895, 1,862,000; 1894. 1,873,000; 1893, 1,881,000.

The London warehouse stock is now about 1,100 packages below that at the end of last year. It is smaller than it has ever been before in the last seven years at the corresponding date The arrivals up to March 31st were 4,108 packages, which is only reduced on by 1897 of the last seven years. The deliveries are 5,220 packages, which is about the average of the same years.

Amsterdam Bark Market.—The shipments of Cinchona bark from Java for the month of March, and the period January 1st to March 31st, during the last seven years, stated in English pounds are as follows:—

	1893.	1894	1895.	1896.	1897.	1898.	1899.
March ...	684,687	570,937	491,094	609,304	551,250	765,625	1,068,594
Jan.-Mar. ..	2,057,344	2,048,594	2,086,562	2,267,344	1,485,467	2,370,875	2,[illegible]

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

VOL. IV.] MADRAS, SATURDAY, MAY 6, 1899. [No. 18.

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SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 12th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, *2nd May—Weather.*—Last Monday and Tuesday there was very heavy rain here accompanied by hail. Since then it has been fair with passing clouds, though it has been raining in other parts of the country. *Crops.*—Some crops appear to be good on the Siddapur side. It is apprehended generally, however, that the heavy rain on the blossom has done a lot of injury. Labour is plentiful, and removing borer trees and supply holing have been started. *Health* good.

ENTOMOLOGY IN CEYLON.

In giving elsewhere copious extracts from the report for 1898 of Mr. E. E. Green, Honorary Entomologist to the Government of Ceylon, we enable our readers to judge of the excellent work that this gentleman has done. Knowing what wide scope there is for work of a similar kind in Southern India, they will no doubt share our surprise that the Madras Government should remain supine in regard to such an important matter. Mr. Green writes interestingly of various pests, many of which must be familiar to planters in Southern India. The lantana is pest enough in many places, but the lantana bug is one of those little pests that big pests have to worry them, and that are so apt to worry others than those by whose name they are best known. The lantana bug is said not to find the tea plant congenial, but we should scarcely care to trust it were more congenial fare missing for a time. Then *Helopeltis* (mosquito) has been very prevalent in some of the low districts of Ceylon. In the dry cool weather, it seems to lie low. With the April rain it comes forward again, and increases rapidly. Mr. Green says this is the time to attack it. Just when they may be assumed to be in the full glory of their rising strength, the survivors must be killed before they have

had time to propagate. Details will be found in the report, though Mr. Green observes:—"Our knowledge of the life cycle of *Helopeltis* is not yet complete, and will be made the subject of future investigations. While 'all alive' the insects can be studied, but it has yet to be learnt what becomes of them during the resting season. A certain proportion must hibernate and reappear in the spring, or resting eggs may be deposited and remain unhatched for several months." The determination of this point is, says Mr. Green, most important.

Coolies employed to catch *Helopeltis* have brought in several other plant-sucking *Hemiptera*, notably the *Capsus rama*, (Kirby.) a greenish insect with transparent wings, which is often present in large numbers on the blighted tea. Again, the shot-hole borer, *Xyleborus fornicatus*, (Eichoff,) is reported to have done much injury to tea, chiefly at the time of pruning "when the cut surfaces of the affected stems look as if riddled by small shot." Extensive defoliation of tea-plants by the caterpillars of *Heterusia cingala* is also referred to. These are said to appear in thousands and to eat every leaf off the trees. They are, so to say, the locusts of the tea-plant. Mr. Green states, however, that all these excessive plagues of caterpillars send on 'pilots' beforehand. They are, in fact, preceded by "smaller broods which, from their affecting perhaps one or two bushes only, are overlooked or considered to be of no importance." The planter's aim should be to destroy the early brood promptly. As with the cloud no bigger than a man's hand that threatens a destructive storm, so with small broods of caterpillar. Take the warning, and prepare in good time. Several caterpillars have been prominent among the tea in Ceylon. The *Orygia postica* (Wlk.) is referred to. The Tea Tortrix, *Homous fasciculina*, again, and the leaf roller, *Gracilaria theivora*, (Wlsm,) claim a connection with the caterpillar world, and they and their progeny should be carefully seen to. Mr. Green explains what they are, and how to deal with them. The yellow tea-mite, *Tarsonymus sp.* is also referred to as having displayed unusual activity and certain termites of undetermined species are reported to have damaged tea bushes in certain districts.

With Dr. Watt's comprehensive book and such annual reports as those of Mr. Green's, the planter is armed against the invasion of his estate by pests. But he must keep his arms bright and ready for the fray. He must post himself up, and keep himself well informed He must be ever observant, and must learn to distinguish pest from pest, "hostile" from "friendly." As regards remedies, Dr. Watt lays down general rules and describes many special systems. Men like Mr. Green record the progress of investigation and experiment from year to year. In the report under notice, Mr. Green states that the question of quarantining and fumigating imported plants and fruits has been under consideration. Prevention of this kind is advocated, because the green bug of coffee and the lantana bug are both said to be importations. Then there is the lady-bird remedy to be thought of. Mr. Green's remarks on this point are merely an elaborated account of facts that he has previously enabled us to place before our readers, but this does not detract from their interest. There is certainly one new point: the record of failure in the attempt to export lady-birds from Ceylon to the Cape per post; but this merely shows the uncertainty that must attend experiments of the kind referred to. Delay in course of transmission per post, and consequent disaster. This, however, affords no ground for despondency. In the world of science, more perhaps than in other branches of life, men learn to profit by their own failures. Experience gained means additional strength, and in this matter of the use of lady-birds as "friendlies," the planter has still a great deal to learn. Whether he uses "native" or imported allies, he must first study their capabilities. Here it is that the want of a scientific Entomologist is, and must continue to be, seriously felt. How long will it take to induce the Local Government to fill the gap that is so evident? The answer must depend largely on the manner in which planters take the matter up and urge their needs upon the Government.

ILLICIT COMMISSIONS.

A vast amount of comment and criticism has been provoked by a report lately issued by the London Chamber of Commerce. Some time ago, that body appointed a special committee to consider secret commissions in trade. We have not seen the report, but the remarks of different trade papers show that it reveals a considerable amount of illicit "financial arrangements" on the part of such a variety of trades and professions that we might almost infer that *all* are included. Mr. David Howard, of Quinine fame, was Chairman of the Committee; and no less than twenty of the Trade Sections of the Chamber were represented on the Committee. The evidence taken was mostly given anonymously, and was to the effect that in some trades the practice referred to is increasing. In some instances it is an established "custom of the trade," though illegal for all that. Among instances cited is the following:—A pharmaceutical chemist stated that "secret commissions are given by chemists to medical men on their prescriptions supplied to patients, in some cases amounting to from 25 to 50 per cent. on the price charged by the dispensing chemists." The *British Colonial Druggist* remarks:—"This is an evil the existence of which we cannot deny." As if to show, however, that, bad though this is, there are worse examples offered by other trades, our contemporary says elsewhere:—"The Chamber's report mentions the case of produce brokers taking secret commissions and we are afraid that the brokers have their dishonourable members like the rest. But such instances as we have heard of do not lead us to withdraw what we have said, that the drug and chemical trades, taken altogether, are freer of the evil of bribery than most trades." It is the old story of the tanner: "there is nothing like leather." Yet things must be in a bad way indeed when a trade organ can find nothing more cheerful to say than, "Well, our trade is corrupt, but most others are worse." The allusion to produce brokers, however, brings this matter home to our planting readers, for it is certain that some of these brokers not only *receive* secret commissions but *pay* them. The reception, then, may be taken as connected with the sale price; the granting of them is to strengthen a connection with importing merchants, who, paid a commission by the planter-consignor, for attending to his interests, often receive another from the broker for putting the business in his hands. We do not know if any Chambers of Commerce in India intend to support the

action of the London Chamber, but the matter is one that deserves the attention of the U. P. A. S. I., especially as the Association is in a manner affiliated to the Chamber. Every effort to reduce the profits of the middleman and to have the charges of "Commission Agents" put beyond suspicion of unfairness, is an effort in the right direction. The producer and the consumer must be brought as close together as possible, so that the maximum of return to the former and minimum of cost to the latter may be attained.

THE LABOUR QUESTION IN BRAZIL.

The manumission of slaves inaugurated an era of labour troubles in Brazil, but the selfish hopes of those who thought that it was the beginning of the end of cheap coffee cultivation in Brazil have been disappointed. Rising to the occasion, the authorities took measures that have met with considerable success, and free labour has been substituted for slave labour in such manner as to allay all fears concerning the future of the coffee industry so far as this depends on the supply of labour at moderate rates of wages. In the State of S. Paulo, for instance, there has been practically no check to rapid agricultural and industrial development. When, in 1889, slavery was ultimately abolished, no compensation whatever was offered to slave-owners. They, consequently, not only lost heavily in capital but were threatened in their income also in consequence of the impossibility of continuing the cultivation of their estates. Foreseeing this, the State of S. Paulo took the initiative and, even before emancipation was actually legalised, initiated the importation of free labour that, energetically developed by successive governments, has proved the salvation of that important State.

The cost of this was great, no doubt, but Brazil is believed to stand alone in having witnessed the abolition of slavery without payment of any compensation whatever, and without disturbance or temporary suspension of ordinary pursuit and activity. Indeed the *Brazilian Review* asserts that no period of Brazilian industrial history evidences greater activity than that which immediately followed emancipation. Not only did agricultural enterprise, until then almost absolutely dependant upon slave labour, not decline, but plantations were positively extended in such a manner as to nearly double production within ten years! The same contemporary observes that the last contract authorised by the State of S. Paulo was for the introduction of 60,000 immigrants in 1897; of these, 44,000 adr- been imported up to 31 Dec. 1898, of whom 25,184 entered year 1898, consisting of:

Italians	18,946
Spaniards	3,262
Portuguese	2,278
Austrians	426
Germans and Swiss	272

This shows what a heterogeneous population is being collected in the State; but, after all, it is a population of white men, and Brazil would appear to be free from any risk of the grave danger that now menaces the United States of America in the preponderance of political power on the part of the coloured race. It may have to take precautions against the mania for revolutions that seems to afflict its smaller neighbours in South America; but that should not be very difficult.

FERTILIZER LEGISLATION IN THE UNITED STATES.

A subject of very great importance to the agricultural community is under discussion in the United States. We should be very glad to see it taken up also in Great Britain and in India. At the last meeting of the U. P. A. S. I., allusion was made to the fact that planters have sometimes to try artificial fertilizers almost in the dark. In some instances, there is a statement of the component parts of an artificial manure, but no guarantee; and where there is a guarantee, it is often misleading, because put at such a very safe level as to give scarcely an approximate idea of the availability of nitrogen or potash or phosphoric acid in the fertlizer. In America, where artificial manures are very largely used, this difficulty has attracted considerable notice. The Association of Official Agricultural Chemists and the Association of American Agricultural Colleges and Experiment Stations lately appointed Committees to confer together on "uniformity in fertilizer laws." In a state composed of many states, each with its own form of laws, there is always a tendency for these to differ materially, and it is not surprising that, now that America has begun to recognize the need for legislative uniformity, this particular subject of laws relating to fertilizers should have come under consideration. If surprising at all, the action taken will be wondered at simply because it has been taken so late.

From the recommendations of these Joint Committees a great deal may be learnt that might be of the utmost service to law-makers in Great Britain and in India. The recommendations run upon lines that might also furnish a good guide to the adoption of a sound law as to the Adulteration of Foods and Drugs, for the Joint Committee has manifested a tenderness as to the ingredients of plant-foods that even American legislators have not yet shown with respect to the articles of human food and drink that are publicly offered for sale. The main recommendations of the Joint Committee are that all substances containing nitrogen, potash or phosphoric acid, sold, offered or exposed for sale for manurial purposes, excepting the dung of domestic animals when sold as such, should be subjected to inspection. An important omission from the exceptions is nightsoil, unless the "domestic animal" phrase is vastly comprehensive. Each package of manurial substances (as above deposed) sold, offered or exposed for sale, should bear a printed, legible guarantee, a statement of net weight the brand, name or trademark, the name and address of the manufacturer, and a note of the percentages of the manurial ingredients. As regards inspection, it is suggested that (1) The guaranteed statements on the packages forwarded to the Inspectors need not be in the form of an affidavit. (2) Sealed samples of fertilizers offered for sale need not be sent by the manufacturers to the Inspectors. (3) In lots of 5 tons or less, samples should be drawn from at least 10 packages, or if less than 10 packages are present, all should be sampled: in lots of over 5 tons, not less than 20 packages should be sampled. Duplicate samples should be drawn and sealed in the presence of the party or parties in interest, or their representatives, one of the samples to be taken by the collector and the other left with the party whose goods were inspected, subject to the call of the manufacturer. When examinations

are made, it is recommended that the methods of the Association of Official Agricultural Chemists be used, and the following miscellaneous recommendations also find a place in the Joint Committee's report :—An imprisonment clause for violation of fertilizer laws should be omitted. Manufacturers should not be obliged to secure bondsmen. Commercial valuations should not be affixed to the published analyses of manurial substances. A definition of the term "brand" should be inserted wherever a brand-tax is assessed. It will be seen from this that the rights of the fertilizer manufacturer have been considered, as well as those of the agriculturist.

Among the recommendations under reference are also sundry items stating what the manufacturer should be called upon to guarantee, and here, too, almost absolute uniformity is wisely aimed at. The chief points are as follows :—Total nitrogen should be guaranteed in all cases, and nitrogen in the form of nitrates or of ammonium salts should be guaranteed separately, if the manufacturer desires credit therefor. Total phosphoric acid should be guaranteed in all cases, and soluble, reverted and insoluble separately, if the manufacturer desires credit therefor. Potassium should be guaranteed as potash (potassium acid) soluble in water. When chlorine is present in fertilizers, manufacturers shall guarantee the maximum percentage thereof. In other cases than that of chlorine, only statements of the minimum amount of the substances present shall be given. For instance, instead of guaranteeing from 2 to 4 per cent. of potash, guarantee should read thus : "2 per cent. of potash." The guarantee should state the ingredients guaranteed in the following form and order :—

„	..	...	per cent. phosphoric acid soluble in water.
„	..	..	per cent. phosphoric acid reverted.
„	...	...	per cent. phosphoric acid insoluble.
„	...	.	per cent. phosphoric acid total.
„	.	...	per cent. nitrogen in nitrates.
„	..	...	per cent. nitrogen as ammonia.
„	...	...	per cent. nitrogen total.
„	...	...	per cent. potash soluble in water.
„	...	...	per cent. chlorine.

Ingredients not present should be omitted for the guarantee, and no other form of statement should be interpolated.

HIGH-GROWN CEYLON TEAS.

An experienced tea-planter in a comparatively high district of Ceylon writes that there has been plenty of rain, and tea has been flushing heavily, so much so that he fears the quality will be much poorer. Crops for the first quarter have been disappointing. He adds :—"Some time ago I had a letter from Mr.————, in which he says : 'In London I had a talk with the manager of a tea-dealing firm who have confined themselves all along to pure Ceylon tea, and he told me that Ceylon tea had fallen off so much from its strength of past years, that he thought, if they were to keep their customers, they must resort, as he said many firms have done, to fortifying Ceylon with the stronger teas from India.'" The *Observer* comments on this to the effect that there can be no doubt of the superior teas which virgin soil gave (and gives) for a few years in Ceylon : the question now is, can planters by manuring or cultivation, or improvement in manufacture, make up for a certain falling-off in strength and flavour as estates get older? This is part of the problem now being tackled by Mr. Kelway-Bamber. It is also being partially investigated at least so far as manuring is concerned, by many practical managers. That is to say, tea-planters are trying to feed their plants well before they fail, or before disease gets a firm hold of them, as it probably would do in time if they were starved or overworked.

TAMIL LABOUR IN SELANGOR.

At the Annual General Meeting of the Selangor Planters Association at Kuala Lumpur, on 25th February, the Chairman, Mr. Carey, proposed "that in view of the increasing demand for Tamil labour in this State, it is desirable that an understanding should be arrived at amongst employers with respect to the employment of labourers from other estates, and this Association is of opinion that members should individually guarantee to knowingly employ no cooly or gang of coolies from another estate without the express consent and goodwill of their previous employers. In order that fair play may be assured in every case and that the liberty of the coolies may not be unreasonably curtailed, all employers shall have the right of appeal to the Committee of this Association, whose decision shall be final and failure on the part of any member to comply with the Committee's ruling, should be at once attended by the prompt expulsion of such offending member from the roll of the Association. In cases where coolies who have been a cause of trouble to their previous employer, have been engaged in good faith and in ignorance of the facts on another estate, the Committee shall deal with each such case upon its merits and their decision as to the course to be followed shall be final, and neglect on the part of members concerned to comply with their ruling shall be attended by expulsion from the Association. Special emergency meetings of the Committee to deal with these questions will be held upon members advising the Honorary Secretary of their desire to have a settlement of such disputes arrived at."

This is a fairly lengthy resolution, but Mr. Carey explained that it was of vital importance that there should be combination amongst the planters so as to be masters of the coolies, or the coolies would be masters of the planters. In Ceylon great trouble had arisen through coolies moving about without reasonable restrictions, and in consequence advances had gone up by leaps and bounds until it had become a serious matter indeed for proprietors. In Ceylon kanganies left estates unless they got anything they wanted, and if Selangor planters were not careful they would find themselves in the same position. Under the present system a cooly can legally give a month's notice and leave the estate, and another planter would take him on ; but planting etiquette was stronger than law and the resolution would prevent coolies from acting in a manner which was unfair to their employers. The coolies' interests, however, must also be safeguarded, and in the case of a very unhealthy estate, they should be allowed to leave if such was their wish. Boycotting and unreasonable restrictions were obviated by the second part of the resolution, for it gave the right of appeal to the Committee, men in whom presumably the Association had confidence and who would see that no injustice was done. The latter

question was a most serious one, but treated on the lines of the resolution, there would be no friction. The resolution was carried unanimously. So it may be hoped there will be no reports of *cirmping* from Selangor, such as stirred our Ceylon friends' bile of late.

TELEGRAPHIC QUOTATIONS.

	April 29	May 1	2	3
LONDON—				
Bar Silver	28¾	28⅝	28¼	28⅜
Bank Rate	3%	3%	3%	3%
Coffee				
Mysore, Mid. (B) size ...	65*s.*	...	...	65*s.*
Ceylon Mid. Plantation...	105*s.*	...	...	...
Cinchona	...	...	(easier)	...
Per unit	...	...	1⅝*d.*	...
Monthly stocks, pkgs. ...	...	...	17,000	...
NEW YORK.—				
Coffee—Fair Rio ...	6¼	6¼	6¼	6¼
„ Futures, July ...	5·91 Aug.	5·89	5·86	5·87
Silver—Comml. Bars ...	62½	62¼	61¾	61¾

NOTES.

Colombo Tea Shipment for April. These are put at about 7,000,000 lbs. against an estimate of 7,500,000 to 8,000,000 lbs.

Tea Manufacture. We are compelled to defer commencement of the series of papers we have promised. A start will be made at an early date, however.

Fertilizers and Seed. Here is a hint from the States:—"Commercial fertilizers should not be brought into direct contact with germinating seed . . . It is highly improbable that potash, phosphoric acid, nitrogen, or lime used as fertilizers actually favour germination."

Nilgiri P. A. The Annual Meeting is to be held at the Masonic Hall, Ootacamund. There is a long agenda paper, including nomination of Honorary Secretary and Committee for the ensuing year; and various important questions of "planting politics."

Some Tea Statistics. Movements (in lbs.) of India and Ceylon tea during—

	March 1899.		March 1898.	
	Indian.	Ceylon.	Indian.	Ceylon.
Imports ...	6,089,152	8,190,084	6,688,567	7,874,612
Deliveries .	13,149,228	7,310,692	11,717,357	8,095,844
Stock ..	52,399,835	18,105,766	59,051,489	18,074,342

An Apology. Two extracts referred to in our Notes last week were, unfortunately, omitted by our printers. One is given to-day; the other has lost its virtue by now, so has been relegated to the waste-paper basket. We greatly regret the blunder, and trust that nothing of the kind will occur in future.

Sale of Ceylon Estates. The two Maskeliya estates, Bunyan and Avoca, the property of the late Mr. Tom Gray, were put up to public auction in London on the 26th ultimo by Messrs. Farebrother, Ellis, Egerton, Breach, Galsworthy & Co., and were purchased by Sir T. J. Lipton for £25,000 sterling.

Tea on the Continent of Europe. Regarding the important question of pushing Tea on the Continent of Europe, a Colombo paper understands that an extremely eligible Commissioner has been secured. The name has not transpired; but it will probably be published after the next meeting of the Thirty Committee. It is said that the name will at once secure general acceptance.

Analyses of Commercial Fertilizers in the United States. Vermont Experimental Station Bulletins state that three quarters of the total number of fertilizers inspected were above guarantee in every respect, nine-tenths were essentially equal to or better than guarantee, and all afforded the commercial equivalent of their guarantees. A good record!

London Tea Sales. Cabling to Colombo on the 27th ultimo, Messrs. Gow, Wilson and Stanton reported a fractional decline generally; teas with quality, weak. Pekoe Souchong 7¾*d.* (¼*d.* down) average 8½*d.* (unchanged), of 18,000 packages Ceylon Tea offered 15,000 were sold, and 11,000 Indians were disposed of out of 15,000 offered. Indian average was 9⅜*d.*

Colombo Tea Sales. At the Colombo public sales of 26th ultimo, about 8,478 pkgs. = 668,946 lbs. were offered, of which about 6,118 pkgs. = 480,834 lbs. were sold. A very depressed feeling was noticeable at the auctions, and prices generally were from 2 to 3 cents lower. Good invoices were offered from the following estates: Oakham, Annandale, Siriniawansa, Pallegodde, Palmerston, and Monkswood.

News from Sylhet. A Sylhet correspondent writes to the *Planter*:—Storm seems to be phenomenal this year, and in the tea district, very local. Our quarter is sometimes the scene of disaster, while close alongside the breeze has been little more than a zephyr. Manufacture is on full swing in most districts now, and the tea sales will soon be something to look forward to in the weekly papers. The first sale will probably be a month or so earlier than last year

A Coffee-growing Experiment in Bombay. The Annual Report of the Department of Land Records and Agriculture, Bombay Presidency, 1897-98, contains the following brief reference to Coffee:—"Little progress is reported to have been made by Rao Bahadur Morey in the cultivation of coffee on the lands leased to him in the Supa Petha. He has up to this time planted an area of only six gunthas, and the plants are not yet in bearing. Mr. Gogte, of Dipoli, has also got an old plantation of 200 to 300 plants, which he hopes shortly to extend if he can secure a money loan from Government.

Tea too dear! On his return from America recently the Ceylon Commissioner was reported to have expressed the opinion that Ceylon teas are too dear now for America, the rise of 2d. following on 5d. duty, being more than a people who care so little for

black tea, want to digest. Coffee—their national drink—they can have almost for nothing. On the other hand, men have been scouring the American cities for tea to be shipped to London! Some teas rejected by the United States Inspectors lately were bought for 2½d. in New York, shipped to London, and sold for 6¼d. They were rubbishy "China blacks."

Brazil is all right.

Coffee or no coffee, Brazil stands secure. Thus the *Brazilian Review*:—"The pessimists who can see only the length of their nose, forget in their lamentations that behind the fringe of settled coast there lies the vast and almost untrodden hinterland that waits only the touch of thrifty labour and ardent capital to wake its silent forest and lonely mountains to life and prosperity. However it may be delayed, it is bound to come at length. The future of Brazil is sure because it constitutes one of the few great reserves left on which Humanity is bound to draw some day or another, probably not very remote."

Queensland Coffee.

The London correspondent to the *Townsville Bulletin* writes as follows:—The four bags of Queensland coffee from the Kamerunga State Nursery were sold last week by public auction and fetched 42s. per cwt. The quantity was about 5 cwt. The price is low, too low to be profitable, but buyers would not pay right up to full market worth for such a small parcel. All people who tried the coffee speak well of it, but brokers tell me that they do not think it will pay to export coffee from Queensland, the expenses all round would probably be too high. The main thing required in economical coffee production is a plentiful supply of cheap labor. They suggest that the industry will progress in the colony in connection with local supply. *Apropos* of this matter, Mr. Wickham, an old Northern river planter, who, after a spell of planting in British Guiana had been on the Conflict Group, of which he has the concession for four years, arrived in London last Saturday. He says that in his opinion the slopes of the Bellenden Ker are admirably suited for coffee growing, and he entertains a hopeful view of the rubber industry in New Guinea and adjacent islands.

A good time coming.

This is the good old strain that an old New York coffee firm stands by. It says 'keep coffee stocks up,' basing its advice on conditions that are a repetition of the history of the coffee trade. As stated by one of the firms, higher prices will again return, as they have in the past. In 1886 there was an era of low cost, and the industry being unprofitable, the planters neglected their plantations and no new ones were cultivated. The supply was out of relation to the world's requirements, and an era of high prices followed, and this stimulated coffee planting in Mexico, Central and South America, and in time brought out an excess of supply and present low prices. In time there will be another reaction, due to crop failure a check to the industry, heavy increase in consumption—but just when no one can foresee. And so it is safe on the present basis of cost for dealers to carry full stocks of green coffee. There is no excess of fine coffee, and the result is the wide range in quotations—from 7 cents for low grade up to 33 cents for the finest raw Java. *Nil desperandum.* Coffee planters sing in chorus: "There is a good time coming" and "Wait till the clouds roll by"; and keep your spirits up until the luck turns a bit.

Good Tea.

Discussing "Facilities for making good tea," the *Ceylon Observer* shows that planters differ in their opinions on this point. One congratulates himself that the old fancied drawbacks to making good tea are being overcome, and that better tea is now being made on a majority of estates: another deals with the drawbacks as still potent factors. The two he gives prominence to are the scramble for quantity, and the attempt to cut down expenditure as much as possible. The inflated rupee compels the strictest economy, and the planter must show a saving on the cost per lb. of tea laid down. By sacrificing quality he attains this end; and if quantity yields a very slight profit, he excepts the inevitable, but at the cost of the estate's name in the market. Again, one is most emphatic that manuring is profitable and improves the tea, and records the heavy application of manures during the past two years on some estates with the best results; while the other is more cautious. He admits the improvement of tea by manuring, but doubts whether the results are generally remunerative—the fear being expressed that, if a continued downward tendency in prices rendered expenditure on manures impossible, the last state of the estate would be worse than the first!

Protection against Plant-diseases.

In a recent periodical (*Praktische Blätter für Pflanzenschutz*, January 1899) Professor J. E. Weiss, of Freising, gives results of some interesting experiments. He wished to test whether whole plants could not be treated as we do seeds, namely, by immersing them in some solution which would kill any fungi present without injuring the plants. He immersed plants of Hazel and Oak in spring-condition without leaves, also Box and Privet with leaves, in 1-per cent. solution of copper-soda mixture. After being twenty-four hours there the roots were uninjured, and the plants, on being planted-out, grew perfectly. He recommends that all plants brought into a garden from outside sources should be treated in this mixture for one or two hours before planting, thus ensuring the killing of any fungi they might have carried in. The 1-per cent. copper-soda solution is made in the proportions—3 oz. copper-sulphate, 3½ oz. washing soda, and 4 gallons of water. The two substances are dissolved separately in enough hot water, then poured together, and water added up to 4 gallons. This is a weak solution, but for delicate plants may be still further weakened by adding more water. Where plants are suspected, it seems a safe precaution to take. Further experiments are being conducted.

The Destruction of Tea in the United States.

Mr. William J. Buttfield, an importer of teas in New York, has begun a suit in the United States Circuit Court to test the legality of the regulations established by the Secretary of the Treasury in February, 1898, relative to the standard of teas imported into this country. Collector George R. Bidwell, Isaac McGay, Examiner of Teas at this port, and Thaddeus S. Sharretts, Wilbur F. Lunt, and James A. Jewell, General Appraisers, are

named as defendants. The complaint alleges that the defendants have refused to permit the complainant to import teas, and have seized and destroyed certain teas imported by him which were of purity, quality and fitness for consumption equal to the standard, because they were of a test-cup quality and appearance in size or colour of leaf different from the standard as fixed in the regulations established by the Treasury Department. In fixing these regulations complainant alleges that the defendants disregard the true intent and meaning of the Act relative to the inspection of teas. He contends that the regulations of February, 1898, are illegal and void, because the Secretary of the Treasury has no authority to determine as to the kind of tea admissible for import, and because the seizure and destruction of rejected tea is beyond the power of the law. The complaint alleges that he has $200,000 worth of tea laden and *en route* to America, which, under this construction of the Statute, is liable to rejection, seizure and destruction. He asks for an injunction restraining the Collector from rejecting, seizing, or destroying any teas imported by him pending the determination of the suit.

Pepper.

At the present time, says the *Grocer* of 8th ultimo, there is no description of spice the statistical position of which, at the port of London, is more favourable than that of black pepper, and it is hardly possible for it to become weaker yet awhile. The landings during the first quarter of the year have been restricted to 670 tons, in contrast with 2,015 tons in the same period of 1898; and as the combined deliveries for home use and export were augmented to 1,660 tons, instead of being only 1,100 tons, the remaining stock has been diminished to 6,280 tons, against 6,575 tons a twelve-month ago. As a consequence the market has vastly improved, and prices are 1*d.* per lb. higher than they were in April last. The advance in white pepper is even greater, say, 1½*d.* on the rates of a year back, but the reasons for it are nothing like so cogent as those for the kindred condiment, because no real diminution in the supply has taken place. A few days later the *London Commercial Record* wrote that it understood that the appearance of plague in Calcutta was responsible mainly for the prevailing stagnation in the pepper trade. Our contemporary observed:—Calcutta dealers, at the moment, evince, owing to the plague, very little interest in Tellicherry pepper. Prices in India have become, therefore, almost stationary, with a tendency in buyers' favour, which cannot fail to have a depressing influence on European speculators who, in the face of large arrivals, look in vain to India for support. A strong Indian market would inspire our operators with fresh confidence, and would create a better demand here, particularly if some reliable information as to the actual size of the crop and quantities unsold could be procured. Such information, however, is not forthcoming. We are told that the crop is estimated at about 4,000 tons, but of which about 2,000 tons have been sold, which means about 2,000 tons more to be divided among the pepper-consuming countries. At the first glance, this looks a formidable quantity, but it is, in reality, not so large as it appears, considering that these 2,000 tons will have to fill all demands until the appearance of the new crop in the winter of 1900. But, still, it is a quantity large enough to prevent an absolute dearth of pepper.

LETTERS TO THE EDITOR.

"CHEESINESS" IN TEAS.

Sir,—With reference to "Cheesiness" in tea, my experience is that it is not caused by damp or sappy wood, but by exposing chests, after being packed, *but not soldered*, to damp air At the time I had complaints it was the custom to take the chests into an open verandah to be soldered, and while there the dry tea must have been absorbing moisture. Afterwards I took to soldering in the tea-house and have had no complaints. My chests are made on the estate, and I use them as required, whether sappy or dry.

1*st May* 1889. E. M. Ewart.

GENERAL ARTICLES.

VANILLA.

The following is a translation by Mr. S. Wilhelm Rowntree, of York, England, from Sempler's "*Dietropische Agricultur*":—

Botanical Observations.

Vanilla is the generic name of epiphytical orchids indigenous to tropical America and Asia.

During their first stage of development they strike root and obtain nourishment from the ground, then they creep up trees to a height of 30 or 40 feet by sending out thread-like roots from knotty stems.

The stem is from 2 to 3 centimetres thick; the leaves grow in two long rows and are long, green, and fleshy. Clusters of blossoms grow out at the angle between stem and leaf; they are large and fleshy, and of a whitish yellow colour and pleasant odour. Following the blossoms come cylindrical pods, 8 or 10 inches long, which split on one side, and are filled with a number of small black seeds. The latter suggest sand they are imbedded in similarly coloured pulp.

The fruit is yellow when ripe. On drying, it turns black, and forms the well known spice.

The number of members of this family is not yet established; indeed some difference of opinion exists whether these are species or only varieties.

It has not yet been exactly determined which kinds of fruit are utilized, either in the trade or at the place of production.

In Mexico 4 useful kinds are known:—*Vanilla sativa, V. sylvestris, V. planifolia and V. pompona.*

In Guiana:—*Vanilla guianensis* with large yellow blossoms and long fruit.

In the province of Bahia:—*Vanilla palmarum.*

In Brazil and Peru:—*Vanilla pompona and aromatica*; the latter notwithstanding its name, having the least pleasant odour

The search for useful varieties is still progressing. The Director of the Botanical Gardens in British Guiana is just making the experiment of planting all the varieties indigenous to the whole of Guiana on his trellises (? misprint for Gelange, stretch of land) in order to determine which can be recommended for planting and generally how to graduate their values.

If there are still many questions to be solved about the Vanilla family, we do at least know definitely that the earlier theory, that most of the Vanilla of commerce comes from the *V. aromatica* is a mistake *V. planifolia* should take its place.

This kind furnishes the most valuable fruit, and is therefore brought into cultivation wherever Europeans are concerned in the Vanilla culture. What part the other kinds play in the production of the article of commerce it is impossible to say, even approximately.

The *V. pompona* seems to be rather important, for their short, thick pods, easily recognised, are always on the market (though in small parcels), indeed they have received the distinctive name, Vanillon.

Its value is considerably less than that of *V. planifolia* fruit, frequently only one quarter.

Apart from the useful varieties, the Vanilla family has only a purely botanical interest, for the blossoms do not possess the wonderful colour which distinguishes most orchids and ensures their high rank in-horticulture.

General Survey of the Production.

Vanilla was introduced into Europe in the 16th century from Mexico, which was the chief place of production at that time, as it is at the present day.

The total crop of this state was given as 108,500 half kilos, in the last published Statistics for 1880. One cannot take this as literally true, for the official machinery does not allow of an exact estimate being taken.

The output of Vanilla is still very considerable, and is not exceeded by that of any other country.

The chief seat of the industry is in the State Vera Cruz, the next in Oajaca The village Zentilla in the latter State is said to produce the finest Mexican Vanilla

The Vanilla culture is also more or less developed in the States of Tabasco, Yucatan, Chiapas, on the Isthmus of Tehuantepec and in a few places on the West coast as well as in the hinter land of Acapilco and Mazatlan.

As a rule, 5 kinds of Mexican Vanilla are recognised: —

(1.) Vanilla *fina* or *primiera*, the pods are at least 24 c. m long,
(2.) *Chica prima* is shorter and thinner,
(3.) *Zacate.*
(4.) *Rezacate*, and finally
(5.) *Basura*, mark degrees in size.

The last named is not only the smallest, but is spotted, and often damaged. These varieties differ not only in size, but often in the contents of the pods.

In Guatemala, the Vanilla is not cultivated for purposes of commerce; the Indians, however, collect the wild fruit in the forests of the North West coast, and bring them on the market at the Capital.

A few hundred pounds are exported from thence in some years, in others no pods are exported.

In the rest of Central America nothing is known of the culture of Vanilla, or of collecting the wild fruit.

It is a little better in the West Indies, where deficient experiments in planting have been made, but soon abandoned.

Here and there a few hundred shrubs are cultivated, the output is used for home consumption.

Guadeloupe alone exports small quantities to France, the annual amount varying extraordinarily. The exports amount in one year to 150 kilos, in the next to 1,500 kilos. In the year 1880, it amounted to 2,656 kilos.

Although wild Vanilla grows luxuriantly and abundantly in the forests of Venezuela and Guiana, its culture is completely neglected.

Attempts have recently been made in British Guiana to revive it.

The Brazilian Vanilla does not enjoy a good reputation; this is a consequence of the neglect in preparing the crop.

A considerable part of the fruit is collected from wild shrubs, and is consequently of little value.

What I have previously said about this country's Cocoa applies accurately to its Vanilla.

The Vanillon, alluded to above, comes for the most part from Brazil. It is almost all used in France.

During "the fifties," a series of bad harvests seriously damaged the sugar industry in Reunion, and caused the planters to turn to Coffee and Vanilla cultivation, with such results that this island has become, after Mexico, the chief source of this spice.

Not only that, the methods of cultivation have been brought to the highest degree of perfection in Reunion, and we must turn there to learn how the industry has advanced. The exemplary French statistics afford us also a dependable insight into the advance and present position of Vanilla culture—an example which awaits imitators in this special branch.

The Statistical Tables show that in 1866, 223 hectares were planted with Vanilla shrubs, furnishing a total crop of 15,494 kilos.

In 1871, the area covered was 593 hectares, and the harvest 25,547 kilos.

In 1874, area 1,563 hectares, and harvest 43,959 kilos.

At the beginning of the "eighties," the average harvest amounted to 50,000 kilos, and the area of cultivation about 1,800 hectares.

The latter cannot be sharply defined because it is increasingly the custom on this island to plant the shrubs in suitable places scattered over the ground. This is especially the case with the small landed proprietors who are mainly attracted to this industry.

This is readily comprehensible, for the cultivation of Vanilla is suited to the "small people" owing to the great value of the product, rendering possible the maintenance of a family of modest wants on a bit of land too small to allow of Sugar or Coffee cultivation.

A further advantage is, that it is not requisite to employ machine power or labour beyond that of the family, if working on a small scale.

The French have likewise introduced the cultivation to Tahiti, but according to the latest intelligence, only 30 hectares were planted, of which 2,000 kilos. of fruit formed the average crop.

The example of Reunion was soon imitated by the neighbouring island of Mauritius, but with less energy, for both before and since sugar has been regarded as the staple article of the island.

Statistical estimations of the export are available, not of the production.

From 1865 to 1873, the export amounted on an average to 5,000 English pounds (equal to 4,500 half kilos.), from that time the export increased to an average of 12,000 pounds per annum.

Mauritius possesses a few other orchid species, the leaves of which may replace Vanilla for the perfumer.

Angraecum fragrans, which when crushed emits an odour which powerfully reminds one of Vanilla—some profess to recognise an admixture of the odour of Tonquin (?) beans. The leaves of Fahan orchids should be mentioned, yielding an aromatic tea which is so much valued that this plant has been introduced into St. Helena and Madeira, and the leaves into France. The leaves of *Orchis fusca* emit a similar aroma.

About 1840, the cultivation of Vanilla was introduced into Java, but it has only engaged attention in recent times.

Planting has been energetically taken in hand in Ceylon. It is still a question, however, whether the enthusiasm will prove lasting, and whether this island will form an important source of Vanilla.

Vanilla thrives well in Madagascar, and is even cultivated on a small scale. The output is trifling, and, since the war with France, has completely ceased.

The refreshing action of Vanilla is due to an alkaloid named Vanillin, so closely allied to benzoic acid that it was previously considered identical with it.

Vanillin often crystallises out on the pods in the form of fine needle-shaped crystals—sometimes only years after picking.

The crystals notoriously influence the value of the article they are regarded as a measure of quality. This measure is occasionally misleading, as is demonstrated by the fact that the finest Mexican Vanilla contains only 1·70 per cent. Vanillin, Mauritius Vanilla, 2·75 per cent.; and yet the first is by far the most valued.

The explanation lies in the volatile oil which gives the special aroma, the products of Java and Bourbon being accompanied by another oil of pleasant odour.

The percentage of Vanillin varies from 1 to 2·75, with but few exceptions.

Vanilla is usually packed in air-tight tin boxes, in which it will retain its aroma for years.

The quality may be estimated from the following points of view —The longer and darker the pod, and the greater the quantity of crystals formed, so much the better are the goods. They should feel oily, and should emit a fresh, strong and pleasant odour.

The pods in a box should be equal in length, not broken or in any way damaged

It must be preserved in air-tight vessels, as the aroma rapidly volatilises.

These conditions are not always complied with in the retail trade; one result thereof is a regretably frequent adulteration of old odourless Vanilla with benzoic oil, which is said to restore the odour and oil of almonds to give the suppleness.

The most hardened deceivers go so far as to strew Vanilla with salt to imitate the Vanillin crystals.

A product of the plant, unknown in Europe, but prized in South America, is a juice which trickles from the fully ripe fruit, and is caught in vessels hung beneath.

REPORT OF THE HONORARY ENTOMOLOGIST, CEYLON.

ENEMIES OF THE TEA BUSH, AND OTHER PESTS.

Mr. Green has done an immense amount of work during the year. From his full report we make the following extracts:—

Owing to the drought up-country in the early months of the year and to the comparative failure of the south-west monsoon, there has been a marked increase in damage from insect pests of all kinds during 1898. Numerous complaints have been received of widespread injury from various insects that have hitherto attracted little attention. The more important insects of the year are noticed below.

Orthezia insignis, Dougl. (the lantana bug).—Considerable attention was drawn to this insect by its rapid increase throughout the Kandy district and along the railway. Besides the unsightly effect of the unhealthy and blackened vegetation, it was feared that the pest might spread on to the tea. That such fears were not altogether groundless was proved by the receipt from the Rangalla district of tea shoots thickly infested with *Orthezia*. Two small fields surrounded by chena scrub and native gardens were said to be attacked; but it is hoped that the strong measures taken have successfully checked its further extension on the tea. Fortunately tea does not appear to be a congenial food-plant, and so far has only been attacked where the bug has been crowded off the lantana or other infested shrubs. The danger lies in the possibility of the insect acquiring a taste for the tea plant when it has once obtained a foothold there. On this account it is strongly advised that wide boundaries should be cleared back wherever lantana scrub or chena impinges upon tea fields in infected districts. It is most desirable, too, that measures should be taken to check the extension of the pest in waste lands. This is best effected by firing the scrub twice a year, if it can be safely done. At present the pest is principally confined within a radius of twenty miles round Kandy; but, if unchecked, it may be expected to range over the whole Island within the next few years. A full account of its life-history, with recommendations for its treatment, is now in the press as the next "circular" to be issued.

Helopeltis Antonii.—The so-called mosquito blight has been very prevalent in some of the low-country districts (Kelani Valley, Kalutara, Udagama), resulting in a great falling-off of tea crop on affected estates. A visit was made to two of the infected districts and the local conditions investigated. When the pest is at its height, during the later months of the year, there is an almost complete loss of leaf on badly-attacked fields. The insects are present in enormous numbers. Children employed to catch them were, on one estate, bringing in from 200 to 400 insects each per day without producing any apparent decrease in the number. This pest seems an exception to the rule that dry weather favours the spread of insect pests. During the dry months of January, February and March the blight is practically non-existent. The insects commence to re-appear with the April rains, and rapidly increase. This is the time to attack the pest. Every effort should be made to kill these surviors before they have had time to propagate. The eggs are laid in the young tea shoots, almost invariably at some point above the "initial leaf." The young insect emerges in 10 to 12 days' time. It follows, therefore, that a rigid system of plucking close down to the initial leaf at intervals of 8 to 9 days, and the burning of the plucked shoots, must result in the destruction of a very large proportion of the eggs, and must tend to greatly check the increase of the pest. Our knowledge of the life cycle of *Helopeltis* is not yet complete, and will be made the subject of future investigations. Nothing is yet definitely known of the habits of the insects during the resting season. It is supposed that most of them die off as soon as the dry season approaches. A certain proportion, however, must hibernate and re-appear in the spring, or resting eggs may be deposited and remain unhatched for several months. The determination of this point is most important.

Several other plant-sucking *Hemiptera* have been sent to me as attacking tea. They are brought in by the coolies employed to catch the *Helopeltis*. Considerable doubt exists as to the actual damage done by them. The commonest, and one somewhat closely allied to *Helopeltis*, is *Capsus rama*, (Kirby) a greenish insect with transparent wings. It is often present in very large numbers on the blighted tea, and it imbeds its eggs in the young shoots in a similar manner to the *Helopeltis;* but when kept in captivity no punctures were observed upon the tea shoots included with the insects.

The Shot-hole Borer, Xyleborus fornicatus, (Eichoff) has been the subject of much correspondence throughout the year. Reports of injury to tea plants by this insect have been received from Watagoda, Nawalapitiya, Dolosbage, Kandy, and Deltota districts. Its presence is noticeable chiefly at the time of pruning, when the cut surfaces of the affected stems look as if riddled by small shot. On following out these holes they are found to ramify down through the stems, and contain numerous dark-brown beetles and their whitish, maggot-like larvæ. This beetle (admirably figured in "Indian Museum Notes," iv., 2) belongs to the family *Scolytidæ*. The insects of this family mostly attack dead or dying wood; but in the present instance they attack trees that are to all appearance perfectly healthy. Attack does not usualy result in the death of the tree, nor in freegrowing bushes does it produce any very marked result. The presence of these numerous galleries, however, must tend to produce decay by admitting water and other insects; infected trees also may very likely feel the effect of drought sooner. and this will mean a loss of flush. It is said that these insects cultivate a food fungus in their galleries (Hubbard, U S. Dept. of Agr. Div of Ent. Bull. 7) as is done by the termites and some ants. The burning of prunings in affected fields will help to check the pest; and the cut surfaces of the stems may be painted with some such greasy mixture as "Raupenleim," which will suffocate many of the insects in their galleries.

Numerous reports have been received of extensive defoliation of tea plants by the caterpillars of *Heterusia cingala*, (Moore.) They are said to appear in thousands, and to eat every leaf off the trees. It should be clearly understood that all these excessive plagues of caterpillars are preceded by smaller broods which, from their affecting perhaps one or two bushes only, are overlooked or considered to be of no importance. If this early brood had been promptly destroyed, the later extensive injury would have been avoided.

The caterpillar of *Heterusia cingala* is a fleshy-looking insect of a dull brick-red colour, about an inch long, broad, and thick-set. The back and sides are set with small conical tubercles with a few short inconspicuous hairs. When full-grown it spins a compact straw-coloured cocoon in a folded leaf, and in from two to three weeks emerges as a bright-coloured moth that might be readily mistaken for a butterfly. The moth has a wing expanse of $2\frac{1}{4}$ inches. The forewings are dark metallic, blackish-green, with an irregular white band and some whitish spots. The hind wings are black, with a broad primrose yellow zone across the middle, the black parts veined with metallic blue. The extremity and base of the abdomen are rich peacock blue, the median are a bright yellow. Some moths kept under observation shed their small oblong yellowish eggs loose on the bottom of the box in which they were confined. But as the moth has a prominent ovipositor, it is probable that under natural conditions the eggs would be deposited either in crevices of the ground or of the bark of the trees. *Heterusia cingala* is an indigenous species peculiar to Ceylon. Its caterpillar is subject to the attacks of a parasitic fly, *Exorista heterusiæ*, belonging to the family *Tachinidæ*, which fortunately checks any very extensive increase of the pest. Of over 100 caterpillars sent to me from one estate scarcely 10 produced moths, the balance having been destroyed by these flies The collection and destruction of the caterpillars by hand is the only practical treatment. A very badly-affected field might be pruned down and the prunings burnt upon the spot.

Other leaf-feeding caterpillars of the tea plant that have been prominent during the year are—

Orygia postica (Wlk.), a small hairy caterpillar with brush-like tufts, projecting forwards on each side of the head, similar tuft on the tail, two shorter tufts on each side, and four very compact tufts on the back. The female moth is wingless—merely a bag of eggs which she deposits on the surface of her cocoon. The male moth is a sober-coloured insect with brown wings marbled in darker shades. As all the eggs—and they are very numerous—are deposited on one spot, the resulting brood of caterpillars is at first confined to one bush. This is the time to attack them, and they can easily be exterminated before they have wandered further afield and started fresh broods.

The Tea Tortrix, *Homous fasciculina*,(Wlk.)—This insect is always present to a small extent on the tea. The larvæ is a small greenish

caterpillar that spins a few leaves together and feeds within them. Under ordinary circumstances it does no appreciable harm, but occasionally it unaccountably increases and makes itself obnoxiously conspicuous by spoiling the whole flush over acres of tea. The outbreak is usually of short duration, seldom extending beyond the period of one flush. In every instance that has come under my observation the sudden increase of the pest is as suddenly checked by an epidemic of a fungus disease that practically exterminates the caterpillars. The moth of this caterpillar is a small fawn-coloured insect, which when at rest is rendered very inconspicuous by its resemblance to the fallen bract of a plant.

The leaf roller, *Gracilaria theivora*, (Wlsm) is a very minute moth with a correspondingly minute caterpillar. Its small size may be realized from the fact that during the first half of its existence it lives and feeds quite comfortably as a miner between the two surfaces of a young tea leaf. Later, it twists up a leaf into a purse-like receptacle in which it completes its growth. This insect is common, and is usually of no economic importance. This year, for the first time, I have had reports of considerable injury caused by it. It increased to an extraordinary extent in the early months of the year. This was no doubt due partly to the prolonged drought. During the rainy weather the leafy receptacles formed by the caterpillars become filled with water and their inhabitants drowned. The collection and destruction of the doubled-up leaves in which the caterpillars reside is the only practical treatment. If the pluckers were instructed always to remove such leaves, there would be little fear of any sudden increase of the pest.

The yellow tea-mite, *Tarsonymus sp.*, has also shown unusual activity this year. This species is very commonly present on individual trees; but in September and October, probably owing to the failure of the south-west monsoon, complaints were numerous of extensive blights caused by this mite. The animal itself is microscopically small. It affects the young leaves only, differing in this respect from the other tea mites, such as "red spider," which confine themselves to the mature leaves. The symptoms of the blight are a hardening of the young leaves, with a brownish scaly appearance on the under surface, especially on each side of the midrib, with, very often, the semblance of a supplementary rib on each side of the true one. The shoots become hard and small, and eventually the bush stops flushing. Leaves that have been attacked never fully recover, but always bear a roughened pitted look. The mites are always found on the newest growth, moving upwards as the leaves get older. Close plucking is therefore a logical mode of treatment, and in the event of bad attacks spraying can be resorted to. Many other species of *Tarsonymus* are destructive pests in other countries.

Specimens of a large termite of an undetermined species, but quite distinct from the ordinary "white ant," have been received from various districts (Watagoda, Madulkele, Nawalapitiya) and reported as damaging living tea bushes. The insects make their entrance through the taproot, and completely hollow out the main stems. The tree survives for some time, so that the injury is not observed till too late, and suddenly collapses when dry weather sets in. The damage done is reported to be very considerable. Until the life-history of this particular species has been worked out it will be difficult to suggest any radical cure. Nothing is known of the nesting habits of the insect. As the termites probably travel for long distances underground, they are difficult to follow up. If the nest could be found and destroyed, the pest could soon be got under. A case of serious damage to tea seedlings by *Nematode* worms has been brought to my notice. The worms were said to have partially destroyed a good nursery of plants by eating off all the fine roots together with the bark of the taproot and young stems. The plants blacken and die off, and when pulled up are found to be entirely devoid of roots. I found the remains of the taproot and the cotyledons to be swarming with the young thread-worms. If this disease should become prevalent it would be very difficult to raise seedling plants. Whenever signs of the worms appear the ground should be treated with one of the alkaline manures, *e.g.*, nitrate of soda or of potash, preferably the former. These keep away worms and similar pests and are beneficial to the plants. Diseased seedlings should not be planted out.

The question of quarantining and fumigating imported plants and fruits has been under consideration, and experiments have been made with a view of determining the best methods of treatment for such cases. The risk of importing dangerous scale and other insects is considerable; the green bug of coffee and the lantana bug are both importations. Satisfactory results have been obtained by fumigation with hydrocyanic acid gas; and by the use of the gas in a more concentrated condition than usual in such work, and for a shorter period, the injury caused to delicate plants has been avoided.

Introduction of Beneficial Insects.—A consignment of lady-bird beetles of the species *Exochomus nigromaculatus* has been received through the kindness of Mr. C. P. Lounsbury, Government Entomologist, Cape Colony. To avoid unnecessary delay the box was sent by post, taking four weeks in transit. Only five beetles and four larvæ (evidently born during the journey) were found alive when the package reached me. The rest were dead, perhaps owing to having been captured when adult. The insects were carefully packed in moss, with a supply of food in the shape of cochineal insects, which being restricted to the prickly-pear were not liable to become a pest here. The surviving beetles were transferrred to glass jars, and provided with local scale insects as food (*Pulvinaria psidii*, *Dactylopius citri*, and *Lecanium viride*, the green bug), upon which they commenced to feed freely. They were also tried with *Orthezia*, but steadily refused it. They have since been fed exclusively on green bug, upon which they have thrived very well, and have produced young ones, which have been reared to maturity upon the same food. I consider the result of the experiment to be most encouraging, as proving the possibility of obtaining living beetles without the great expense and equal uncertainty of sending a special commissioner for their collection and transport. By securing a brood of beetles immediately after their arrival at the adult state, or while still in the pupal stage, the chance of their surviving the journey will be greater. Repeated small consignments would be more certain than a few large ones. The few survivors from the Cape consignment have now more than quadrupled their number, and fresh larvæ are appearing daily. When sufficient have been obtained, specimens will be distributed for liberation in the coffee districts, but it is important to keep a good stock for breeding purposes. There has unfortunately been considerable loss owing to the cannibal propensities of the insects. I now find it advisable to have small jars with a limited number in each, and to provide plenty of cover in the shape of dead leaves or moss into which the insects can retreat when moulting, at which period they are most liable to the attacks of their neighbours. Adult beetles and larvæ must not be kept together, for the same reason. The eggs are concealed among the rubbish, and the larvæ also conceal themselves, so that when it is necessary to clean out a jar, the rubbish must be kept under observation for a month, during which time many larvæ will make their appearance.

An exchange consignment of local lady-birds (*Chilochorus circumdatus*) was despatched by post to the Cape, but being delayed on the way, and not arriving for six weeks, the insects were all dead on arrival.

In a recent letter to the United Planters' Association of South India Mr. Lounsbury wisely cautions the planters not to expect too much from the colonization of foreign lady-birds, &c., pointing out that even when the introduction has been successful, local circumstances may tend to minimise the result. Climatic influences may be unsuitable. We are still quite in the experimental stage of the work, and must expect many failures, but the possible benefit is worth the cost of repeated failures. The work of Mr. Koebele in California and Hawaii shows what may be done in this direction. When we have to deal with large areas, artificial treatment is usually impracticable, and we must fall back upon natural remedies.

COOLY RECRUITING IN CEYLON FOR SOUTH WYNAAD.

Mr. E. H. F. Day, an ex-Ceylon planter, writes from Meppadi to the *Times of Ceylon* under date 25th April:—

I have just seen the correspondence in your paper the 20th instant re the recruiting of Ceylon coolies for estates in Southern India.

Since December last I have had two Ceylon kanganies here, who were brought over by a conductor. They did not bring over Ceylon coolies with them, but have recruited about a hundred coolies from Trichinopoly. I have only about eight coolies on the place who have been in Ceylon, and these the kangany says he brought from their native villages.

My head kangany informs me that he hopes to put another 150 coolies with sub-kanganies on the place, within the next two months.

The system here is to give a kangany an advance, and make him sign a contract to keep so many coolies on the place for a specified length of time. If he fails to fulfil this contract, he is liable for three months' imprisonment. I have questioned my kangany as to whether any of his new coolies are coming from Ceylon, and he says that some will come from there and some from their native villages.

I have told the kangany that he will have to produce *tundus* for all the Ceylon coolies he brings before they are given work on the estate. It will, however, be very difficult for me to ascertain which are Ceylon coolies and which are not. Consequently, it will be advisable for Ceylon Superintendents, who find their coolies are bolting without paying their debts, to send me full particulars, and I will then do my best to help them if I find the coolies are on this estate.

I may mention that the rates of pay here are as follow:—Men 5 annas, women 3½ annas, children 1½ to 3 annas. Head kangany 5 per cent. commission, sub-kangany 10 per cent. commission. Rice is R3 per bushel on the estate, and I make my kangany sign a contract to bring one cooly for every R20 advance that I give him. I recover one month's pay in every three against advances.

The reasons my kangany gives for being able to get a lot of Ceylon coolies at these rates—which are lower than Ceylon rates are—(1) that rice is cheaper here than in Ceylon; (2) that coolies here can get six days' work a week if they want it, whereas in Ceylon they can only sometimes get three.

P S.—The advance of R20 includes rail-fare, so that only sub-kanganies with small advances would be able to come here, as rail-fare from Ceylon amounts to close upon R10.

TEA, &c., COMPANIES.

The Poonagalla Valley Ceylon Co., Ld., declares a dividend of 4 per cent. against 3 per cent. last year.

The Ragalla Tea Estates, Ld., declares no dividend.

The Udabage Company, Ld.—215 acres tea in full bearing, 84 partial, 200 new clearings, 641 reserve. The crop secured amounted to 115,515 lbs. made tea realizing Rs.35,718·94, or an average price of 30·92 cents. per lb., as against an expenditure of (excluding item under Capital Account) Rs.30,539·71, or an average cost of cents 26·43 per lb. The balance at credit of Profit and Loss Account is Rs.6,380·65, including Rs.4,466·01 brought forward from 1897. Estimate for the current season 145,000 lbs. made tea.

General (Ceylon) Tea Estates, Ld.—The actual crop of tea gathered was 1,935,745 lbs, costing 29·72 cents f.o.b., which, at an exchange of 1*s.* 4 5-32*d.* was 4 4-5*d.* per lb, and to which must be added 97 cents of a penny for marine freight, warehousing and London charges, bringing the total cost for the tea sold in London to nearly 5 4-5*d.* per lb. The coffee crop turned out 3,369 bushels, costing f.o.b. in Colombo Rs.23,141·21 and netting in London £3,018 7*s.* 9*d.* Cocoa crop 132 cwts., costing f.o.b in Colombo Rs.4,612·07. Estimate—Tea 2,3·5,300 lbs. to cost Rs.26·57 f.o.b. Bought green leaf and leaf manufactured for others 181,000 lbs. Coffee crop 4,000 bushels, to cost f.o.b. Rs.26,187. Cocoa 150 cwt. Rs.6,207, besides whatever may be got for tea seed or plant sold.

Penawal Tea Company, Ld.—Dividend of 4 per cent. for the year declared.

Teesta Valley Tea Company, Ld.—Crop 2,243 maunds 10 seers. Revenue—By sales of tea amounts to Rs.84,352-1 2, or equal to 7·53 annas per lb; 71,625 lbs. were sold in Calcutta at an average of 8·02 annas, and 107,635 lbs. were shipped direct to London, and sold there at the equivalent of 7 annas per lb. The result of the direct shipments was a surplus of about Rs 300 on the Calcutta valuations at which they were invoiced; Rs.6,944-9-9 was realized by sales of cinchona bark, and with Rs.1,241-14-3 received for rents and other miscellaneous items, brought the total revenue up to Rs.92,538-9-2. After writing off Rs.4,394-13-1 on new cultivation, buildings and machinery, and providing for the manager's commission, the sum of Rs.18,475-5-1 represents the actual profit on the year's working; including *ad interim* dividend declared last October, 7 per cent. paid for the year. Estimate 2,200 maunds at a local cost of Rs.54,560, and an expenditure of Rs.1,440 on the upkeep of new cultivation. Calcutta expenditure should not exceed Rs.15,000.

Runghe Runghot Tea Co., Ld.—The outturn of the season was 70 335 lbs. of tea, profit Rs.12,331-1-3.

Phoolbarrve Tea Co., Ld.—Outturn 350,760 lbs., average 4as. 7p.

Ambuckie Tea Co., Ld.—Outturn 3,800 maunds, 2,966 maunds sold in Calcutta at an average of 8 as. per lb. and 808 in London at an average of 9·85d. Profit Rs.7,761-1-8. Estimate 4,000 maunds.

Sapakati Tea Co., Ld.—Outturn 824 maunds; average as.6-6. Loss Rs.3,705-11-5. Estimate 1,600 maunds fine tea.

Phœnix Tea Co. (of Cachar), Ld.—Outturn 4,748 maunds. Loss Rs.33,557-8-8. Estimate 448,000 lbs., to cost as. 3-5 locally, and as. 4-11 laid down.

Killing Valley Tea Association, Ld.—Crop 1,978 maunds, average as. 6-7p.

THE INDIAN CURRENCY COMMITTEE.

The following is the evidence of Mr. W. J. Thompson, Senior, and Mr. W. J. Thompson, Junior—the Mincing Lane brokers:—

Mr. William James Thompson, senior, and Mr. William James Thompson, junior, were called and examined.

8585. Chairman (to Mr. Thompson, senior) You and your son are the members of a well-known Mincing Lane firm?—Yes.

8586. You have been a tea-broker in Mincing Lane for how many years?—Sixty-seven years.

8587. For many years you have been Chairman of the National Discount Company?—Yes.

8588. (To Mr. Thompson, junior). You have been in partnership with your father for the last thirty years?—Yes.

8589. And you are both very familiar with all questions affecting the tea industry?—We ought to be.

8590. What has been your connection with the tea industry?—As brokers—simply to take the tea entrusted to us for sale in the London market, and to do the best for merchants.

THE DECLINE IN CHINAS.

8591. Can you give us the statistics of the approximate average prices of teas in London since 1884?—Yes. I have prepared the following table:—

APPROXIMATE AVERAGE PRICES OF TEAS IN LONDON.

Season.	Indian.	Ceylon.	China.
	s. d.	s. d.	d.
1883-4	1 1½	1 3½	11
1884-5	1 1	1 3	11
1885-6	1 1½	1 3	10½
1886-7	1 0	1 1	10
1887-8	0 11½	1 0½	9½
1888-9	0 10¼	0 11	9
1899-90	0 10½	0 11	9
1890-1	0 11	0 11	9½
1891-2	0 10	0 9½	9
1892-3	0 11	0 9	8½
1893-4	0 9½	0 8½	8
1894-5	0 10¼	0 8½	7¾
1895-6	0 9¼	0 8	7½
1896-7	0 9½	0 7¾	7
1897-8	0 9	0 7½	6

8592. During all those years, from 1883-84 to this time, China tea has always been the cheapest?—Oh, yes, in price.

8593. Have the imports into this country from India and Ceylon and from China been proceeding upon a regular ratio, or has there been a great increase in the one and a decrease in the other?—There has been an increase in the one and a decrease in the other.

8594. An increase from India and Ceylon and a decrease from China?—Yes.

8595 How do you explain that the cheapest article should have been the one that has decreased in quantity?—Because India and Ceylon offer you so very much better tea of the same kind than China.

8596. Therefore, you had a better market, although at a higher price?—But, really, India and Ceylon teas are cheaper than China teas because they go farther. You, yourself, well know that you do not require to put so much tea into your pot

8597. Do you think the general body of people who are the consumers of tea take that into account?—Well, I do not know—perhaps they make it too strong.

THE LAWS OF SUPPLY AND DEMAND.

8598. Can you tell us what the circumstances are that have caused this change of price? Supply and demand, in which I agree with the evidence already given by Sir James Mackay and others.

8599. The supply has exceeded the demand?—It has in one sense, because we used in former years to have a bigger stock; it used to be necessary to keep a bigger stock, because the China teas arrive here only during a few months of the year, whereas now every week a large Ceylon sale is held, and for nine months in the year there are Indian sales, so that we never have a shortage of supply. Buyers prefer now going from hand to mouth, and if the Indian and Ceylon supply is short, they prefer being squeezed rather than have to keep large stocks. And we must remember that tea does not keep. You cannot keep your tea for a year or even for six months; it is not as good as it was when it first came in—therefore, it is desirable for that and for many other reasons to keep on selling your tea as it arrives. That is the practice of the London market.

THE MARKETS FOR TEA.

8600. Can you give us an opinion as to the markets for tea other than the English market?—As to the other markets for tea, one is India itself, but that is merely a nominal market, because the Indian native does not drink tea in the same way as the Chinaman does.

8601. But the India native surely prefers Indian tea?—Such tea as he drinks, yes.

8602. India does not import any tea from China?—Practically, no. (Sir D. Barbour). They do import a little.

(The Witness). There is a little imported *en route* for Persia and Central Asia, but it is an exceedingly small quantity. Then, if you take Australasia, there you may say that British-grown tea has practically conquered the market. There has been a very rapid development on the lines of the home trade; it is now about 20 millions a year.

THE STRUGGLE IN AMERICA.

8603. (Chairman). Perhaps you will put those figures in?—Yes, I will include the figures. Then we come to the United States and Canada. Our trade there is gradually increasing, but very slowly indeed—it may be now some 12 millions a year.

8604. Do you say that Indian tea is increasing in that market?—Only slowly—very slowly. I am sorry to say that China and Japan have practically the whole of the United State consumption. It is a totally different tea to the Indian or Ceylon tea. Instead of black tea, it is green, or "uncoloured," and of a peculiar flavour. Perhaps it is a matter of taste, perhaps it is a matter of their water, but anyhow the Americans prefer the China and Japan tea. I may say that the London dealers, who do business in the country districts in England, such as Liverpool, Birmingham, and so on, have casks of water from the different towns sent to them to their London offices in order to taste the tea made in that water in order to select the samples best suited to the district. It is only fair to say that the Indian and Ceylon planters have done their very best to push the tea in the American and Canadian markets, by putting a voluntary cess upon themselves, amounting to many thousands a year, and by advertisements, and even by giving away their tea and sending special agents over to sell it; and, besides that, the London dealers doing the export trade have done the same thing. Yet they have not succeeded in getting hold of the American market; they have not laid hold of the American taste.

8605. Is that true of all the States?—The whole of America generally. I will give you here the figures that I got from the United States Consulate, on purpose for this Committee, of the teas imported into the United States of America, taking it for 1897 as being the last year. There were 56 million lbs. from China, 45½ million lbs. from Japan, and only 2 million lbs. from British India; that is to say, imported direct. A little more goes from us.

8606. Is there any duty in America upon tea?—Yes.

8607. It is the same duty for all tea?—No; there is an extra duty of 10 per cent. if it is an indirect import, otherwise there is no difference; all the tea duties are absolute.

PROGRESS IN RUSSIA.

8608. (Sir J. Muir). There was an extra 10 per cent. put on for the war?—I think so. Then there is another market—continental Europe, principally Russia In that market they consume the same class of tea from China as we get from India and Ceylon, namely, black teas, and, therefore, we are on a better footing there, and the trade with Russia is increasing, I am glad to say, very considerably. This year, again, it is larger than last year.

8609. (Chairman). Is that in India and Ceylon teas?—Yes, both. I mean the trade from the London market. I should say that the Russians are an exceedingly conservative people. At one time, even the fact that the Indian tea was done up in different packages from those that they had been used to from China militated against it; but now they have found out that really our teas are worth their attention, and we get large orders from Russia for Indian and Ceylon teas of all growths.

THE HOME CONSUMPTION.

8610. In this country Indian and Ceylon teas, of course, have a good market?—Yes, and our home consumption is increasing every year? It is increasing, you may say, *pari passu* with the population.

OVER-PRODUCTION AND ITS RESULTS.

8611. Do you think that in recent years there has been an excess of production in India or Ceylon?—There has been quite enough; 5 per cent. less would have given you 10 per cent. more for your teas.

8612. Do you think the lowering of the price has rather arisen from an excess of supply?—We have had rather too much, and we also find that we can do with less stocks than we used to, which is a very important factor.

8613. Do you think the supply of Indian and Ceylon teas will increase or not?—I think so, undoubtedly, but it will not increase so rapidly as hitherto.

8614. How is it affected by the present rate of exchange?—Is that a fair question to put to a Mincing Lane broker?

8615. I will not ask you if you have not an opinion to express upon it?—I have an opinion, of course. It is affected. I am quite sure that, since the exchange has risen, many people have not been extending as they would have done.

8616. Then it is to that extent injurious to the trade?—It has affected it in that way, there is no doubt.

8617. According to your figures, it does not seem to have affected prices, but it would have raised the cost of production?—Yes.

8618. And, therefore, affected the profit and affected the growth of the trade, and possibly the investment of capital in that trade?—It has affected profit certainly, as we poor shareholders have found out.

8619. (To Mr. Thompson, senior). You agree with your son's evidence?—Yes.

A CHANGE IN TASTE.

8620. (Lord Balfour of Burleigh, to Mr. Thompson, junior.) I gather from you that the variation of these figures arises, in your opinion, from a change in taste of those who drink tea; they now prefer the Indian and Ceylon tea to the Chinese tea?—Certainly, and the Chineses have helped that by the quality of their teas deteriorating.

CHINAS AT A DISCOUNT.

8621. I suppose you say that the relative price of the two teas would be an important factor in determining the consumption. For example, if China tea can be put on the market at a less relative price than Indian tea, it would in the course of time let in the Chinese to compete again?—It would interfere certainly if they could undersell Indian and Ceylon teas, but it is fair to say that some of our biggest people in London will not use a pound of China tea because it spoils their blend. You know that practically all the tea that is sold in the United Kingdom is blended.

8622. Have you any opinion whether the difference in quality between the India and Ceylon tea and the China tea is intrinsic, or is on account of careless cultivation, or anything which the Chinese by improved methods could counteract?—It is certainly partially intrinsic, because the Indian and Ceylon tea is not the same as the China tea, it is an indigenous plant, growing wild in the jungles of Assam, and it is found to be superior to the China plant. We have certainly heard that a lot of new tea machinery has been sent to China, but so far we have had no results from that. Anyhow, they will never get from the Chinese plant such fine teas as are got from the Indian plant.

8623. Are you able to say whether any experiments have been made in China with the Indian plant?—I think not: they have made experiments in Java, and the result has been good.

8624. (Sir J. Muir.) You have some interest in tea companies as a shareholder?—Yes, a little.

THE LOSSES OF TEA COMPANIES AND THEIR CAUSE.

8625. And you are aware that the dividends paid by the tea companies this eeason have been materially less than they were last year and in previous years ?—Yes.

8626. Arising mainly from what cause?—Increased cost of production.

8627. One of the leading elements in that is the difference in exchange; that is to say, suppose your agents in Calcutta sell a 90 days' sight bill upon a London bank to lay down funds to pay the coolies wages, if they sell the bill at 1s. 4d. in the one case, whereas if the Government of India had not in this arbitrary way fixed the rate at 1s. 4d., they could have sold the bid at 1s. 2d., that would have made a considerable difference?—Yes.

8628. And probably have turned the loss on the last season into a profit?—It would have made a considerable difference, of course.

8629. What difference do you estimate there would be between a 1s. 4d. rate and a 1s. 2d. rate, on the wages of the coolies per pound of tea?—I believe it would amount to about $\frac{5}{8}$ ths of a penny per pound.

8630. That effect is felt very much more severely, is it not, in Ceylon than in India, because the entire industry of the Island of Ceylon now, since the coffee failed, is tea?—Yes, that is the great industry of the island.

8631. The great industry of the island hangs now upon tea?—Yes.

THE FUTURE OF CEYLON.

8632. Suppose the tea industry should fail, as coffee has failed, what becomes of the Island?—I will leave you to deal with that question, I do not like to think of it.

8633. How is the Government to carry on the administration of the Colony?—I am not the Governor.

8634. These are questions, I think, that it behoves us a little to look at. I hear the Ceylon tea planters putting questions of that nature, and I daresay you have heard the same?—Yes, but is it not a little hard to put the question to a poor tea-broker?

8635. You are a tea planter to a small extent, but you are not in the same position as some of the poor tea planters are?—No, and I never was in that position from the other point of view either.

SOME TRADE CURIOSITIES.

8636. (Sir F. Mowatt.) In the yearly prices which you gave us of the teas, I observe some curious variations. In 1892-93 I think you said that India was selling at 11d., Ceylon at 9d. and China at 8½d.?—Yes.

8637. The next year it fell to 9½d. in India, 8½d. in Ceylon, and 8d. in China?—Yes.

8638. The next year it rose again to 10¼d., 8½d., and there was a little fall in the case of China to 7¾d.?—Yes.

8639. Is there any explanation of that beyond the ordinary rates of supply and demand?—Probably not. We had one very fine year from Assam—a sort of climatic influence came over Assam, and gave us a very large quantity of high priced teas. I think that was the year when the price rose to 10¼d.

AN INCREASE OF BRITISH-GROWN TEAS POSSIBLE.

8640. On the whole, from your experience of the trade, do you anticipate that the supply of Indian and Ceylon teas will tend to increase?—Yes, I am certainly of that opinion.

8641. (Sir D. Barbour.) In the figures you gave of the prices, I noticed that, in the earlier years, Ceylon tea fetched a much higher price than Indian, and now it is lower. What is the explanation of that?—In the earlier years there was only a small quantity, and it was of finer quality than now—at first, too, it was a novelty.

8642. I think you said that there had been some over-production in recent years?—Well, there has been quite enough.

8643. You suggested that if there had been 5 per cent. less tea, the price would have been 10 per cent. higher?—Yes.

8644. So that the tea planters would have gained?—They would in that way; but it is impossible to stop production.

8645. But you suggest those figures—5 per cent. less tea would mean 10 per cent. more in price?—Yes, our stock is so small, that a reduction of 12 millions in it would cause an advance in price. That is what it would amount to.

8646. You also said that the rise of exchange would diminish the profits?—That is a *sequitur*, I think.

8647. And that would diminish, to some extent, the rate of production?—I think it would eventually have that effect. It has with some people, I know.

8648. According to your figures, if a rise in the rate of exchange caused a 5 per cent. reduction of production, there ought to be some gain to the planter from a rise in the London price?—That is so, taking these figures; but tea, as you know, takes five or six years before it is in full bearing. That is why you cannot stop porduction

8649. But the argument would be this: that a fall of exchange might so increase production as to lead to over-production, and be followed afterwards by a reaction?—Quite possibly.

8650. Whereas, if there was a steady exchange, you would, at any rate, get rid of one cause of fluctuation and uncertainty?—Yes.

8651. You said that the tea plant in India and Ceylon is altogether different from the tea plant in China?—Yes.

8652. And gave a better tea?—Yes.

8653. That also gives an advantage to the Indian and Ceylon planters?—Yes, but the first gardens in India were laid out with the China plant, and now nobody would dream of sowing the China plant.

8654. We know that China is an old country, and tea has been grown on the same land there for a large number of years, so that it is possible that the soil may become exhausted; whereas in Assam and the Dooars, you have virgin soil. That would make a difference. would it not?—I do not think so, because the origina. gardens where the China seed was planted were also on virgin soil.

8655. I do not say what the difference would amount to, but there would be that additional difference?—Of course, it is a newer soil undoubtedly.

8656. And, therefore, a better soil?—There is no doubt.

THE LONDON MARKET.

8657. (Sir A. Dent.) Are the prices you gave of the different teas just now the prices in the United Kingdom?—In the London market, yes.

8658. Then you are not including the large quantities of high-class teas that go straight from China to Russia?—No, this is only from the London market.

8659. If you included them in your figures, that would make the average for China very much higher?—Very much higher, because they take the bulk of the finer teas, and have done for many years, direct.

8660. You say the stock of tea in London now is very much less than it used to be?—Yes.

8661. I suppose it is brought about very largely, if not entirely by the fact of the Indian and Ceylon tea coming in week by week?—Yes.

8662. That, therefore, is a point in favour of Indian and Ceylon teas?—Well, I think, that is only a point of favour of the market remaining steady.

8663. I mean, people will not import China tea because they would have to hold it for such a long period before selling it?—That would be purely from a merchant's point of view, depending on the offers made for the tea from time to time.

8664. Of course, it would affect the merchant very much in considering the quantity of tea he should lay in stock?—Yes.

8665. Therefore, he will prefer to deal in Indian and Ceylon teas?—Yes.

CEYLON'S POSSIBILITIES AS A PRODUCING AGENCY.

8666. Can you form an opinion as to the possibility of large extensions in the tea-growing area in Ceylon? Though you say you are only a broker, we know how you watch tea-growing all over the world. It is the common belief, I think, in Ceylon that there is very little more land available there?—That is what I am told.

8667. You have personal experience of India. Are there large districts in India still available, in your opinion, for tea planting?—I think a very great deal.

8668. I think you said, in answer to Sir John Muir, that the dividends of the tea companies were very largely affected by the extra cost of production?—That is my experience as a shareholder.

8669. I think you might have added that the price here has gone down also?—Not very much.

8670. It is not solely the cost of production?—The price has fallen very little in the last two or three years—the average price. Individual prices may have fallen, but the average price has not changed much; it is 9½d., 9d., 8d., 8½d., and so on.

A CHINESE CURIOSITY.

8671. Do you think the Ceylon and Indian teagrowers have much to fear from the possibility of China tea being again imported in large quantities into this market?—I hope not.

8672. You hope not, but will you go beyond that?—I have never understood why China has not sent us more tea, considering the difference in exchange. I could never understand it; I sincerely hope they will not send us any more, but it is a possibility.

THE INCREASE IN PRODUCTION OF BRITISH-GROWN TEAS.

8673. (Mr Le Marchant.) What has been the rate of increase in the production of Indian and Ceylon tea in the last three years?—I can give you the exact figures for the last three years. The imports of Indian tea in 1895-96 were 118 millions; in 1896-97, 131½ millions; in 1897-98. 135½ millions; Ceylon tea in 1895 96, 82 millions; in 1896-97, 92 millions; and in 1897-98, 93 millions.

8674. There would be some fall in price corresponding to the increase from 118 to 135½ millions, would there not?—Yes, and there is a slight fall in price—not much. Then you have to take the fact that we received at the same time 10 millions less China tea between the two years; we should have less China tea, and more Indian and Ceylon tea.

8675. On the other hand, India and Ceylon would go further in use?—They ought to do. Obviously, we do not want them to. They do, as a matter of fact, go further, because they make so much stronger a tea.

8676. Would you attribute that increase of production to the favourable rate of profit that was existing previously?—There were signs, many years ago, that Indian and Ceylon tea would be the favourite. A garden takes five years before it begins to bear properly.

8677. Would the increase of the output be likely to follow any advantage in the way of cheapened production; would the tendency be for the supply to grow up to the limit of profit?—I suppose that is so in the case of every article. It does not matter what the article is, it would be governed by the same law.

8678. So that any special advantage in the way of a low exchange would tend to be counteracted, so far as profit goes, by the increase in production?—In the course of time, in tea, perhaps so. I should like to put in some figures that we are publishing in our circular to-day as regards the external markets.

(Chairman.) Any tables you like to add to your evidence we will put in the Appendix. The Witness withdrew.

WEEDS.

The Canadian Journal, *Farming*, as quoted in the *Agricultural Journal of the Cape of Good Hope*, in a recent number, contains a paper on this subject by the Professor of Biology and Entomology, which may be interesting, and the study of weeds and weed-seeds as recommended may be found very helpful in fighting these enemies of crops:—

"An authority has stated that weeds have been a blessing to the farmer and gardener.

Very few will care to acknowledge off-hand the truth of this statement, yet, when we look into the matter carefully, much can be said in its favour. The continuous warfare that every tiller of land must wage in his efforts to control or exterminate the weeds keeps the surface-soil in better condition to withstand drought. The gardener must hoe, the farmer must plough, harrow and hoe, else his foes, the weeds, would soon get the upperhand and strangle the crop.

It is a well-known fact that any loosening of the surface-soil has the effect of conserving the moisture. The study of physics also reveals the fact that water rises in fine tubes or pores above the level of the water outside the tube, and that the smaller or finer the tubes the greater is this difference of level. When a gardener works the soil the pores are made larger, for the particles are made less compact than before, hence the subsoil water does not rise so high, and evaporation is not so rapid

During seasons of drought this simple act of loosening the soil with a hoe and rake plays a very important part Weeds compel this simple act, and hence are beneficial in this respect.

On the other hand, weeds, like other plants, require water, which is imbibed by the roots, and carried to the leaves. The great bulk of this water, which has acted as a vehicle for the transportation of salts from the soil to the laboratory of the plant—the leaves—is again transferred, or evaporated into the air and hence lost to the soil. It can be readily seen how very important is this question of weeds in a dry season, when the subsoil-water requires to be looked after and conserved.

Again, weeds, like other plants, require nourishment, and, when they are allowed to grow, the salts, which should be absorbed by the crop, are taken up by the weeds. This piracy on the part of weeds can be stopped only on the death of the weeds.

Most farmers are able to recognise weeds. They can tell when one plant is interfering with the proper growth of some other plant which is of greater economic importance. A weed has been cleverly defined as a 'plant growing out of place.' Nearly any plant may become a weed, but only a few hundred out of many thousand become weeds of any economic importance According to the definition given above, weeds would include the lower plants, such as smuts, mildews, rots and moulds; but, popularly, weeds are looked upon as plants of considerable size, and the microscopic species are not considered.

A knowledge of the habits of weeds is the first essential in a scheme for their eradication. For example, the following habits should be thoroughly studied:—

1. Is the weed an annual, biennial, or perennial? If the weed is annual, destroy it before it seeds.

2. Is its seeding capacity great or small?

3. How are its seeds disseminated or distributed — wind, water, or by animals? Many a farmer finds his fields full of thistles through the carelessness of a neighbour, who neglects to cut his thistles before they seed.

4. Is its root-system extensive? The thistle propagates itself by its extensive root-system. The common bind-weed has an enormous system of roots, which is almost impossible to eradicate. Kill the weed when it is young, before it becomes deeply rooted.

5. Is the weed a parasite? The dodder fixes itself to the clover-stem, and imbibes food from it through roots which it sends into the plant. The only remedy in this case is to destroy the clover crop, and to be extremely careful in the selection of clover seed.

Farmers must insist on pure seed, if they wish to keep a check on weeds.

A knowledge of weed-seeds is nowadays necessary to the successful farmer.

The botanical section of the Experimental Union is now making up sets of weed-seeds, which will be distributed in due time to those who are interested in weed eradication.

STRAY NOTES ON MANURES.

A complete Compost.—Mr. C. J. Prowse, Massachusetts, writes to the *American Agriculturist*:—

First, put down a layer of vegetable matter, such as barnyard manure, night soil, hen manure, refuse from the vegetable and fruit piles, scrapings from the woodpile, rubbish from the garden, in fact anything and everything in the shape of litter. Make the layer 10 ft wide by 20 ft. long, and six inches deep. Over this sprinkle 15 lbs. potash, dissolved in five or six gallons of water, which will turn it into a jelly. Then over this scatter evenly one or two barrels of unslaked lime and cover the whole evenly with 2 in. of fine earth; the finer the better. Repeat this as often as you have enough matter to make a layer, as above described.

When the pile is three to four feet high, put on enough water to slake the lime, and thoroughly saturate the whole mixture, but not enough to wash or leach it, as that would carry away the best of the fertilizer. The water will cause the potash and lime to produce a powerful heat, and a very sudden decomposition of all vegetable matter. This amount of material will make one load of fertilizer worth three or four of common barnyard manure. Besides it will come out as fine as ashes, and consequently be very easily handled. The compost can be made without potash and lime, but not without the water. It will not be as rich in plant food without the lime and potash, nor nearly as well balanced chemically. The potash may be obtained from the crude potash, or two barrels of good hard wood ashes evenly spread over each layer, instead of the 15 lbs. of potash, will be just as good. It is one of the best and cheapest fertilizers I can get. Anything and everything can be put into it, even to a dead horse, ox, horns, hoofs, old rags and the scrapings from the woodpile, simply by adding more potash to the last named matters, and it will all be converted into a splendid fertilizer.

The wash suds and the slops from the chambers should be saved for wetting down the pile, or can be thrown on as made, as they

will increase the value of the manure. The liquid manure from the stable should not be allowed to go to waste, but all put into the compost heap, so that nothing be lost.

Applying Manures.—Mr. L. H. Read, Wisconsin, writes:—

Although there may be some cases where the land is very level and where circumstances are such that the only way to manure may be during the winter, such instances in my opinion are very rare. My experience has covered many different kinds of soil and in different states. I have known of many cases where large coats of manure ploughed under in a careless manner were, during dry seasons, a detriment to the crop, but when the work was properly done I never knew of any harm coming from the practice. The main reason why manure should be put into the soil and thoroughly mixed with it, is that it adds all the humus directly to the land.

The principle applies as well to sandy or gravelly soils as to clay, and in fact my last six years' experience has been with the light, sandy soils of central Wisconsin, and I would venture to say that there is a loss of 20 per cent. of the value of eight out of every ten loads of manure ever spread upon frozen ground, unless the land be an absolute dead level. The best farmers keep their manure either in manure cellars under their barns or in sheds built especially for the purpose of protecting this most valuable of farm products. If for any reason it is impossible to spread manure in the spring, keep it under cover and apply in the fall, plowing under when damp, if possible, as the decomposition will commence at once. The surface of soil begins to thaw out first, and if covered with manure, and thawing, whether it commences with rains, the manure may thaw out and half its value be washed away before the land becomes thawed enough to absorb the dissolved fertility.

Value of Wood Ashes.—Mr. Jasper T. Jennings, of Pennsylvania, remarks:—It would probably be hard to find a commercial fertilizer of much greater worth for dry upland soil than pure and simple unleached hardwood ashes. A bushel of this home fertilizer is worth more than a bushel of oats to any farmer, and yet how often do we see it dumped as a heap of worthless refuse to leach in the rains and part with its hidden value until it becomes worthless.

Our lands as a general thing have become deficient in potash. This is one of the main sources of fertility that have become exhausted. It is good for corn, it is good for wheat, it is good for potatoes, and clover cannot thrive without it. Try a little experiment next spring. You who burn wood this winter, store your ashes where they will keep dry, and sow them on your young clover as you would plaster. You will be agreeably astonished at the result. You will find many dollars added to your product. Nor is the effect gone with the first crop, as is often the case with commercial fertilizers. It lasts for years, and its benefits are often extended to many succeeding crops.

Green Manuring and Nitrogen.—Prof. W. P. Brooks, Massachusetts, writes:—The nitrogen of the soil is the only one of its valuable constituents which is subject to serious loss by natural agencies. Whatever the form in which nitrogen is applied to the soil, whether in farm-yard manure, in dried blood, in ground fish, ground bone, tankage, cottonseed meal, sulphate of ammonia, or nitrate of soda, it sooner or later is so changed by natural agencies as to become soluble and in this form the soil cannot hold it. With heavy rains it is dissolved in the downward sinking water, and with it is carried ultimately into the streams and rivers and to the ocean.

None of the other valuable elements of plant-food are subject to this loss by leaching to anywhere near the same extent. This loss of nitrogen can be prevented in a large measure by the growth of green manuring crops. The agencies of nature which convert nitrogen into the soluble form are most active during the later summer months. At the close of summer there is commonly present in all fertile soils a large quantity of nitrogen in soluble form. If the field be left bare during the autumn, winter and early spring this soluble nitrogen will be washed out of the soil. The only pratical method of preventing this is to cover the field with a growing crop.

For this purpose those crops which grow late into the fall will be found best, although even those which are killed by autumnal frosts will before their death have taken a considerable share of this soluble nitrogen out of the soil. It will have become a part of the vegetable tissue. In such form it is not soluble and will not be subject to waste until this vegetable tissue rots, as it will do with the advance of the warmer weather of the following season. It should be the aim of the farmer to leave his fields bare just as little as possible. Keep the fields covered, keep the soil filled with feeding rootlets of growing plants. These hungry rootlets will take up nitrogen which would otherwise be lost. It will be locked up in vegetable tissues and safely kept to meet the demands of the growing crop of the next season. Green manuring, then, may be made an important means of saving or conserving soil nitrogen.

Effect of Lime on Acid Soils.—In some greenhouse tests at the Ala exp. sta., upland soils, sandy and deficient in humus, Savannah land, and light gray loam, usually too wet for cultivation, and the stiff, black soil from swampy hammocks were treated with lime. Lettuce planted on the first kind of land was a total failure. In the box containing the Savannah soil, lettuce on the limed portion was three times as large as that on the portion that received no lime. Radishes were hardly so good on the limed portion. On the hammock soil the lettuce was best on the limed end and there was apparently no difference with the radishes.

"THE GREEN HILLS."

A TALE OF LONG AGO.

The following extract, referred to in our last issue, was inadvertently omitted by the printers:—

To hand is an interesting official report of the Shevaroys drawn up for the Madras Government by Colonel Douglas Hamilton, of the 44th N. I., as long ago as 1862. Many of those who know that the Nilgiris are the "Blue Hills" are unaware, perhaps that the Shevaroys are the "Green Hills" and that coffee was introduced into the Shevaroys as far back as nearly eighty years ago, the first coffee-planter being Mr. Cockburn, of the Madras Civil Service, who tried his first experiments somewhere about 1823. In 1863 there were 5,101 acres of the Shevaroys planted with coffee, held by thirty Europeans and Natives; but the industry was reported to be barely remunerative, "owing to the difficulty of procuring "coolies at the proper season, and the carelessness and ignorance "of those entrusted with the plantations." Managers have improved, we may take it, both in knowledge and in carefulness since that scolding of forty years ago was given to them; but the labour difficulty, though conditions of getting recruits have improved, is an ever-present trouble. Labour on the Shevaroys was cheap thirty-six years ago—when it could be got—the usual hire of a coolie being two annas and four pies per diem. Somewhere about the year of the Mutiny, a few tea plants were introduced into the Shevaroys by Mr. Fisher, of Salem, and in the report of 1862 before us, it is said that they "have grown most luxuriantly, though "no care has been taken of them, nor has the manufacture of tea "from them been attempted." Life at Yercaud in that far-off time must have been rather dull. There were twenty dwelling houses, "of small dimensions, scattered over irregular undulating hills;" there was only one single family that was not in the planting line; and there were no bazaars and no vegetable gardens. It is interesting to note an agricultural dictum laid down by Col. Hamilton in his old-time report, in which he says:—"Capital laid "out in establishing a large fruit and vegetable garden to supply "the city of Madras would certainly prove more remunerative than "coffee planting." It is a question; but, any way, things have so far progressed that Yercaud of thirty-six years ago would scarcely know itself now.

AN ADVERTISER'S HISTORY OF COFFEE.

A Montreal firm lately gave as an advertisement a brief history of coffee, in three parts. This is at least a curiosity of literature, and we therefore reprint it in full:—

Although everyone is familiar with coffee as a beverage, comparatively few know the history of its origin, where it was first grown, when introduced, how cultivated and cured. Accounts differ as to when, where, and by whom, coffee was first introduced to civilization.

An eastern legend ascribes the discovery of the berry to a Dervish, who, in the year 1285, being driven out of Mocha, was induced in the extremity of hunger to roast the berries which grew near his hiding place. He ate them, and, steeping the roasted berries in water to quench his thirst, discovered their agreeable qualities. But a more authentic account states that it

was introduced into Arabia from Southern Abyssinia by a Mohammedan high priest about the year 1500.

We are indebted to the Persians for the discovery of the roasting process, and, as the merits of coffee as a beverage would have remained unknown without that, some authorities allow them the credit of being the introducers.

It continued its career through Syria, and, in the year 1554, we learn it became the favourite drink at Constantinople, and the Oriental coffee-houses were thronged night and day. The lower classes actually begged money with which to buy coffee, and it is stated that the refusing to supply a wife with coffee was admitted in law as a valid excuse for divorce.

Europeans are indebted to the Dutch for their first acquaintance with the coffee plant. This was brought about in the following manner: Some berries which had been procured were carried to the Island of Java and there planted. A specimen plant was sent home to Amsterdam in 1690 by Governor Wilson. This plant bore fruit, from which many young trees were propagated, and from this original most of the gardens of Europe and the East Indies are supposed to have been furnished.

In 1714 a plant was presented by the magistrates of Amsterdam to the French King Louis XIV.

This plant was carefully nursed, and from this source plants were forwarded some years later to the French West Indies, and from these all the coffee found in the Western Hemisphere derives its origin.

The Parisians immediately adopted the drink, and it became the fashionable beverage of Paris. It could only be indulged in by the wealthy few, as the price was exorbitant. It is stated that a sum equivalent to $15,000 per year was expended for supplying the daughters of Louis XV. with the beverage.

The English owe to Mr. Edwards, a Turkish merchant, their knowledge of coffee. This gentleman, about the year 1650, brought to England a Greek youth, who used to prepare the drink for his master; the latter, however, finding that the novelty began to attract too many visitors to his home, gave the boy his liberty, and enabled him to open a coffee-house of his own.

At first it met with violent opposition; it was denounced as a "vile drink," "poison," etc. A heavy tax was imposed upon it by the Legislature, but, notwithstanding all opposition, the beverage constantly gained ground, and coffee-houses were as plentiful in London as at Constantinople.

Across the water the custom jumped, and the infant United States commenced to nourish its strength from the coffee-pot; and in no place in the world probably are the influences more healthful, the effects more happily displayed than in that country, especially at the "Old French market" in new Orleans. The coffee vendors are distributed throughout the market place and streets, and are kept as busy as bees supplying cups of coffee to the European, Creole, New Englander, the Westerner, who, standing side by side in the open street, forget caste, and sip the nectar.

The coffee-houses of New York are intimately associated with the history of the city. Here were gathered the leading literary, professional and business men who discussed the leading topics of the day while sipping their cups of coffee.

But the coffee-house is a thing of the past. The more pretentious club-house has taken its place, and the lovers of coffee are forced to the restaurant for their favourite drink.

The United States has been for many years the largest coffee-using country in the world, for the past eight years the average value of imports being $90,000,000 per year. The imports for 1898 exceeded all previous records, being nearly 900,000,000 lbs., which is about 20 per cent. more than in 1897. The latest estimates place the world's production at 1,600,000,000 pounds a year. The United States, therefore, takes practically half the coffee grown in the world. Of the total coffee production, about two-thirds is grown in Brazil. The other third, grown outside of Brazil, is scattered around the world in the belt extending to the 30th degree north and south of the equator.

The steadily increasing popularity of coffee as a drink in the United States, and the steadily decreasing popularity of tea, have led to some revival of the controversy as to the relative merits of these beverages, upon which scientists are not yet agreed.

The partiality for tea or coffee shown by the people of different countries cannot be traced to any particular cause. The English, the Canadians and the Russians, as a rule, come under the head of tea-drinkers, while the Dutch, Scandinavians, Germans and Belgians come under the head of coffee-drinkers, but why this is so has never yet been made clear. The position of the United States in this matter is somewhat unique, the average consumption of tea per capita having remained stationary for twenty-five years while the popularity of coffee as a drink has been steadily increasing; the consumption last year being larger per capita than ever before, and was exceeded only by two countries, Holland and Denmark—the consumption of coffee per capita in Holland being 23 pounds, and in Denmark 15 pounds, while that of the United States was 11 pounds. That of France was 3½ pounds, Great Britain a little less than 1 pound and Canada about the same as the latter.

DISTRICT ASSOCIATIONS.

SHEVAROY.

Proceedings of a Meeting of the Committee of the Shevaroy Planters' Association held in the Victoria Rooms, on Monday, the 1st May, 1899.—Present:—Messrs. J. C. Large, S. M. Hight, Rev. J. M. Kempf, Messrs. Thurston Short, and C. Rahm.

Mr. C. G. Lechler, *Chairman;* Mr. R. Gompertz, *Honorary Secretary.*

1. Read circular from Secretary, U. P. A. S. I, dated 11th ultimo, forwarding correspondence between himself and Mr. Sanderson regarding advertising coffee and prevention of adulteration.

Resolved that, in the opinion of this Association, the campaign against the adulteration of coffee should be re-opened and vigorously prosecuted.

Resolved that this Association considers it essentially necessary to advertise East Indian Coffee and that it is prepared to subscribe (Rs.500) Five hundred Rupees towards the expenses of doing so provided that other Associations approve and will subscribe in proportion.

2. Read circular from Secretary, U. P. A. S. I., dated 12th ultimo, forwarding copy of a letter from the Secretary to the Government of India, Department of Revenue and Agriculture (Commercial Exhibitions), circular No. 15-1-11, dated 25th March 1899.

Resolved that this Association approves of the suggestion of a Coffee-room, in co-operation with the Tea-room of the Indian Tea Association, at the Paris Exhibition of 1900, and is prepared to pay a fair share of the expense.

3. Read letter from Mr. Large, dated 20th ultimo, complaining that he had been summoned as an Assessor to try a native, and that he had been refused anything in the shape of batta on payment of his expenses.

Resolved that the Honorary Secretary be requested to address the Collector on the subject, forwarding a copy of Mr. Large's letter and endeavouring to get Planters exempted, except in the case of a serious offence committed by a European, and requesting that on such occasions their expenses should be paid by Government.

Read and recorded the following letters:—

34/U. W. Circular from Secretary, U. P. A. S. I., regarding the *Adulteration of Coffee.*

35/U. W. Circular from Secretary, U. P. A. S. I., informing that the Madras Government has submitted, for favor of very early remarks, suggestions of the Government of India, regarding the utilization of spare space in the Indian Imperial Court for the *Paris Exhibition.*

36/U. W. Circular from the Secretary, U. P. A. S. I., copy of a letter from the Secretary of the Indian Tea Association, regarding *the exports of Indian tea.*

12/L. Letter from Mr. Large to be brought before the Committee Meeting, regarding the expenses of Planters, who have to be called as Assessors to the Court of Sessions at Salem being paid by Government.

Printed book of new rules of the Shevaroy Planters' Association.

The following papers were laid on the table:—

Proceedings of the Coorg Planters' Association.

Proceedings of the Central Travancore Planters' Association.

Proceedings of the Annual General Meeting of the North Mysore Planters' Association held in the Club, Balehonnur, 22nd March 1899.

(Signed) C. G. LECHLER,
Chairman.

(") R. GOMPERTZ,
Honorary Secretary.

MARKET REPORT.

Per Mail advices of 14th April, 1899.

COFFEE.

The *London Commercial Record* says:—Demand during the past week has been much better, and although the public sales have been so numerous that it has been impossible to complete them, the trade have shewn more willingness to buy. East India has been offered freely; ordinary qualities are still extremely difficult to move, but fair sold at fully previous rates, whilst good to superior were in strong demand at higher prices. Jamaica, which had been almost neglected for some time, met with an improved demand and was chiefly disposed of at steady rates. Costa Rica and Central American descriptions were in request at previous prices to an advance of 1s to 2s per cwt. The market for "futures" has been quiet, and in some instances prices are rather easier, closing as under:—

London	Santos	July delivery	28s 9d
New York	No. 7 Rio	„ „	5.20 cents.
Hamburg	Santos	„ „	29 pf.
Havre	Santos	„ „	35 francs
Holland	Good ordinary Java		27¼ cents.

At the Dutch Trading Company's public sale, held in Amsterdam on Tuesday, 20,710 bags Java, 550 bags Surinam, and 20 cases Padang sold at rather improved rates, although not quite so well as anticipated; good ordinary Java realised 27¼ cents, against 27 cents last sale. The following are some of the particulars:—

Lying in Amsterdam.

No.	Bags.	Valued at Cents.	Result. Cents.
1	500	28	28¾ @ 29¼
2	418	27½	26¾ „ 27
3	318	27	— „ 26¾
4	514	26¾	26¾ „ 27
5	772	28	27 „ 27¼
6	512	27	27 „ 27¾
7	430	27	27 „ 27¼
8	1,071	50	46 „ 46¼
9	1,429	43	— „ 37½
12	1,187	44	44¾ „ 45

Imports, Deliveries and Stock of Coffee in London are as follows:—

		Stock.		Imports.	
		1899.	1898.	1899.	1898.
West India	tons	812	695	752	1,004
Ceylon	„	106	115	161	110
East India	„	2,555	1,963	3,023	2,427
Mocha	„	442	445	165	206
Brazil	„	3,699	3,011	697	1,092
Other Foreign	„	8,547	6,816	6,715	8,541
Total tons		16,161	13,045	11,513	13,380

		Home Consumption.		Export.	
		1899.	1898.	1899.	1898.
West India	tons	94	145	248	494
Ceylon	„	41	51	79	61
East India	„	582	704	812	864
Mocha	„	194	223	38	36
Brazil	„	286	394	370	563
Other Foreign	„	2,895	2,591	4,118	3,805
Total tons		4,092	4,108	5,665	5,823

The preceding figures exhibit—

In the Imports a decrease this year of	1,867 tons.
Home Consumption an increase of	16 „
Export a decrease of	258 „
Stock an increase of	3,116 „

Auctions this week have passed off as under:—

CEYLON.—*Plantation.*—13 casks 13 barrels 22 bags mostly sold—smalls 40s, low middling to middling 85s 6d to 98s, bold 102s to 103s, pea-berry 100s.

EAST INDIA.—Of 4,002 bags offered the greater part sold as follows:—*Mysore*, smalls 39s to 62s 6d, low middling to middling 60s to 67s, good to fine middling 74s to 88s, bold dull gray 72s 6d, good greenish blue 80s to 90s 6d, good to fine bold 93s 6d to 105s, pea-berry 92s to 116s, a fine mark—smalls 84s, medium 107s, bold 120s 6d, pea-berry 116s; *Naidoobatum*, good middling blue 66s 6d to 70s, fine bold 97s to 100s, pea-berry 96s 6d to 100s; *Coorg*, smalls 35s to 38s 6d, low middling 51s, middling 60s to 63s, bold greenish 73s to 80s, fine bold 90s; *Wynaad*, smalls 40s 6d, low middling 52s 6d to 54s, bold 74s; *Neilgherry*, smalls 40s to 46s, low middling 48s 6d to 53s 6d, middling to good middling 56s to 68s, bold rough greenish 66s to 71s, good to fine bold colory 75s to 91s, pea-berry 54s 6d to 90s 6d; *Travancore*, smalls 32s to 35s 6d, low middling colory 53s, bold 75s, pea-berry 45s to 58s. *Nelliampathy*, smalls 43s to 45s, low middling 49s to 54s 6d, bold 61s to 76s, pea-berry 65s 6d to 76s.

MOCHA.—15 half-bales bought in.

NYASALAND.—23 bags pickings sold at 30s 6d to 34s 6d.

AFRICAN.—*Liberian.*—4 bags common greenish sold at 26s.

JAMAICA.—5 casks 370 barrels and 208 bags mostly sold: low to fine ordinary small 23s to 37s, ordinary to good ordinary brownish 28s to 35s 6d, fine fine ordinary 44s to 44s 6d, middling to good middling grayish 50s to 62s, fine bold blue 95s, pea-berry 38s to 80s.

COSTA RICA.—Of 5,412 bags offered the greater part sold—smalls 26s 6d to 48s 6d, good ordinary 37s 6d to 42s, fine fine ordinary greenish 43s 6d to 45s 6d, low middling to middling blue 49s to 59s, good to fine middling 60s to 74s 6d, bold 79s to 87s 6d, fine bold 92s to 103s 6d, pea-berry 47s 6d to 92s.

GUATEMALA.—1,011 bags nearly all sold, smalls 30s to 34s, low middling colory to middling blue 46s 6d to 51s, good middling colory 56s to 66s, good to fine blue bold 70s to 87s 6d, pea-berry 52s 6d to 81s 6d

SALVADOR.—527 bags mostly sold, smalls 30s 6d to 35s 6d, fine fine ordinary 38s 6d to 44s, low middling 44s 6d, middling to good middling 49s to 59s 6d, bold good colory 68s 6d to 72s, pea-berry 52s 6d to 55s.

PERUVIAN.—392 bags mostly sold, smalls 27s, fine fine ordinary greenish 41s to 42s, low middling 43s to 43s 6d, middling to good middling 48s to 55s 6d, pea-berry 45s to 55s 6d.

NICARAGUA.—Of 219 bags offered 20 bags sold, middling dull greenish 52s.

COLOMBIAN.—1,981 bags mostly sold, smalls 27s to 50s, low middling to middling 44s 6d to 53s, good middling 55s to 60s fine middling 56s 6d to 73 6d, good bold 65s 6d to 73s 6d, fine blue ditto 75s to 91s 6d, pea-berry 43s to 65s 6d.

MEXICAN.—50 bags retired.

PORTO RICO.—29 bags bought in.

ECUADOR.—228 bags passed the hammer unsold.

VENEZUELAN.—68 bags withdrawn.

GUAYAQUIL.—314 bags bought in

BRAZIL.—20 bags Santos bought in.

Receipts in Rio and Santos.

Since July 1—	1898-9.	1897-8.	1896-7.	1895-6.
Rio	2,700,000	3,745,000	3,041,000	2,008,000
Santos	4,960,000	5,621,000	4,646,000	2,772,000
Total	7,660,000	9,366,000	7,687,000	4,780,000
Crop	—	10,461,000	8,680,000	5,489,000

Auctions to-day consisted of a portion of yesterday's postponed public sales, Costa Rica being the chief growth represented. The sales went off with slow demand at prices about unchanged.

Prices realized at auctions for some of the principal marks of East India:—

	MYSORE.					
	O	**A**	**B**	**C**	**PB**	**T**
PH & Co ◇ Santawerry Mysore	111-6	102-6	82-6	—	106-6	48-0
O		102-0				
Hospet △ Mysore	74-0	53 0	38-6	—	80-0	37-6
Cheithully Mysore		79 0	63-6	49 6	80-0	39-6
Kulhutty S WD ◇ Mysore	108-0	98-0	55-6	—	99-6	43-6
Do. do.	96-6	81-6	56-0	—	95-0	44-0
					bid	
BBB Mysore	72-0	53-0	44-6	—	75-0	30-6
Harlay Mountain	82-0	57-0	46-0	—	88 0	39-6
Chetenhulli Mysore	90-0	65-0	51-0	—	90-0	41-0

	0	A	B	C	PB	T
Murgaddi Mysore	55-0 bid	39-6 bid	65-0	30-6	65-0	30-6
Archully Mysore	81-0	55-0	44-0	—	80-0	34-6
The Engadine Mysore ..	88-6	65-6 bid	49-0	—	88-0	36-0
K △ Oliver's Mysore... ...	110-6	100-0	78-6	—	119-6	61-0
Do. do.	120-6	107-0	84-0	—	116-0	40-6
ME & Co Kelagoor Mysore ...		77-6 bid	55-0 bid	40-6	79-6 bid	33-0 bid
Do. Abragay Mysore ...		91-0 bid	60-0 bid	39-0 bid	78-6	35-6
BDG Mysore		84-6 bid	58-0	43-6	83-0 bid	38-0
Dodluckoonda Mysore ...	90-6	62-0	46-0	—	88-0 bid	45-6
Rungiah's Mysore	81-0 bid	58-6 bid	46-0	—	85-0 bid	38-0
HGB Mysore		72-6	51-0	39-0	70-0 bid	33-0

	0	1	2	3	PB	T
PH & Co. ◇ Umbidy Mysore ...	69-0	49-0	39-0	—	75-0	31-6
Barguai Estate Ⓐ Ⓞ Mysore ...		100-6	78-0	60-0	102-0	52-0
		100-0				
Murkull Mysore		81-6	55-0	45-0	87-0	37-6
		81-0				
Hossually Mysore		77-6	54 0	45-6	85-0	37-6
		77-0				
Harris's Chick Mysore ...		89-6	62-0	51-0	90-0	40-6
Goorghully Mysore GHE ◇ ...		78-6 bid	53-6 bid	44-6	82-0	35-6
Ootsey WHR Mysore ...		60-0 bid	55-6	46 0	81-0	33-6
KTT Mysore		82 0	54-0	45-0	79-6	36-6
Leslies' Mysore	no bid	41-6 bid	no bid	—	75-0 bid	32-0
Dytapoor Mysore	100-6	78-0	61-0	—	113-0	41-6
Udevarhully Mysore... ...	100-6	88-0	62-6	—	116-0	47-6
Kents' KH ◇ Mysore ...		no bid	50-0	39-0	no bid	34-0
Dereelkhan Mysore		no bid	52-0 bid	41-6	no bid	31-6
Hamilton's Chundrapore Mysore.		89-6	63-0	46-0 bid	80-0 bid	—

	0	A	B	C	PB	T
Binny's Coorg Bunjagherry ...		79-6	56-6	39-6	84-0 bid	36-0
Do. Cannon Kadu ...		80-6	57-6	41-0	88-0	37-0
East's Coorg Cavery ..		82-0	55-0	36-0	90-0	36-6
Craig's Eliza Coorg ...		80-0	55-0	38-0	85-0	34-0
Mangles Allicutty Mountain ...		83-0	56-0	42-6	85-0	33-6
—— Covercoly Mountain ...		96-0	75-6	56-0	100-0	50-6
		96-6	75-0		102-0	
Covercoly Hallery		86-6	60-0 60-6	48-0	90-6	36-0
Do. do.		87-6	58-0	45-6	88-0	35-0
Faith Coorg		118-6	110-0	71-0	131-0	61-6
DTC Santicoopa Coorg ...		79-6	53-6 bid	35-0	80-0 bid	35-0
Binny's Coorg Siddapur ...	73-0 72-6	51-0	38-0	—	72-0 bid	33-6

COORG.

	1	2	3	PB	T
CT Coorg	74-0	51-0	38-6	85-0	35-0
AM Coorg	90-0	63-0	—	92-0	40-0
Kaundinga Anandapur Coorg ...	81-6	55-6	—	85-6	35-6
Wright's Hooroor	83-0	57-0	—	87-0	38-0
WWB △ B	86-0	58 6	—	90-0	43-0
CBS Coorg Karrie Kollie	80-6 bid	56-6	—	85-0	35-0
Arbuthnot's Yemmagoondi... ...	80-0	56-0 bid	-	85-0	37-0

WYNAAD.

	A	B	C	PB	T
Walker's Estates Touramulla ...	60-6	47-0	39-0	70-0	34-0
Wynaad Plantation Coffee Nelli Munda.	60-0	46-6			
	65-0	52-6	40-6	60-0	34-6
Arbuthnot's	71-6 bid	50-6 50-0	41-0	no bid	34-6

	A	B	C	PB	T
Chural Mulla	73-6	53-0	44-0	78-0	35-6
Wynaad P & Co.	72-6	53-0	—	75-0 bid	33-0
Kotiada	75-0 bid	52-0 bid	41-6	no bid	32-0
Walker's Estates Nellakotta ...	74-0	54-0 53-6	40-6	83-0 bid	34-0
Nedikarna	74-0	52-0	—	78-0 bid	35-6

TRAVANCORE.

	A	B	C	PB	T
Arienkow	56-0	43-6	31-0	55-0	20-0
Seafield	75-0	53-0	32-0	58-0	31-0

NEILGHERRY.

	A	B	C	PB	T
Woodbriar Nilgiris	70-0	48-6	36-0	60-0	30-6
Kotergherry EC	79-0	54-6	43-6	85-0	31-6
JM Woodlands Nilgiris	no bid	no bid	no bid	63-0	33-0
Crofton Nilgiris	54-0 bid	44-0	34-0 bid	no bid	28-0
St. Joseph's Estate	66-0	48-6	41-6	54-6	31-0
Goodannie	71-0	56-0	46-0	66-0	41-6
Manaar	60-0	47-6	41-0	62-0	33-0
Adderley	94-6 bid	62-6 bid	42-6 bid	no bid	30-6
Kotergherry GA	75-0	54-0 bid	no bid	no bid	28-6
Glendower	76-0	53-6	44-6	no bid	33-0
Elephant Devicolam Talliar... ...	91-0	68-0	40-0	90-6	36-0

NELLIAMPATHY.

	A	B	C	PB	T
Nelliampathy Manalaroo	74-6	53-0	—	70-6	36-6

NAIDOOBATUM.

	AA	B	C	PB	T
W WB Balmadies Naidoobatum ...	90-6	65-0 bid	45-0	74-0	43-6
Glenvans	100-0	70-0	—	100-0	41-0
Do. △	97-0	66-6	—	96-6	41-6

TEA.

China.—There is more demand for Congous and Greens, and quite a brisk tone was observable at the auctions when 5,148 packages offered and mostly sold at very full rates except for Hyson which was rather lower.

Indian.—The market opened after the holidays on Monday the 10th inst, and during the week 22,600 packages were offered against 21,000 packages from the 24th to the 29th ult.

There was a strong demand for nearly all kinds, chiefly concentrated on common to medium which were again dearer. Inferior rough-leaf Souchongs and flaky fannings were eagerly bought up at 7¼d to 7¾d per lb. Ordinary to fair Pekoe Souchongs and Pekoes realised 8d to 8¾d per lb., while medium Pekoes and broken Pekoes often showed an advance of ½d per lb. since the turn of the month. Fine and finest were in somewhat more request than previously.

For 18,200 packages on Estate Account 9¾d per lb. was obtained, or the same as for 17,700 packages a fortnight ago.

Owing partly to the large duty payment made on the 20th March, the deliveries for this month were abnormally heavy, as will be seen from the following:—

	1899.	1898
Imports	6,089,000 lbs.	6,688,000 lbs.
Deliveries	13,149,000 ,,	11,717,000 ,,
Stock, 31st March ...	52,400,000 ,,	59,051,000 ,,

This denotes an unusually favourable position statistically, specially as the Bonded Stock of all Tea in the London warehouses on the 31st ultimo was only 84,770,000 lbs., contrasted with 94,580,000 lbs. on the same date in 1898.

Ceylon.—The first sale after Easter was held on the 11th inst. when 29,600 packages were brought forward opposed to 13,6[illegible] packages on the 28th ult. A good tone generally prevailed though buyers were not as a rule disposed to pay a further rise on Pekoe Souchongs and Pekoes "for price." Medium Pekoes and Broken Pekoes with useful cup up to 9d. per lb. were at times firmer, but quotations for fine and finest were in most instances disappointing

The average, chiefly due to the small proportion of choice invoices, is just above 9d. per lb. On the 29th ult. it was 9¼d. per lb., and 7¼d per lb. on the 6th April in the former year.

Figures for March as issued by the London Tea Brokers' Association are :—

	Imports.	Deliveries.	Stock. 31st March.
1899 ...	8,190,000 lbs.	7,311,000 lbs.	18,106,000 lbs.
1898 ...	7,875,000 „	8,096,000 „	18,074,000 „
1897 ...	6,501,000 „	7,032,000 „	18,547,000 „

Although these clearances were below those of 1898, for the nine months from 1st July last they were one million lbs. in excess of the imports, while it seems that on account of the growing trade from Colombo with Europe, America, the Colonies, &c., shipments to this country will in all probability be less than last year.

Java.—Rather under 2,000 packages of direct import were offered yesterday, and passed with spirited competition, but some irregularity was noticeable for undesirable parcels.

For next and the following weeks 1,900 packages are advertized.

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns, were :—

From 1st to 11th April, 1899	* 9,440,547 lbs.
„ „ 1898	4,982,241 „

Figures, so far as they are available, indicate an increasing rate of consumption, the quantity withdrawn from bond in the United Kingdom for the twelve months ending 31st March, 1899, being approximately as under, compared with the two foregoing years :—

189--1899 ...	... 241,814,000 lbs. yielding	£4,030,000
1897-1898 ...	... 232,496,000 „ „	3,875,000
1896-1897 ...	... 228,355,000 „ „	3,806,000

During the week the following have been printed for sale by public auction :—

	Sold.	Withdrawn	Total offered.
	Pkgs.	Pkgs.	Pkgs.
India ...	... 20,421	2,194	22,615
Ceylon ...	... 29,011	632	29,643
Java ...	... 1,841	97	1,938
Total ...	51,273	2,923	54,196

Also 270 packages from second hands.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report dated April 14th, 1899, states :—

QUANTITY BROUGHT TO AUCTION IN LONDON
From 1st June to Date.

	Indian.	Ceylon.	Java.
1898-1899 ...	1,479,901 pkgs.	972,524 pkgs.	41,263 pkgs.
1897-1898 ...	1,416,651 „	1,002,222 „	35,534 „

22,837 pkgs. Indian
30,366 „ Ceylon
2,038 „ Java
} Total 55,241 packages were offered in public auction this week.

Heavy clearances in March have brought up deliveries of Indian Tea for the first ten months of the season to over 13 million pounds above the corresponding period of last season.

Indian. The first sale since Easter was held on Monday when a strong demand prevailed for all descriptions, Teas under 9d. being again slightly dearer. The official wire give exports to U. K. for the 2nd half of March as 105,000 lbs., against 80,000 lbs., making total from 1st April, 1898, to end of March, 1899, as 135,408,000 lbs., against 134,000,000 lbs. in last season. 174 closing Invoices have been sold in public sale, against 166 at the same date last year.

Ceylon. The market opened on Tuesday with a somewhat heavy auction; Teas below 9d, however, were in very strong demand, occasionally selling at slightly dearer rates. Medium and better Teas were irregular and rather weaker. The official telegram gives exports to U. K. during March as 8,500,000 lbs., against 9,500,000 lbs., making the total from 1st Jan. to 31st March as 23,000,000 lbs., against 24,250,000 lbs., same time last year. Estimate for April 7½ to 8 million lbs., against 6,750,000 lbs. shipped in April 1898. Average for week 9·02d.

Java. Sold at rather dearer rates. 9,243 pkgs. are advertised for sale in Amsterdam on 20th inst.

IN CANADA.

The *Canadian Grocer* of 31st March says :—As noted in our market reports, there has been considerable excitement in the tea market since last Wednesday, and quite a large volume of trade has been put through. All kinds, blacks, greens and Ceylons, are very scarce, and values have an advancing tendency.

This is particularly the case in regard to the last-named description of goods, of which the Canadian consumption is undoubtedly increasing each year. In fact, it is difficult for buyers to procure Ceylons at present, and the inside price on them is about 15c.

Prices on them have advanced 2d. during the month, owing to a large increase in the English demand and limited stocks out of which to supply it.

But, in addition to Canadian and British demand, the importation of Ceylon and Indian tea into the United States is on the increase, thousands of packages being taken where only hundreds were taken in years gone by. Indeed, the competition on this continent between Japan teas and these teas from the British possessions is becoming keener each year, and, though the former are expected to retain their advantage, tea dealers state that they will be harder put to it to retain it each year.

PEPPER.

Black.—The market is quiet, and for arrival value is weaker. On the spot sales of fair Singapore have been made at 5 3/16d to 5 7/32d, and for arrival at 5⅜d January-March and March-May shipment, at 5⅜d April-June, and at 5½d June-August. About 150 tons are reported sold.

At public auctions on the 12th inst. 70 bags Singapore were bought in at 5⅜d, and 220 bags Tellicherry at 5d per lb.

White is also cheaper. Singapore on the spot has been sold at 8 9/16d to 8⅝, and Penang at 7 13/16d to 7⅞d. Singapore, May-July shipment has been done at 8½d, June-August at 8⅝d, and Penang May-July at 8⅛ d. per lb. About 100 tons reported done.

Of 524 bags Singapore offered at sale on Wednesday only 12 bags sold "without reserve" at 8¼d for ordinary. Of 156 bags limed Penang 20 bags sold at 7 13/16d. 54 bags Siam bought in at 8¾d per lb.

GINGER.

Cochin.—There was a heavy supply exposed, the total summing to 198 cases 2,006 bags, but, although the small proportion quitted realised about steady prices for cut sorts, and rather lower for rough, bids were generally too low to admit of business. Some people talk of higher price in the near future, but to the average mind everything points to the reverse being the case; in fact, a bid of 23s per cwt. is solicited in the arrival market for a parcel of Calicut assortment, and this, if we mistake not, is the lowest price on record. Under the hammer only 29 cases 130 bags sold, as follows :—medium and bold roughly cut, limed 72s to 76s, medium with a little bold ditto 65s; fine brown washed Calicut rough 32s to 33s 6d, good brown washed tips (in cases) 25s 6d, cuttings 17s per cwt.

Bengal.—20 bags bought in at 22s per cwt.

Jamaica. 534 barrels were offered and about 300 barrels sold at fully valuations to here and there some advance—viz., good bold washed 84s to 90s, medium and bold ditto 74s to 80s, medium and small 69s to 71s, ordinary to good ordinary, rather dark 62s to 67s 6d, common Rhatoon 60s to 60s 6d per cwt.

St. Lucia.—8 bags small to bold realised 63s per cwt.

CINCHONA.

Offered, 162 packages. Sold, 68. At the drug auctions to-day, South American *Crown* bark was the only kind sold, this fetching from 4d to 11d. South American *Calisaya* flats were bought in at 1s. 2d.

Amsterdam Bark Market.—Our Amsterdam representative informs us that at the Dutch cinchona auctions of May 4th, 4,639 packages will be put up (1,272 *druggists'* bark, 3,364 *manufacturers'* bark 3 packages of British-Indian bark). The stock in first hand in Amsterdam, including the above amount was, on the 12th inst., 6,174 packages (2,433 packages of Government bark, and 3,741 private). Both the amount to be offered at auction and the first-hand stock is remarkably small. The latter is the smallest first-hand stock ever held in Amsterdam at any recorded date from the beginning of last year up to the present date; an average stock in 1898 would be about 14,000 packages. Again, the offerings in packages last year at each auction ranged from 5,655 to 9,185, the average being nearly 7,000 packages. Similarly, none of the last five years but has a materially higher average offering than the one at the next auctions. This is one indication that the strength of the natural position of bark and quinine is still increasing.

* As is not unusual, exceptional payments have been made in anticipation of the Budget, which was declared last year on the 21st April.

QUININE.

A remarkable week has passed as regards this article. Our last report left the second-hand market unsettled at 1s. 7d. spot. On Friday there was further weakness, and spot business was done at 1s. 6d. Offers from agents for German factories had been made "bearing" the market, but this was nothing compared to what followed, as by Saturday the tone was better again. On Monday, however, came the shock, for on that day it became known that the agents for German make were offering quinine in bulk at 1s. 6d. The speculative market, which had begun the day firm, was suddenly depressed, and the spot prices fell away again to 1s. 6d. On Tuesday there was a further decline to 1s. 5¾d., May delivery being sold at 1s. 5½d. to 1s. 6d., June at 1s. 6d., and August at 1s. 5½d. The next day the market had been cleared of a good many weak holders, but had been reduced to a dull lifeless condition. At 1s. 6d. and below it is estimated that about 400,000 ounces have been sold this week Howards have reduced their price by 2d., and are "shy sellers" in 1-oz vials and 1,000-oz. lots at 1s. 9d. *Whiffins* bulk price has also been reduced to 1s. 6½d.

CARDAMOMS.

Offered, 804 packages. Sold, 322. Ceylon *Mysore* kind sold at the following rates: Good bold to extra bold, at 3s. 9d. to 3s. 10d (4s. refused for fine ditto); good to fine bold at 3s 2d to 3s 8d; good medium at 2s. 7d. to 2s. 11d.; good small, 2s. 2d. to 2s. 11d. brown spotted to brownish, 1s. 6d. to 2s. 6d; seeds, 2s to 2s. 5d Ceylon *Malabar* sold at from 1s. for low quality to 2s. 5d. for nice pale, and 2s. 2d. to 2s. 4d. for seeds.

The arrivals in Amsterdam from Java last week amounted to 992 packages. As indicating the spirit with which the Java March shipments are regarded in Amsterdam, we note that a leading broker there remarks:—"The Java planters should profit by their recent experience, and remember that, while with a little management the value of their product will increase considerably, injudicious shipments of bark are bound to cause a slump in the market."

No shipments were made from Ceylon during the week ending March 21. The total from January 1 to that date is 141,576 lbs., as compared with 167,533 lbs. on the same date in 1898.

Movements of Tea in London (in lbs.) during March from Tea Brokers' Association Figures.

	Imports.			Deliveries.		
	1899.	1898.	1897.	1899.	1898.	1897.
Indian	6,089,152	6,688,567	7,059,163	13,149,228	11,717,357	11,194,511
Ceylon	8,190,084	7,874,612	6,500,920	7,310,692	8,095,844	7,032,358
Java	304,430	464,030	320,110	352,170	293,300	217,770
China, etc.	590,330	1,283,613	489,951	2,558,122	2,701,361	3,035,004
Total lbs. ...	15,173,996	16,310,822	14,370,144	23,370,212	22,807,862	21,479,643

From 1st June to end of March.

	Imports.			Deliveries.			Stock.		
	1898-9.	1897-8.	1896-7.	1898-9.	1897-8.	1896-7.	1899.	1898.	1897.
Indian ...	134,212,606	133,389,215	129,858,549	119,886,559	106,572,938	105,319,809	52,399,835	59,051,489	51,289,350
Ceylon ...	77,266,270	78,782,754	75,070,548	76,153,798	80,661,592	75,080,994	18,105,766	18,074,342	18,547,088
Java ...	2,882,520	2,931,250	2,857,750	2,859,220	2,982,770	3,073,910	670,880	700,700	771,540
China, etc. ...	26,850,957	31 730,832	32,632,172	25,109,359	27,980,669	33,827,906	13,592,862	16,753,502	18,443,86
Total lbs. ...	241,212,353	246,834,051	240,419,019	224,008,936	218,197,969	217,302,619	84,769,343	94,580,033	89,051,839

(Average for all India 9·61d.) *April 14th.*

Garden.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price.
Neilgherry ...	**285 p**	**8·21**												
Kodanaad ...	55½c	9½	...		12½c	8¾	25½c	10¾	...	...	...	...	18½c	8½
New Hope ...	230 p	8	60½c	9¼	52	8¼	...	...	...		118	7¾	...	...
South Wynad ...														
Chulika ...	113 p	9	20	10⅓	45½c	8¾ 9	9½c	9	37	8 8¼	2	8	...	..
Perrindotty ..	160	8½	...	..	72	8½	...	...	88	8	..	...	...	
Travancore ...	**1072 p**	**8·26**												
BA ...	10 p	7¾	...	...	...	...	...	...	...	...	10 p	7¼7¾	...	..
Belford ..	158½c	8	...	...	97½c	7¾ 8	49½c	8¼	...	...	6½c	7	6½c	6¼
BM ...	4	7¼	...	...	...	...	..	...	...	...	4	7¼	...	...
BonAccord ..	140 p	8¼	...	...	52	8¼	50	8⅛8¾	21	8	..	...	17 p	6 8¼
Braemore ...	96 p	8¼	...	...	46	8¼	20	8¾	...		18	7¾	12½c	6 8
Cherian Malay ...	10	8¼	10	8¼	...	...	...	...	...	...	...	...	...	...
" ...	33 p	7¾	12 p	8¼8½	7	7¾	...		4	7¾		...	10½c	6¼7½
CMR ...	72	8¼	...	...	42	8	28	8½	...	...	1	7¼	1	6
Elderslie ..	112	8	...	...	76	7¾8½	11	9	20	7½		...	5	6
Invercauld ...	94	8½	...	...	39	8¼	37	8½ 9	15	8 8¼	...	..	3	6¼
Kinmylies ...	32½c	8¼	...	...	31½c	8¼	...		1½c	7¼	..	...	..	..
Mahandragherry ...	18½c	8¼	..	...	46½c	8¼	...	...	2½c	7¼		...		
ME ...	29 p	7¾	...	...	5	7¾	...	...	...	...	23	7¼	1½c	6¾
" ...	6	7¼	...	...	..	...	...	...	...	...	6	7¼		
Merchiston ..	35 p	8	9½c	8½	18	7¾	6½c	8½					2½c	7
" ...	29 p	8	8½c	8½	17	7¾	4½c	8¾						
P ...	19 p	7½	...	...	...	...					19	7 7¼		
Poonmudi ...	77 p	8¼	18	8½	34	8	11	9	10	7¼			4½c	6
SthrnIndCKud K ...	60 p	9	34	9¼9½	9	8½	...	...	...		..		17 p	6 8½
STTCoVenture ...	120	8¾	...	...	53	8½	44	9¼	23	8¼				

PLANTING OPINION.

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TO OUR SEASON REPORTERS.

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COFFEE IN QUEENSLAND.

I.—CULTIVATION.

Consular reports are for the most part dryasdust publications, and useful though the information they contain may be, it is often a relief to seek it elsewhere. In this respect we are fortunately placed as regards the cultivation of coffee in Queensland. During the last session of the Agricultural and Pastoral Conference in that Colony, Mr. T. A. Bromley, of Pialba, gave a very interesting account of his experiences as a coffee-planter. It is the experience of a man who had to grope his way along with very little assistance from outside. He states that he started not at all sure how Coffee would do "as a plantation." He had seen it grow under all sorts of conditions, in all aspects, in various qualities of soil, and at various altitudes above the sea: from just a little above the tide-water to his present estate, probably the highest coffee-growing point in his district. He had seen it doing well on hungry granite, on almost a stone quarry, where fifteen or sixteen year old trees gave splendid crops. Only in one instance had he seen it fail, and then right on the sea-beach, nearly in the sea-sand, not more than 20 feet above the water, and exposed at all times to the northerly wind. Mr. Bromley studied books to some extent, but chiefly some-

what antiquated ones. By practical experience he has found that coffee-growing in Queensland is at many points in touch with coffee-growing elsewhere, but he has also found that there are many points to be observed there that do not tally with the methods adopted in other parts of the world. He says emphatically in regard to coffee cultivation :—"data that one gets from what is written of coffee production in foreign countries cannot be taken as safe data for us to go upon." He agrees that the general principles hold good all the world over, but observes that "the climatic vicissitudes and the adaptability of the plants themselves have all to be re-learned when you come to Queensland."

He then traces his own experience. First, he was careful to select a piece of land sufficiently above the sea-level, and near enough to the sea to get the benefit of the sea-air, with a somewhat moist atmosphere, the right position, and the right texture of soil. He bought land about 400 feet above sea-level, and a mile from the sea, separated from it only by open land. It is red volcanic soil, so friable that you can force an ordinary bar down three or four feet into it in ordinary weather. He obtained 100 trees, and prepared beds thus : he carefully dug the soil to a depth of from 16 to 18 inches, forked it, and took out every root, so as to leave everything free for eventual transplanting He made the ground fairly level, just as if it were an ordinary seed bed, laid off the beds 3 feet wide by 6 or 7 feet long, with paths between, inserted a number of forked sticks, leaving the forks about 5 feet out of the ground, and put saplings on these forks. Over the top of the latter he strewed banana leaves, not altogether intercepting the sun, but making a fair shade. To keep the leaves in place, he laid on a few more saplings. These lasted twelve months longer than they were required. He then withdrew the seeds from the parchment, and put them down about 1 to 1¼ inches, taking care to put the round side up and the flat side down, for he had noticed that the germ came out from the flat side. It was a dry year, and he had to water repeatedly, keeping the soil always *moist*, and no more. After what seemed an unconscionable delay all the seeds seemed to sprout at once, and start away vigorously. He left them there till the spring of the year—about July—then raised the plants, which were from 6 to 8 inches high. Pits 15 inches square and 18 inches deep had been prepared, over new scrub soil, and in refilling the subsoil was replaced first, the surface soil on top. Where the taproot had been injured in any way it was carefully cut with a knife, but those that had not been cut seemed to do best. Loose soil was filled in to the collar of the plant, (but subsequent experience showed it should have been stamped and pressed in) and watering begin. More soil, more water. More soil again. Some split shingles were put on the west of the plants, and they had to be kept there for twelve months, as shade. At the end of twelve months the plants were 18 inches high, at the end of two years they ranged between 2½ and 4 feet, and had to be staked. At two years there were a few flowers and a few berries. Perhaps it would have been better to pick them, but they were left. At three years there was an average crop of 1 lb. of berry to the tree, which was sold at 1*s.* 3*d.* per lb. cleaned and ready for market. In the fourth year the average was 2¾ lbs per tree.

The above is a sketch of part of the history of the original 100 plants, but Mr. Bromley naturally increased this number when he found that a profitable crop was coming in. As regards the distance between trees, he has tried 7 by 7 feet, 8 by 8, 9 by 8, and 10 by 12, but does not say which he has found most effective. He estimates the net return at over £50 per acre. He still has only 5 acres under coffee, for he is testing coffee-growing experimentally. He has seen many trees from which it was possible to get 14 lbs. of berry per tree. He knows of one tree 11 years old that had yielded 33 lbs. of berry in a season, and he has seen seven trees give in all 100 lbs. of finished berry. The first tree referred to was 14 feet high, and had a radius of 6 feet. Every limb of it was pulled down by the weight of fruit. The other seven were grown on hungry granite on the bank of a creek some twenty-five miles inland, and was nearly twenty years old. He did not of course mention these as other than quite exceptional specimens, nor did he recommend the growth of large trees. He is trying two sub-varieties of *Arabica*, Liberian that he had planted having perished at the very first breath of cold air. He considers Liberian too tropical a variety for Queensland, and is growing ordinary Ceylon, and a robust variety from Coorg, with a thick-fleshed leaf. It may perhaps be well to add that very careful observers in Queensland, other than Mr. Bromley, have satisfied themselves that an average yield of 2 to 2½ lbs. per tree may be expected from an estate of, say, 50 acres. It is possible that a somewhat larger tree is grown than is in favour in India ; but, even allowing for this, the above figures show that coffee offers very fair prospects to the planter in Queensland. He has a fairly large market within a short distance from his estate.

EXPERIMENTAL PLANTING.

In an article which we reproduce on another page, the *Madras Mail* refers to Experiment Stations as "An agricultural want" of Southern India, and invites the Government to take a lesson from the plans arrived at by the Russian authorities. All that our contemporary remarks in this connection about agriculture generally applies with peculiar force to that section of it which is often, for convenience, classified under the head of "planting." There are, however, a few words that may be added. For instance, experimental planting is practised in Mauritius, where the scientist tries hard to help his lay brethren. Yet we find the former complaining of indifference on the part of the latter. The Russian scheme referred to by the *Mail* is sound, because it is based on a recognition of the need for co-operation between theory and practice, science and the actual work of the agriculturist or planters. To attain the maximum of success any scheme of experiment stations must be arranged to co-operate with experimental planting on private estates. The report of the Mauritius "Station Agronomique" states :—"We have asked and still continue to ask planters to co operate in our investigations by conducting a few experiments on their estates ; it will cost them but little supervision and will, from whatever point of view they may be regarded, be always productive of results. It would not be indispensable to repeat all the experiments that we have indicated if too much work is apprehended, but every planter might, according to the peculiar conditions of his culture, contribute to the work to

a certain extent and after a time the facts collected at different places will form a source of information of paramount interest. Up to the present we have induced only a few interested parties to contribute to our investigations and it is much to be regretted, the more so as they are not persevered in generally and it is a mistake to deem sufficient a single trial which loses all its value when it is not strengthened and checked by a series of similar trials conducted under different conditions and through several years." The same writer also observes :—" Unfortunately every one believes that he has nothing to learn in that respect and he sticks to his routine which he deems excellent. No doubt experience, especially in regard to agriculture, is the main point; provided, however, that such experience be supported by observation of facts and do not merely rest on the habit of doing work in the same way for a number of years. Sometimes people imagine that they are making an experiment, but the conclusion is not logical; they do not sufficiently take into account the secondary circumstances which may have affected the results, and take figures for granted which would perhaps have been invalidated had they been tested a second time."

BOARD OF TRADE RETURNS.

First Quarter—1899.

Cocoa (raw) arrived much more plentifully than in 1898, and placed the stock on a higher level than previously.

In the first three months.	1899.	1898.	1897.
Imports ... ... lbs.	15,091,912	16,930,855	13,041,873
Home consumption ... „	10,082,277	8,852,976	8,759,998
Exports ... ... „	3,439,631	2,828,713	3,867,925
Stocks in bond ... ... „	17,584,000	21,012,000	24,965,000
Value of imports	£488,996	£501,633	£346,546
„ exports...	109,387	89,777	101,340

Cocoa (prepared).—Only scanty quantities of this article were landed in March, and the deliveries increasing, pulled the stock in bond down to a point below that in 1898.

In the first three months.	1899.	1898.	1897.
Imports ... ... lbs	1,403,302	2,636,006	1,936,654
Home consumption ... „	1,538,302	1,660,644	1,791,674
Exports ... ... „	274,080	124,047	126,478
Stocks in bond ... ... „	902,000	1,212,000	98,000
Value of imports	£129,018	£179,994	£146,464
„ exports...	29,367	13,780	14,331

Coffee came forward more extensively than in the former year, and be the deliveries what they may the bonded stock rapidly accumulated.

In the first three months	1899.	1898.	1897.
Imports ... ... cwts.	279,551	260,312	267,183
Home consumption ... „	66,696	64,228	65,064
Exports ... ... „	122,874	101,779	66,068
Stocks in bond ... „	401,000	301,000	249,000
Value of imports	£1,074,679	£1,258,754	£1,230,998
„ exports...	440,845	409,779	296,071

Chicory.—The landings were light, and with improved clearances the surplus in the stock soon disappeared.

In the first three months.	1899.	1898.	1897.
Imports ... ... cwts.	23,482	29,766	24,880
Home consumption ... „	20,732	22,145	22,349
Exports ... ... „	102	223	545
Stocks in bond ... ... „	15,000	16,000	11,000
Value of imports	£11,575	£12,651	£11,009
„ exports...	122	202	520

Tea.—Little or no abatement in the supply was observable, but the entries for home use were excessive, and the stock sank down very fast.

In the first three months.	1899.	1898.	1897.
Imports—China... ... lbs.	3,188,015	4,633,558	2,553,610
„ British East India „	28,415,842	31,296,481	29,915,089
„ Ceylon ... „	23,644,961	26,130,830	22,410,283
„ Other countries „	2,615,644	2,612,082	1,651,474
Total imports ... „	57,864,462	64,672,951	56,530,456
Home consumption—China lbs.	4,074,751	3,928,336	4,756,368
„ „ B.E.I. „	38,991,024	33,030,413	32,620,855
„ „ Ceylon „	19,665,444	19,614,632	18,544,961
„ „ O C. „	1,294,611	1,052,059	612,491
Total ... ... „	64,025,830	57,625,440	56,534 675
Exports—China ... ... lbs.	2,956,857	4,492,631	4,828,273
„ British East India „	2,169,533	1,817,771	1,834 897
„ Ceylon ... ... „	2,637,448	2,707,935	2,556,676
„ Other countries „	182,853	230,740	173,683
Total ... ... „	7,946,691	9,249,077	9,393,529
Stocks in bond ... ... lbs.	85,285,000	96,604,000	93,211,000
Value of imports ... „	£2,105,054	£2,464,563	£2,233,519
Of which British Indian „	1,055,550	1,241,079	1,217,771
„ Ceylon ... „	852,900	984,253	872,318
Value of exports ... ... „	338,572	374,500	395,049

CINCHONA AND QUININE.

The little spurt that Cinchona and Quinine made recently, soon lost much of its force, yet there appears to be a general belief that a rise is much more probable than a fall. On another page we give a very interesting extract on the subject, and here we may remark that it is believed that a large contingent of outside operators has been interested in 'bulling' quinine of late. No doubt these gentlemen have sought to realise and thus brought about a relapse. A Home contemporary asserts that it had been confidently expected that the value of quinine would run up without a break to 2s. 6d. per oz., forced up by a large demand for cinchona bark and supported by an exceptionally strong and capable clique of bull operators. So great was the belief in the strength of the article and its manipulators that, after an unbroken rise of 11d. per oz., sellers found no difficulty in meeting with large purchasers at that advanced price. Beyond a doubt, the position of the article offered an exceptionally favourable scope for a boom, owing to its abnormal strength. The supply of raw material—Bark—had decreased in an alarming manner from year to year, and had reached a level which proved absolutely inadequate to the demand for the manufactured

article—Quinine. The following figures may be of interest to our readers:—

	Total Export of Ceylon Bark. lbs.	Price of Quinine, Howard's. Per oz.
1877-78	173,497	... 11s 9½d
1878-79	373,511	... 12s 2½d
1879-80	1,208,518	... 12s 0d
1880-81	1,207,720	... 9s 1d
1881-82	3,099,895	... 9s 2½d
1882-83	6,925,595	... 7s 11d
1883-84	11,492,947	... 5s 1¾d
1884-85	11,678,360	... 3s 8½d
1885-86	15,364,912	... 2s 5½d
1886-87	14,389,184	... 2s 4d
1887-88	11,704,932	... 1s 8d
1888-89	10,498,487	... 1s 6d
1890	8,728,836	.. 1s 5d
1891	5,679,334	... 1s 4d
1892	6,793 320	... 1s 3d
1893	3,571,325	... 1s 3d
1894	2,497,616	... 1s 4d
1895	921,085	... 1s 5d
1896	1,309,560	... 1s 3d
1897	653,346	... 1s 3d
1898	...	... 1s 6d

With a falling off in supplies of Bark the demand increased, keeping step with the spreading of the influenza. The only astonishing part of the whole affair to an outside observer, says our contemporary, is that this exceptional position of Bark should have dawned on our market so very suddenly, and that those closely connected with the Bark and Quinine trade should have been utterly blind to the threatening crisis. It seems incredible that a current article, whose real value should be 2s. 6d. per oz., should be kept down to about 1s. per oz., simply because an outside speculative element had failed to notice its exceptionally favourable position for a boom. It is not unreasonable to suppose that, by sheer trade demand, the value of both Bark and Quinine would have been steadily enhanced until a sound commercial basis had been established. However, there was an opening for a bull operation, and bulls have availed themselves successfully of it; it is only the unfortunate outside follower who has contrived to miss his opportunity, and who, as in many similar cases, will have to pay for his blind confidence in his leaders.

COFFEE IN THE UNITED STATES.

The *American Grocer*, after stating that coffee is the most popular beverage in the United States,—the favourite stimulant among all classes—adds that if allowance is made for non-consumers, it is safe to say that coffee-consumers drink on an average nearly thirty gallons of coffee per annum. Remarking that consumers will pardon defects in the quality of a majority of articles quicker than they will poor coffee, our contemporary proceeds to show that there is an unusually wide range in the cost of the raw coffee bean—from 3 to 34 cents—and this demands great discrimination in buying. The higher prices are due to the small supply of certain growths, for which the people have a decided prejudice, rather than for any difference in intrinsic merit. For instance, there are fine marks of Mexican, Central American, Venezuelan, Ceylon, and Jamaica coffee, which for body and flavor equal the best East India sorts, and which cost 10 to 14 cents per pound less. This condition of the market affords the grocer a splendid opportunity to make blends and to develop a trade which can be controlled and made very profitable. Coffee planters in India should be glad to read some of these remarks and to find them supplemented by the following excellent advice:—"Teach consumers to buy in small lots and supply them with fresh-roasted beans—and fresh ground, if so desired. Above all, advertise the coffee department; talk about it; demonstrate its effectiveness and win a reputation of keeping the 'best coffee in town.'

CEYLON TEAS.

The *Observer* continues to institute comparisons between reports from various districts, and apparently finds discrepancies and contradictions everywhere. From Matale East it learns that better quality "is not in the leaf," as it asks, "what better remedy than judiciously selected manure for giving strength and flavour to tea?". Panwila and Wattagama plead the recent drought, and here too the expediency of manuring appears to be recognized. As regards factories, some say they are all right, others that there is not sufficient withering room. Again, one correspondent from Nawalapitiya and Dolosbage side says finer plucking than ever before now obtains, and has resulted in the outturn of better teas. A second, whose experience has evidently not been so progressive, demands finer plucking, and more withering accommodation, especially where leaf is bought for manufacture; and in this he is supported by the third, who holds bad plucking, and bad withering (especially between 15th March and 30th June approximately) when leaf comes in with a rush, as responsible for much; while he also mentions scanty supervision. As regards jât, one report considers it good, as a whole—a good hybrid with some indigenous—saving perhaps about 500 acres in little patches which are inferior China. "Generally good," says the second, while the third declares jât very poor on some estates, and on many no more than fair; only portions of a few estates being planted with good indigenous. The verdict on soil, too, similarly varies. In fact, the variety of reports makes confusion worse confounded and leaves the inquiring mind in a state of puzzlement that finds its only refuge in platitudes. An instance: "If the prices of medium teas do not show an advance, it is because there is less competition for them in the market."

TELEGRAPHIC QUOTATIONS.

London.—	May 6	8	9	10
Bar Silver	28	28 5/16	28⅜	28⅜
Bank Rate	3%	3%	3%	3%
Coffee				
Mysore, Av. (B) size ...	66s.	...	66s.	...
Ceylon Plantation ...	105s.	...	105s.	
Stock, tons	...	...	20,842	...
Fortnight's ldgs. ...	...	...	3,600	..
,, del. ...	...	...	2,200	
New York.—				
Coffee—Fair Rio ...	6¾	6¾	6¾	6¾
,, Futures, Aug. ...	5·95	5·92	5·94	5·88
Silver—Comml. Bars ...	61¼	61¼	61¼	62

NOTES.

Soil Bacteria that liberate Nitrogen. According to a German writer, such organisms are most abundant in fallow lands, less abundant under leafy plants, and least abundant under cereals.

The Canadian Tea Tariff. Latest telegraphic advices state that the Canadian authorities are not proposing any changes in the Canadian tariff; and no preferential duties in favour of British teas are proposed.

Ceylon Tea Shipments in April 1899. A Fort merchant sends the *Times of Ceylon* the following, the starred total being estimated:—

	1897.	1898.	1899.
United Kingdom ...	9,373,704	6,941,316	7,769,000
Australia	956,977	1,290,955	1,300,000*

Experimental Gardens. *Apropos* of remarks in our editorial columns, we are glad to note that this subject is receiving attention at the hands of planters in the Federated Malay States. They are also advocating the formation of a local Agricultural Department.

Leaf Disease in Africa. The *Central African Times* states that though coffee leaf disease has long been in Africa, there is none in *British Central* Africa. We are glad to hear it, but it was a Zanzibar paper, we believe, that first said that there *was* leaf disease in B.C.A.

Lipton, Limited. Disappointing the expectations of many, Lipton, Limited, are paying 11 per cent. for the year; placing to reserve £45,000, and to capital reserve £44,261 earned prior to the incorporation of the Company; and carying forward £4,391.

The Adulteration of Coffee. Apparently we were wrong in thinking that Home opinion would be in favour of clear labelling of percentages of contents of "mixed" coffees, &c. The Standing Committee on Trade, at any rate, makes no comment on the new Section 12, which merely provides against the *obscuring* of notice of mixture on the label.

A lucky Bargain. A Ceylon paper writes:—We hear of one Nilgherry estate owner who, early in March, sold his (cinchona) bark to the Madras Government Factory at the rate to rule on 1st April. On 29th March the price went up 100 per cent. and so the lucky proprietor has scored, more particularly as there has been a fall since.

The First Planter's Marriage. A visitor at Mlanje, calling on a noted bachelor, remarked that he had a very fine place and said: "All you want to complete it is a wife. Don't you remember that the first planter in far away Eden had a wife?" "Very true," replied Ye Bachelor. "but he did not keep his plantation long after he got his wife."—The *Central African Times* tells this wicked story.

Mr. Richard Blechynden. Mr. Richard Blechynden ceased his engagement as Indian Tea Commissioner in America on Saturday the 29th ultimo, and commenced his new duties and responsibilities in connection with Messrs. Whittall and Co., of Colombo, on the 1st instant. His headquarters will be New York; but the scope of his work under the new circumstances is not a matter on which information can be given.

Java Coffee. Advices received from Batavia, March 31, report the prices realized at the Government auction as follows: Interior, 67 09 florins (24¼c); Mandheling, 87·40 florins (31c); Ankolo, 86 florins (30½c); Ayer Banjies, 79 florins (28c); Painan, 60·37 florins (22c). Hard & Rand purchased 3,200 piculs; Padang Trading Company, 2,600 piculs; Veith Brothers, 1,800 piculs; J. Peet & Co., 1,000 piculs.

The London Tea Market. Messrs. Gow, Wilson and Stanton cabled to Colombo on 4th instant that the London Tea market showed a decline, and demand for poor liquoring sorts was weak. The Ceylon average was 8¼*d.* (¼*d.* on) and the price of Ceylon Pekoe Souchong 7½*d.* (¼*d.* down). Of 21,000 packages offered, 20,000 were sold. Indian average was 8⅞*d* (½*d.* down) and 9,000 packages were sold out of 10,000 offered.

A Tea Factory burnt down in Ceylon. A telegram from Gampola to the *Times of Ceylon* states that the Tembilligalle factory, belonging to Messrs. George Christie and H. C. H. Heycock, was totally destroyed by fire early on the morning of the 5th instant. The outbreak was caused by a cooly overturning a lantern whilst spreading tea leaf. The damage to the property is estimated at nearly Rs.30,000; and 7,000 or 8,000 lbs. of tea were destroyed.

Colombo Tea Sales. At the public sale of tea at Colombo, on the 8th instant, about 8,823 pkgs = 686,176 lbs. were offered, of which about 5,777 pkgs. = 447,513 lbs. were sold. A decided disinclination to buy was noticeable at the sale, says the local *Times*, and prices generally were very irregular; common and medium pekoes were rather easier. Quality of tea offering generally showed a falling-off. Good invoices were offered from: Middleton, Farnham, Arapolakande, and Glassaugh

Ceylon Tea in Russia. At the Annual General Meeting of the shareholders of the South Wanarajah Tea Estates, Limited, the Chairman remarked:—Our teas are selling at satisfactory rates, and in connection with the future of the Ceylon tea industry, it is encouraging to notice the greatly increased demand for the tea from the colonies and especially from Russia, to which country have been shipped from Ceylon direct during the past twelve months 2,714,000 lbs., against 439,350 lbs., the corresponding period of the previous year, and the shipments from London to Russia during last year were 6,675,087 lb., against 6,272,596 lbs. in 1897.

Brazil Coffee. The following brief extract from the *Rio News* of 28th March should be compared with Messrs. W. H. Crossman & Bros' latest circular given on another page:—The committee of coffee factors of Rio de Janeiro, in its report presented on last Friday,

maintains its previous estimate of 3,000,000 bags for the crop of 1899-1900. The committee says that the crop, as well as the trees, has been injured by drought, but that it is not yet possible to estimate the amount of damage thus caused. It is expected that the early maturing of the coffee will cause an increase of 20 per cent. in the receipts at Rio de Janeiro before the 30th of June.

In Praise of Coffee. Britons should drink more coffee, so says *The Lancet*. Nowadays we only consume 12,000 tons a-year, or, one infers, one pound of coffee to ten of tea; "yet coffee, when properly treated, is a most excellent and wholesome article of diet." To be "properly treated" it should contain plenty of milk and sugar, which, added to the nutritive qualities of the coffee berry, "affect the human economy in a peculiarly agreeable and beneficent manner." There is nothing whatever to forbid its habitual use in moderation, whether with meals or at other times.

A nameless Terror! A Colombo paper has the following mysterious paragraph:—Hawaiian Coffee Planters are very much disturbed at the prospect of the *(sic)* disease affecting coffee in Venezuela and certain parts of Central America, getting into their estates. The *Planters' Monthly* says:—"In several of the districts of Central America, where it is now, many of the estates have been rendered almost worthless. This seems to be a different disease from that which destroyed the coffee industry in Ceylon." The disease is caused from two small parasitic fungi, namely, *Stilbum fuvidum* and *Sphœrella coffeicola*.

Fertilizer Experiments. The Massachusetts Hotel Station report states with regard to test with legumes that of the nitrogen fertilizers, nitrate of soda gave the largest crop, followed by barnyard manure, dried blood, and sulphate of quinine, in the order given. Double sulphate of potash and magnesium was more effective than muriate of potash, especially when used in connection with sulphate of ammonia. Nitrogen was tried on crimson clover and other plants, but without appreciable effect. "The failure of the material to benefit the crop appears to be due to the fact that our soils contain the nodular bacteria of the common leguminous crops in sufficient numbers."

Malay Coffee. We take the following from the Report of the U. P. A. of the Federated Malay States for 1898-99:—*Schemes for raising the standard of Malay Plantation Coffee.*—This matter has received close attention during the year. No authentic data of large quantities of coffee produced elsewhere, of the Liberian variety, having fetched higher prices have become available to your Committee. There appears to be little doubt that the flavour of well-matured Malay Peninsula Coffee entitles it to a front rank, and that the development of a demand for it will have to be a matter for individual enterprise, much having already been done and is being done to this end.

Grey Blight on Tea in Ceylon. A Colombo contemporary remarks:—Whether it is a result of the recent severe drought all over the island, or is due to some more permanent cause, there is no doubt that this tea pest is unusually prevalent in some districts of the island at present. It is heard of in Dimbula, as well as in the low-country districts of the Kelani Valley and Kalutara, and in some quarters has caused alarm as to its ultimate effect on the tea. If it is only the result of the prolonged dry weather we have been suffering from, following, as this did, the drought of last year, much importance need not be attached to it, and we think this is the opinion of a good many planters.

Curious Coffee Leaves. A Nelliampathy planter has sent us a few specimens of coffee leaves found on his estate a few days ago. He says:—"Only two trees in the old field have leaves like the specimens, and as I have never seen the like before, I am rather curious to know if it is a freak of nature or a new plant disease." The best description we can give of the leaves is that, at first sight, they look like new and beautifully variegated varieties of *coleus*. The shading—green, pale yellow and russet brown—is exquisite, though one leaf shows no trace of green, merely yellow and russet brown. One leaf is partly eaten, one apparently torn, some others are sound. If our friend can raise many plants bearing similar leaves, he might make more out of them as ornamental foliage plants than as coffee producers in these days of low prices. They would make any ordinary croton look dull and monotonous!

Exports of Bones from Bombay. The following figures exhibit the export of bones from Bombay during the eight years ending 1897-98:—

	Tons.
1890-91	13,653
1891-92	16,281
1892-93	17,569
1893-94	19,458
1894-95	32,387
1895-96	33,018
1896-97	21,297
1897-98	21,447

Nearly 78 per cent. of the exports were taken by the United Kingdom, 17 per cent. by Germany, and the remaining 5 per cent. by Belgium, France, Natal and Japan. Messrs. Coen and Co., of Hubli, supplied about 300 tons of bone meal and bone mixture, against 450 tons during the previous twelve months for use on coffee plantations in North Mysore. The falling-off is attributed to a scanty coffee crop, and to the rising rate of exchange.

The Cost of Quinine. "How much does quinine cost in the bark?" has been a casual question in market circles during the past few weeks, and it is astonishing, says the *Chemist and Druggist*, how few are able to give a pat reply. The simplest rule is to answer this question, "How much does 1¼lb. of 5 per cent. cinchona bark cost at the current unit?" The answer is the price of quinine sulphate in the bark. Thus the present unit is 2½*d.*—*i.e.*, the bark costs 2½*d.* per lb. for each 1 per cent. of quinine sulphate which it yields, so that 1¼ lb. of 5 per cent. bark costs the manufacturers 1·3¼¼*d.* (*sic*). They have to meet all charges upon the bark from the place of sale to their factories, isolate the alkaloid, make it into pure sulphate, and box it. This adds, we are informed on good authority, 4*d.* per oz. to the cost, and after that the

manufacturers have to get their profit. Reduced to a simple algebraic expression the inclusive rule is—

$$u \times 5 \times \frac{5}{4} + 4 = x,$$

where u is the unit in English pence, and x the price of quinine sulphate per oz in pence. The Amsterdam unit is the price in cents. (5c. =1*d*.) per Amsterdam lb., which lb. is about a tenth more than the English lb.

Helopeltis and its Habits.

G. S. writes from Morowa Korle to a Ceylon contemporary that he has had some opportunity during the last six years of studying the little ways of *Helopeltis*. His experience this year appears to be rather at variance with Mr. Green's remarks as to its non-existence during the drier months, inasmuch as it first showed up heavily here in January, increased in February, and was at its worst precisely in the period from the 19th of February to the 19th of March, during which we had an unusual drought. It began to disappear from one field attacked soon after the 19th of March, after the rains set in, and now after about a month, during which it has rained every day, this field is nearly clear of it, though—alas! its effects remain—and it is considerably less in evidence in the other fields. He has known it, however, very bad in rainy weather. It seems to be most capricious in this respect. It has been heavier this year than he has known it for three years past. All the younger tea and the better jât tea seem to be immune from attack; and also he has noticed it most prevalent on tea five to seven months from pruning. The young rank shoots, after pruning, appear to have no attractions for it; and it seems to decrease again as the shoots get small and hard before pruning.

GENERAL ARTICLES.

PRODUCE AND PLANTING.

Tea Planting in Natal.—The United States Consul-General at Cape Town is so interested in the tea cultivation of Natal, that he describes for the benefit of his countrymen the process of cultivation and manufacture in that colony. We give it in his own words, and we leave Indian and Ceylon planters to solve the question whether their brethren in South Africa are up to date in their methods. The picking season in Natal generally commences early in September, and goes on till about the end of the following May. The months of June, July, and August are taken up with digging and manuring the land, and pruning the plants The tea is picked by the coolies, mule carts in different gangs collecting the leaf. Men and women are employed in the picking process. The tea leaf is taken down to the factory, where it is "weighed in." When that is done, it is spread out thinly on frames covered with hessian, for the purpose of "withering," in a temperature of 80 deg. to 90 deg. In the course of twelve hours, the leaf has become perfectly soft. The leaf is then passed through shoots into the machine room, where it is "rolled." When the rolling is finished, the sappy, juicy mass is sent down into the cooling chamber where it is spread out and submitted to the action of the air at a temperature of from 60 deg. to 70 deg. The rolled leaf is then passed to drying trays, on which it is spread out thinly and submitted to a temperature of about 250 deg. the excessive heat staying fermentation, and taking all moisture out of the leaf. The now manufactured article is sent on to the sorting department, where the different grades of Golden Pekoe, Flowery Pekoe, Pekoe Souchong, Souchong, and dust are separated by machinery, which consists of a huge, revolving screen cylinder, the meshes gradually getting larger towards the outer end, so that the dust falls from the separating machine first, and the Souchong last. The smallest leaves on the twig, says the Vice-Consul, when picked, make the finest tea. The tea is then put into air-tight bins where it is allowed to remain from two or three months to mature. After this it goes to the packing department, where it is put into packets or boxes for the trade.

Name, please—The Chancellor of the Exchequer's remarks in reference to the enterprising tea company which wished to make special arrangements with Her Majesty's Customs, whereby it was to be allowed to pay duties on tea then in transit, in order that its cheque for duties might be increased, have given rise to considerable excitement among the big firms. No firm, so far as we are aware, has shown any inclination to own up in the matter. Liptons and the Mazawattee repudiate all connection with the tactics mentioned by Sir M. Hicks-Beach.

Cocoa Cultivation in Trinidad.—In his paper, read before the Royal Colonial Institute last week, on "Trinidad: Its Capabilities and Prominent Products," Sir William Robinson had a good deal to say about cocoa, in the prospects of which he is a firm believer, and which, as he put it, "is pressing very hard upon the heels of sugar" in the island Forty years ago there were only 7,000 acres planted with cocoa. At present there are over 97,000 acres devoted to that crop, and that the industry is the means of distributing in the colony upwards of £270,000 a year. The largest estates now existing have been formed by uniting small areas established under what is known as the contract system. The contractor is generally Spanish, sometimes French The proprietor pays the cost of cutting down the forest, and when so cut the land is turned over to the contractor. He cultivates on it, free of rent, corn, plantains, tanniers, bananas, and pigeon peas for a period of three, five, or seven years. In return for this privilege the contractor undertakes to plant the land properly with cocoa and shade trees, and when he gives the land up the proprietor gives him a shilling for every tree planted. The cost of establishing a cocoa estate in this manner is about £12 or £14 an acre. An acre will yield one and a half bags to three or four on exceptionally good land. A bag weighs 165lbs. It is a fact that land planted in cocoa for sixty years is as good as when it was first cleared. And one of the proprietors in Trinidad has an estate upwards of one hundred years old, which is still yielding large crops. The average annual imports from 1848 to 1857 were valued at £550,000. From 1868 to 1877 they were £1,078,405, and from 1878 to 1887 no less than £1,641,950. Cocoa is fairly remunerative under the most primitive modes of cultivation and preparation, and highly remunerative when properly cultivated and prepared. In addition to large estate owners it is grown by a number of small proprietors; its cultivation requires a comparatively small outlay, and the crop is always saleable for "ready money" Under such circumstances cocoa has become one of the main supports of the retail trade in Trinidad, and has been the means of raising the average value of its yearly imports from a little over a million sterling to a million and a half in the decade ending in 1895. In 1896 the export of cocoa was 23,481,000lbs. valued at £452,000. Low prices and a short crop prevailed in that year The export up to December 22, 1898, was 20,171,000lb. Notwithstanding the large area of land which has recently been taken up in Trinidad for cocoa cultivation, there still remain over 700,000 acres of land in possession of the Crown, nearly 300,000 of which consist of some of the finest virgin soil of the island. Sir William Robinson recommends Trinidad to young and energetic Europeans with small capital.

The Consumption of Coffee—The reference by the Chancellor of the Exchequer to the increase in the consumption of coffee has led the *Westminster Gazette* to enquire into the sudden increase in coffee consumption, and it says "the results of the enquiry are remarkable." Take Spiers and Pond's railway refreshment rooms for example. We learn that at Waterloo alone 220,000 cups of coffee were consumed in the year ended March, 1899, against only 48,000 cups in 1898, while at some of the country stations the consumption of coffee increased sixfold. The 1,200 barmaids of the Spiers and Pond railway refreshment rooms served 134 tons of coffee in 1899, representing 300,160 lbs. and 6,034,000 cups; in 1898 the figures were 48 tons, 107,520 lbs. and 2,678,000 cups, this being an increase of 3,356,000 cups in the year. This may represent a change in public taste, but we should imagine that it must be mainly attributed to the improvement in the cup of coffee supplied under the new refreshment room management of the company.

Spice Prospects.—The landings of black pepper during the first quarter of the year have been restricted to 670 tons, in contrast with 2,015 tons in the same period of 1898; and as the combined deliveries for home use and export were augmented to 1,660 tons,

instead of being only 1,100 tons, the remaining stock has been diminished to 6,280 tons. against 6,575 tons a twelvemonth ago. As a consequence the market has vastly improved, and prices are 1d. per lb. higher than they were in April last. The advance in white pepper is even greater, say 1½d. on the rates of a year back, but the reasons for it are nothing like so cogent as those for the kindred condiment, because no real diminution in the supply has taken place. By the way, it may be interesting to those of an antiquarian turn of mind to learn that in the Middle Ages the price of pepper was so exorbitantly high that it formed one of the inducements which led the Portuguese to seek a sea route to India, and the discovery of the passage round the Cape of Good Hope in 1498 brought about a considerable fall in its price. Returning to present day records, market reports show that in spite of a poorer importation and expanding deliveries, Ceylon cinnamon is several pence per pound cheaper than it was last spring; and, of course the glut of cinnamon chips can be had at proportionately low figures. Ginger, for the most part, has suffered a rather severe depreciation in value. Pearl sago, though offered more liberally than hitherto, has met a readier sale and brought better prices, especially for large grain, than were procurable last season. Arrowroot affords a remarkable instance of reversed statistics, for whereas the receipts have been cut down to 2,620 barrels, as compared with 2,820 barrels in the three months of 1898, the total quantity cleared in 1899 has been swollen to 4,330 barrels, in opposition to 2,680 lbs. last year; and the stock by the close of March had dwindled to 4,080 barrels, as contrasted with 9,300 barrels in 1898 at that date; thus warranting an enhancement in value from 1¾d.—the lowest point—to 2½d. per lb. for St. Vincent of common quality.

AN AGRICULTURAL WANT.

In our issue of the 3rd instant we mentioned that Sir W. T. Thiselton Dyer, K.C.M.G., had remarked that the problem as to which are the best ground-nuts to import with a view to the improvement of the crop in Southern India was one that should be taken up on an experimental farm. This calls attention to a want that has been noted for years past. In other countries, and for that matter in other parts of India, experimental agricultural farms have been conducted for many years. In Madras they have certainly been attempted, but they have never had a fair trial, and at the present moment there is nothing in Southern India that deserves to be compared with the experiment stations of the United States or Java, or the experimental farms of which instances are afforded by Northern India. In fact, things have been allowed to drift so long, that Madras can now take a lesson from even Russia—a country which assuredly should not be able to teach agriculture to an ancient civilisation such as that of India generally, or a modern civilisation such as that of Great Britain. Madras is neglectful of a very important matter, whereas in Russia steps are being taken for the establishment of a system of agricultural experiment stations under the supervision of the Imperial Government. The Ministry of Agriculture lately elaborated a plan for such a system of institutions, which was passed and approved by the Agricultural Council. By this time, possibly, an Imperial decree has been issued definitely inaugurating the system.

As humble students, let us sit at the feet of the Russian agricultural scientists and learn. They, at least, have studied what is going on in the world around them. They have availed themselves of the experience, the successes and the failures, of other nations, and the conclusion they have reached may fairly be regarded as offering a digest of modern agricultural scientific procedure. This conclusion assumes the shape of a plan providing for four classes of institutions, namely, (1) agricultural experiment stations for scientific investigation of problems in agriculture, chiefly laboratory methods; (2) experimental fields (or orchards and gardens) for making field-experiments in the culture, etc., of agricultural crops, with a view to solving questions of a more local character; (3) semi-scientific experiment farms for conducting practical experiments in general farm management under local conditions, studying economic questions, etc., and (4) fields of demonstration (also orchards and gardens of the same character) for demonstrating the application in practice of the results of experiment station work, improved methods which have been tested on the experimental fields, new kinds and varieties of valuable plants, breeds of animals, farm implements, etc. It has been decided also that, where desirable, these four types of stations may be united into one institution with the several departments; or the stations may be divided, again, according to the scope of their work, into (*a*) those that are working on the fundamental principles underlying the practice of general agriculture, and (*b*) those that are studying, by similar methods, questions of a more local character.

In other words, there is to be a classical side as well as a modern side to agricultural education. The former will be represented by institutions located in the vicinity of seats of scientific learning, the latter by institutions in typical agricultural regions. When possible, the latter are to be near the local centres of education. Both classes of experiment stations are to be fully equipped with laboratories and libraries, and agricultural meteorology is to receive attention. Analyses of soils, fertilisers and agricultural products for private persons will be undertaken according to a fixed schedule of fees. The location of fields will be carefully considered and the farms established will correspond in general character to the farms or estates of the localities in which they are situated. There may be affiliated with such farms special departments for horticulture, gardening and agricultural technology, also for the introduction of improved implements, machines and breeds of animals, and for distributing seeds of improved varieties, etc. Meteorological and phenological observations will be conducted, and the rural population are to be afforded opportunities to witness the result. The experiment stations will each have a Director and at least two assistants; the fields and farms, a Director and at least one assistant; and, as far as possible, the managers of the fields of demonstration will be chosen from the local residents and placed under the supervision of experts.

This will suffice to show the main outline, though further details might be cited to show how thorough is the plan decided upon. The main point to notice is that while the Government plans for the establishment and maintenance of the higher-grade institutions, it looks to local Committees, organisations, and public-spirited persons for the establishment of fields and farms where the work is to be of a more practical and popular nature or for purposes of demonstration and is to be restricted to the study of locel questions. On this point the Russian plan might need some little modification to adapt it to India's requirements, but assuredly it is an excellent plan and one that deserves the consideration of the Madras Government with special reference to such crops as ground-nuts, sugar and indigo. The dual aim of the institution is admirable, *viz*, experimental investigations on both scientific and practical questions in agriculture, and the dissemination of information among the people by means of fields of demonstration, popular lectures, and publications. No higher compliment can be paid to the scheme than to say, as the highest American authorities have said, that it "bears evidence of thorough familiarity with the history of the experiment station movements of other countries and the tendencies which have developed." Who can doubt that such a movement as this will eventually result in great benefit to the agriculture of the country?

THE ALLEGED CRIMPING OF COOLIES IN CEYLON.

The following correspondence has been published in the *Times of Ceylon*:—

Kanan Devan Hills Produce Company, Limited, Peria Nurrai Estate, Munaar P. Office, South India, 28th April 1899.

The Editor, "*Times of Ceylon*," Colombo.

Sir,—I have been much amused of late by the letters over anonymous signatures appearing in your journal anent the wholesale crimping of coolies for South India. Some of these letters are more than amusing to us on this side—are actually absurd. Having the Tamil cooly country at our doors, from where we can recruit any amount of labour at a nominal cost of R10 per head, and with no Labour Ordinance to protect us, they can easily get back to their villages, so advances up to R70 per head would be entirely out of the question.

We are well supplied with coolies here at present, and have no occasion to take them from Ceylon even though the aforesaid circumstances were otherwise. It seems obvious that coolies in Ceylon have been working short time and getting short pay during the last year, when economy has been the general rule on estates,

consequently old advances have not been sufficiently reduced and fresh advances have not been forthcoming up to the kanganies' expectations, and they are generally dissatisfied and have taken the opportunity of the rush of flush, caused by the recent rains to start this rumour about coolies getting big advances to come over to S. India, as a lever for the express purpose of forcing the hands of their employers to give out advances.

These letters and editorial remarks appearing in your journal have no doubt materially influenced superintendents to give credence to these rumours and acquiesce in the demand for advances made by exacting kanganies. For the planters' sake I hope this matter will be thoroughly investigated and the fiasco exploded. At the same time I would suggest that you in your editorial capacity (and perhaps the Hatton Petition Drawer in his dual capacity) should print and distribute, slips in Tamil, controverting these rumours and restore the equilibrium of the labour market and thereby do the planting community a REAL SERVICE.

I am, Sir, Yours faithfully,
(Signed) J. A. HUNTER.

1st May, 1899.

DEAR SIR,—Mr. Davidson has wired requesting us to publish the following extract from his letter to us which reached us on Saturday afternoon:—

"I do not know whether the Editor of the '*Times of Ceylon*' refers to this company, or to some one in the Nilgiris, but I do not believe any one in South India is taking labour from Ceylon, unless it be a gang of coolies some planter may have had working to him and who may wish to follow him to India. Personally I only know of one such gang of about 40 coolies who have been declined."

"I think the Editor of the 'Times of Ceylon' is seriously to blame for giving currency to such a report, without apparently attempting first of all to ascertain, if the rumour were well founded. It seems incredible that some superintendents should have been so simple as to make advances to their kanganies, on the strength of the improbable statements made by them regarding labour requirements for South India."

Yours truly,
FINLAY, MUIR & Co.

SIR,—A few remarks from an ex-Ceylon planter, who has often addressed you on the subject of "labour" and its coincidents, may not be out of place *apropos* the recent "crimping scare," which has brought so many to the confessional of your columns.

There be men in Ceylon, surely, who know the labour conditions in this part of the world, viz., no labour laws whatever, and no extradition, and the fact that, if one does the "patriarchal," his cooly may run him in at the nearest kachcheri for "wrongful restraint," and score over him.

The average cooly here does about half the work of his Ceylon *confrere*, and gets about two-thirds his pay, so that on the whole labour is dearer here than in Ceylon.

The average advance is about R10 to R15 per head given for new coolies, and the individual cooly is supposed to work this off during the following ten months from his engagement, when, if he has worked well during that time, he gets his balance pay and a bonus, *i.e.*, a cumbly. He disappears for a couple of months, and comes back to do it over again. It is so arranged, however, that this goes on the whole year round, so that the labour force is fairly constant—and irksome in the matter of "pay-off."

Now, sir, in the face of these facts, he would be a bold planter who would give at a stretch even more than R20 a head, let alone these wild figures, ranging from R45 to R70, which have been quoted by your correspondents! The big "peria kangany," with 500 to 1,000 coolies at his command, and with prestige and property to back him up, has yet to be found over here!—the man who stands responsible to his dorai for all the advances out and seldom fails.

'Tis a matter of "ski-bosh," sir! The old, old game of Chetty-cum-Kangany-cum-Toolakan *vs.* Doraimar! (The unfortunate kangany above is purposely placed between the two *stools*, whence he is bound to fall into a mess!)

I see that the name of the most prominent planter in these parts has been ruthlessly dragged into the question; and again that a leading planter of Ceylon, who scored so well off the "mailed fisters," lately, is keen on going for the white men who crimp! Is the little strip of sea that divides these *quasi-enemies* of so much more importance than the strips of land that divide Matale and Balangode, which, God wot! have seen much more "crimping" than which causes the present outcry?

And, in conclusion, sir, are there not now "on the coast" at least 20,000 trained coolies disbanded by reduction of expenditure during the last 18 months in Ceylon? And had we all, during the last ten years, faced the problem of training 5 per cent new coolies every year from "the Coast," should you not now, in Ceylon, have a reserve force of nearly 100,000 trained coolies to fall back upon - and most of those glad to go back to a country where their individual merits *are* recognized by their masters, instead of being slumped among a crowd of slaves? Apologies for length, sir.—Yours, &c.,

"NOREMACA."

The High Range, Travancore, May 2nd.

THE INDIAN CURRENCY COMMITTEE.

The following analysis (from the *Times*) of the contents of Vol. II. of the minutes of the evidence taken before the Indian Currency Committee, and the extracts we give from the evidence of men who "spoke with authority" will no doubt interest our readers:—

There is plenty of matter that is interesting from the point of view of the student of business, especially business in India and the Far East; but a good deal of the evidence tendered by merchants and traders was hardly relevant to the real issues. The grievance of tea-planters were set forth at great length; but practically the witnesses added nothing to the case, such as it was, made out by Messrs. Christie and Leake, whose views received full exposition in the first part. Indigo-growers are represented by Mr. David Cruickshank, who, like the gentlemen interested in tea, is principally displeased at the closing of the mints, because it prevented the rupee from falling to its bullion level, or, as they prefer to say, its "natural" level, and thus checked exports from India. According to figures supplied by Mr. J. E. O'Conor, late Director of Statistics to the Indian Government, the exports were really checked by other causes. The witnesses whose evidence appears in the present volume number twenty-four, of whom only two are actually connected with the Indian Government at the present moment. Of the remainder, ten are gentlemen engaged in, or formerly engaged in, business with India and the East, and twelve may be described as gentlemen who, for various reasons, are able to contribute valuable evidence. Among them we may mention Lord Northbrook, Lord Aldenham, Lord Farer, Sir John Lubbock, Mr. Leonard Courtney, and Mr. H. D. MacLeod. Mr. Alfred de Rothschlid did not appear as a witness, but he put in an interesting paper of suggestions as to the establishment of a bank in India to absorb the existing Presidency banks, and to provide for the creation of a gold reserve and for the maintenance of a gold currency. This subject has been referred to by more than one witness, and appears to us to be of importance; but it does not demand attention at present, and will not demand it until the adoption of a gold standard is definitely decided on.

The general effect of the evidence is much the same as that given in the former volume, but so far as there is a variation it is in the direction of more definiteness of view. The plan of the Indian Government receives practically no support, and the proposal to re-open the mints gets very little. The most eminent advocate of a return to a real silver standard is Sir Robert Giffen It is interesting to observe that the attitude of those who wish for a "low exchange" is one of compromise as regards the "rating" of the rupee. They would wish to see 1s. 2d., and not 1s. 4d., fixed as its gold value, being nearer its "natural" value, and yet not so ruinous for the finances of the Indian Government as the bullion value (about 10d.*) would be.

LORD NORTHBROOK.

Probably the weightiest witness is Lord Northbrook, whose official connection with India and the India Office dates as far back as 1853, and who was Governor-General from 1872 to 1876. His view as to the policy of closing the mints is thus set forth, in reply to Sir Henry Fowler:—

8,396. 'The first question upon which I ask your opinion is as to the closing of the mints in 1893?—I think I had better explain to the Committee my own individual view upon that question. I had very great doubts at the time whether it was right to close the mints in 1893. After further consideration of the question, and reading

* The bullion value at present is nearer 11d.—ED., *P. O.*

the evidence taken before this Committee, I was satisfied that, as no international arrangement appeared to be practicable for opening other mints to silver at a reasonable ratio to gold (I held that the 15½ to 1 ratio was quite unreasonable and impracticable), the Indian Government were right in closing the mints to silver with a view to changing the standard of value in India from silver to gold. I put that clearly, because, to close the mints in India without establishing a gold standard would, I think, have been wrong. I should like to add that I think the closing of the mints was quite justifiable. It cannot be denied that a Government has a right in certain circumstances to change the standard of value. It is, of course, a serious matter, but there are many countries that have done it quite recently; Germany and France and other countries have changed their standard of value. Therefore, the idea that the Government of India had no right to change the standard of value in India appears to me quite untenable. I myself do not believe that the measure has seriously interfered with public or private interests in India. . . . I was apprehensive when the mints were closed that considerable hardship would be inflicted upon the people who had silver ornaments in India, because they would not any longer be able to exchange their silver ornaments of a certain weight of silver for rupees of the same weight. That apprehension of mine has been very greatly, if not entirely, removed by the evidence given before this Committee by Sir Antony MacDonnell. I consider that Sir Antony MacDonnell is the highest authority that could be examined by the Committee upon the condition of the North-Western Provinces.

Lord Northbrook does not approve of the proposals of the Indian Government, but is in favour of establishing a gold standard. In Lord Northbrook's opinion an effective gold standard implies a gold currency, but it is not necessary that the token silver currency should be convertible into gold to an unlimited extent. Currency notes of high denominations might, he thinks, be made convertible. Sovereigns should be made legal tender and coined at the mints for the public. He does not think it would be necessary to accumulate much gold to ensure the convertibility from time to time of the larger rupee notes. He attaches great importance to the giving of moral and material support to India by the Imperial Government while the change is being made. He is not in favour of waiting:—

8,491. (Mr. Holland). Am I right in understanding that you are in favour of immediate action being taken, or would you rather wait?—If I had the power of settling this question I should not hesitate at once to make the sovereign legal tender in India and to open the mints for the coinage of gold. I do not suppose the Government can do that, but if I could do it I would go at once that far, and no further.

SIR R. GIFFEN.

Sir Robert Giffen wishes to reopen the mints, and his objection to the policy of the Indian Government is based on the theory, controverted by several eminent witnesses, that gold is not suited to the wants of the people of India.

10,106. I understand you to say this, that, assuming a gold currency and a gold standard established, you object to that, because there has not been sufficient evidence given us to show what amount of gold would be required for that purpose?—That is my point, and I think it is a very material one. In the absence of statements by those acquainted with India as to what the amount required would be, I should like to put this to the Committee. If we make the comparison with England, where we have just been discussing the amount of gold in circulation, and comparing the economic circumstances of India, taking out, for the purpose of comparison, the figures of income tax when there was as income tax, or the figures of assessed taxes now, if we compare that with the receipts from income-tax in England, and other direct taxes, you would find this—if we can carry on with £60,000,000 of gold currency in the hands of the people, I doubt very much whether that would give you much more than £3,000,000 for the people of India. No doubt, gold could be used by certain classes in India, and in certain wholesale transactions, but I should like to have some information at to what the highest amount of that gold would be. As far as I can judge, it must necessarily be a small figure, and gold would not be familiar to the general mass of the population in India.

10,107. Are we to understand that you think that, supposing a gold standard were accompanied by an unlimited gold currency, the real amount of gold that would be required would be very small?—That is my opinion, for the currency.

10,108. You say there has been no evidence, but I think Lord Rothschild put it that, at the beginning, £20,000,000 of gold would be sufficient?—My own opinion is that £20,000,000 of gold would be sufficient both for currency and reserves in ordinary cases, and any doubt about the amount of gold that India would require for establishing a proper gold standard and gold currency arises from the existence of the hoards of rupees in India. You must make an offer, if you introduce the gold standard properly, to give gold in exchange for rupees; and the element of uncertainty is the hoards of rupees in existence, which might compel you to provide a much larger sum than the £15,000,000 or £20,000,000, which apparently would be sufficient if you had only the actual circulation to deal with, and were not impeded and hindered by the existence of these hoards of rupees, which you might find it very difficult to deal with.

Most of the other eminent officials and experts, except Sir John Lubbock, Lord Aldenham, and Mr. Courtney, are in favour of a gold standard, though they are not at one as to details. Sir John Lubbock has a scheme of his own, which consists in re-opening the mints and imposing a heavy duty on the importation of silver.

MR. L. COURTNEY.

Mr. Courtney, who was a member of the Herschell Committee and approved its decision, is in favour of taking no further steps at present, except to open the mints to the coinage of gold. His position is thus set forth:—

12,994. (Chairman). What has been the result of that policy?—In my view the result has entirely justified the action then taken. It has secured the ends that we had in view. It has established practically by degrees by a slow process, but it could not be done at once—what I think may be trusted as a stationary ratio between the rupee and the sovereign, and that stationary ratio is 1s. 4d. In consequence of the other steps that we recommended at the time, that has operated in the way of removing, except under extraordinary circumstances, the perennial deficit and the danger of the deficit coming on the Indian Finance Minister without any warning from causes over which he has no control whatever. He has now, like every other Finance Minister, to face the possibility of deficits, but they will not arise in my view from any depreciation of the rupee in the near future.

12,995. You regard that figure of 1s. 4d. as practically stationary?—I regard that figure as practically stationary.

12,996. Will you tell us what you think are the reasons why it has risen to that figure?—I contemplated from the first that there would be a gradual rise to that figure and that we should see in India experiences analogous to what we were called upon to watch in other countries in the course of our investigations. For example, the rise in the value of the paper currency in the United States after the great war. It took some time to rise, but it rose practically from no contraction, as far as I remember—very little contraction—of the mass of currency, but, the amount being fixed in substance, the growth of transactions of the United States, which is, of course, very much more rapid and of much greater elasticity than the transactions in India could possibly be, had risen to the level requiring, you may say, the quantity of currency which was found in circulation, and that currency obtained in that way a par relation to the gold it represented.

12,997. It would be a legitimate contraction of the currency you mean?—It would not be an absolute contraction in itself. Relatively it would be a contraction, because the amount of the currency would diminish in proportion to the growth of the transactions which it had to carry.

He further says. In reply to question 12,998:—

12,998. I consider that the action that we adopted would result in the introduction of supplementary gold currency which would not get into common circulation any more than £50 notes are in common circulation in England or even £5 notes; they are not the circulation of the poor, but the gold would come into India and would form part, although comparatively a dormant part, of the actual currency of India as much as the rupees which are in circulation, and in my view the currency would go on receiving automatic accretions as the course of trade required.

12,999. (Sir F. Mowatt). Your answer contemplates that the gold should be currency as well as standard?—I think that will follow from the usual habits and modes of living of men.

13,000. I mean you are contemplating its passing into the coinage?—It is not at all necessary that the coins should be coined in

India, although that might be advantageous. It is quite sufficient if a man in India with a sovereign in his pocket knows that he can get Rs.15 for it. When that gets to be present in the Indian mercantile mind, then the gold will come side by side with rupees.

Mr. Courtney proposes to let the Indian system move slowly and cautiously in the direction of a "supplementary gold currency," but he keeps in mind the possibility of something happening to raise the price of silver relatively to gold, in which case "we should get reproduced a situation very much better than the present." Mr. Courtney, as might be expected, is not much impressed with the complaints of those who allege that India is injured in competing with silver using countries by the present system.

THE BRAZILIAN COFFEE CROP.

Messrs. W. H. Crossman and Brother, of New York, write as follows on the position and prospects of Brazilian coffee:—"The receipts in Brazil up to date confirm the figures we have previously given on the current crop. In Santos the receipts already reach 5,000,000 bags, which make it probable that the total there will exceed 5,500,000 bags. In Rio, so far, the receipts are 2,700,000 bags, but in that port they again neglect to count the coffees sent down from the interior direct for export, the quantity received in this way being about 125,000 bags up to date. The total in Rio for the crop year, however, will be close to 3,500,000 bags, the aggregate for the two ports no doubt reaching 9,000,000 bags. Regarding the next crop, it is now well known that the Brazilians are averse to giving out figures, but they are practically unanimous in stating the next crop to be larger than the present one—some claim 10 per cent. more and others as much as 20 per cent. more. But whatever the figure finally reaches, it is positively immaterial, since the fourth consecutive large crop in excess of the requirements of consumption will mean a continuation of very low prices. With three large crops in Rio and Santos aggregating 28,000,000 bags, and a fourth (claimed to be a 'record breaker') to follow, it is no longer a question how much coffee is on the trees; it is a question how much coffee is in the warehouses, the surplus production of the last three seasons. With the heavy supplies existing in consuming countries, it matters little how the Brazilians choose to market their crop. Last November and December they held their coffee back in their interior, only to send it down in larger volume later on, at a period when receipts usually are lighter. But all attempts to deceive consuming countries as to the extent of the crop only make more manifest such proofs of weakness. A business-like, straightforward action would result better for all concerned. There are a great many who speak about 5-cent coffee as being very cheap, and that the Brazilians cannot raise it at that price. Whether they can or not we are not prepared to discuss. The real fact is there is no 5-cent coffee sold anywhere. Not only in Brazil, but also in the United States, there is an idea that the so-called coffee war is one of the reasons for the heavy decline in coffee. No greater fallacy than this could be put forward, since the price of No. 7 coffee— the basis for the roasting business—has declined far less than any other quality. In Europe, where there certainly is no coffee war, the decline in coffee has been much more marked than here; and here the price of all mild coffees and high grades has continued to go down, while that of No. 7 has been held up by the strenuous efforts of many large and small roasters in this country, who for the past two years have been accumulating large stocks for the express purpose of preventing a further decline in roasting grades; and this strange action on the part of manufacturers buying their raw material, not as low as possible, but at as high a price as they can make it, can be traced only to their strong desire and efforts to check a further decline in the roasted article from their competitors. Regarding consumption, we suppose that the ordinary increase is going on here as well as in Europe. The deliveries, however, which show a much larger percentage than consumption is actually increasing, simply means transfers from the visible to the invisible supplies, the same as occurred at the low prices ruling 1884-86. It is now a question which country can produce coffee at the cheapest rate or price. We believe that so long as illiterate labour in Brazil, which is now recruited chiefly from Italians and the coloured races (the majority without the ability to read or write), is willing to accept the present milreis in payment for their wages, Brazil can produce coffee as cheap as any other country, and probably cheaper. It is doubtful whether coffee countries can readily substitute other products where they now raise coffee, and the abandonment of new plantations where new trees are coming into fruit-bearing, in all parts of the world and Brazil—new trees being set out within the past two years—is not to be supposed as likely, and for this reason we believe the price of coffee will have to go considerably lower before the over-production will cease. The law of averages is the surest guide to be taken in regard to values of any staple. The extremely high values and immense profits to planters in all countries up to two years ago have been the inducements that have brought about such enormous over-production, assisted, of course, by the low price of labour paid in degenerate currency or silver, which latter has declined so heavily. These elements combined have wrought the financial ruin of nearly all coffee-growing countries and caused enormous losses for consuming countries, which effects will last until the evil causes are removed or corrected. During the past five years, interior points in Europe and the United States have been importing direct from producing countries, and the larger the arrival of steamers within a given time the larger the deliveries have been, independent of the actual trade demand. This means that the interior has become more independent of the seaports, carrying stocks at home, and replenishing in most instances without relieving the seaports to any great extent. For this reason the enormous stocks carried in the seaports are a much greater menace to the position, and the expense of carrying same continues so much longer than would be the case if the interior simply supplied its wants from the stocks carried at the seaboard in this country. The price for the current month marks the actual cash value of the merchandise. The heavy premium paid for next season's crop (futures) could only be justified by the fact of going into a smaller, instead of a larger, crop. With every probability of the next crop again adding to the surplus supplies, it is difficult to explain why 10 per cent. more is paid for future than for spot positions; same may be based upon hopes, but not upon facts. It is useless for the Brazilians and disappointed speculators to seek explanations for the decline in any other directions than those shown above."

CEYLON TEA IN AMERICA.

The United States is taking more Ceylon tea than ever; but the product comes in for a good deal of adverse criticism from the friends of Chinese tea. Mr. Joseph H. Lester, of New York, who is a member of the Tea Association and an expert, says that "India-Ceylon teas do not compare with the finer varieties of Chinese"; but he admits that "they are rapidly displacing the China Congou varieties." Mr. Russell Bleecker, who is also a member of the Tea Association, says: "The India-Ceylon teas are more astringent than the China teas, and it is doubtful whether much of it is sold straight. It does not rank with the higher grades of China teas, and can hardly be said to enter into competition with any save the China Congou varieties."

On this subject Mr. R Blechynden remarks:—"There can be no doubt in the mind of anyone who has looked into the subject at all that the India-Ceylon teas are not only displacing the China Congou teas, but other teas as well. A great factor in this has been the high rates of duty imposed on teas, and the establishment of the so-called standards. The people here are looking for a cheap-priced tea, and in order to sell China teas in competition with the India-Ceylon teas under the present rate of duty, it is necessary to import some of the very lowest grades in order to be able to sell a low-priced article. Tea on the spot in China costs so much to grow, and so much for delivery at the seaport, that when these charges are paid, in order to make a profit, the importer cannot under any circumstances afford to buy high-grade teas. As an evidence of the efforts that are being made to introduce low-grade teas, it may be said that during last year importers of China teas have had 2,000,000 lbs. rejected at the ports of entry as being below the standard, while no India-Ceylon teas have been turned back. This in itself goes to prove that the efforts of many importers are bent towards bringing into the country teas that will just pass the standard, because the lower the grade the more profit there will be in selling at the low prices now ruling. The lowest grades of China teas are certainly decidedly inferior to the grades of India-Ceylon teas that are being sold. There are no really high-class China teas imported into this country. China's best tea is consumed in Russia, and we get only the mediocre grades."

STRAY NOTES ON MANURES.

Quick-Acting Mineral Fertilizers.—Where additional nitrogen is required for plant development, nitrate of soda is valuable either in field, garden or greenhouse. The plant food in this material is ready to be used at once. In other words it is in the most available form. In addition to the direct benefit it is doubtless true that the portion of fertilizer which remains in the soil after nitrogen has been used for plant growth, neutralizes the soil acidity and consequently gives better conditions for thrifty growth. The soils upon which grain and garden crops fail altogether are probably acid. If this is found to be true, other fertilizing material, notably lime, should be used in addition to nitrate of soda.

Extensive experiments have been made by the R. I. experts along this line and it was found that the most convenient and cheapest materials for correcting soil acidity are air-slaked lime and wood ashes. The fact that an application of wood ashes often shows a marked effect for many years, is doubtless due to the influence of the 30 or more per cent. of carbonate of lime which they contain. This neutralizes the acidity and helps to promote nitrification. One ton per acre of air-slaked lime is capable of producing surprising results, and an application of lime has to be made but once in seven years. At the R. I. test referred to lime was applied in 1894. None has been applied since. To other parts where lime had been added since then there has been no additional increase in the yield, due to the extra lime. All of these plots were fertilized with annual applications of nitrate of soda, muriate of potash and a suitable quantity of phosphoric acid. Garden crops are notably affected by the application of nitrate of soda. For garden crops and vines the following quantity per acre is recommended: Nitrate of soda 450 lbs., fine ground bone 500 lbs. dissolved phosphate rock 500 lbs., muriate of potash 300 lbs. Root crops such as mangels should have the folowing: Nitrate of soda 360 lbs., dissolved phosphate rock 840 lbs., and muriate of potash 300 lbs. For Indian corn the following is recommended: Nitrate of soda 225 lbs., dissolved phosphate rock 420 lbs., fine ground bone 150 lbs., muriate of potash 120 lbs.

Where lime is to be applied, probably the best time in the rotation is when the ground is seeded to grass. Spread on two or three tons per acre of lime. If wood ashes are to be used instead of lime apply 100 bushels or about two tons per acre. The lime must be thoroughly slaked before it is put on the field, for if caustic lime comes in contact with any plant-life, it will kill it. If any lumps remain and the field is to be immediately seeded they must be removed. For fall seeding to grass land, if the lime has been applied, put on the following per acre: Nitrate of soda 50 to 100 lbs., muriate of potash 50 to 100 lbs., fine ground bone 400 to 600 lbs. Each spring after the young grass seed has started into growth apply the following top-dressing: Nitrate of soda 130 lbs. per acre, muriate of potash 100 lbs.

As a rule, nitrate of soda furnishes 15 to 16 lbs. of nitrogen for every 100 lbs. of material used. Muriate of potash yields about 50 lbs. of actual potash for every 100 lbs. The phosphatic materials used in the formulas recommended are much more variable in composition. Dissolved boneblack usually contains 15 to 16 lbs. of phosphoric acid to 100 lbs. of material and the dissolved phosphate rock 13 lbs. Fine ground bone contains 2 lbs. of nitrogen per 100, and 20 to 27 of phosphoric acid. In preparing these formulas the relative costs of the materials must always be considered.

Salt as a Fertilizer.—W. P. Brooks, Mass. Ag'l. College, writes:—The use of salt will not prevent injuries by worms in the soil. Salt in sufficient quantities to repel the worms would prove injurious to the crop. Where beneficial, salt acts rather indirectly than as a direct manure. It attracts moisture and helps to bind the particles of soil, thus enabling it to hold water much more retentively, and enabling it therefore to raise water by capillary attraction from below in greater quantities. Salt, moreover, sometimes assists to make inert plant food which is present in the soil available to the crop.

Salt is not itself taken up by plants of most kinds in such quantities that it becomes necessary to apply it in order to keep up the supply. Salt is present in moderate quantities in all soils, or at least its constituents, soda and chlorine are, present and commonly in amounts fully equal to the requirements of our crops. A possible exception is the mangel-wurzel, which often appears to be benefited by an application of salt.

It appears to be possible to get all the indirect benefits which sometimes follow the application of salt to light, dry soils by an application of muriate of potash, which in its chemical properties is very similar to salt. In other words, by an application of muriate of potash the soil attracts moisture more largely and holds and conducts water to a greater extent.

Now if, instead of salt, we employ the muriate of potash we get the improvement in the physical condition in the soil and at the same time we have in addition one of the most valuable and most frequently deficient elements of plant food—potash. Especially is it found that light, sandy soils often contain too little of this element. Apply muriate of potash at the rate of 300 or 350 lbs. to the acre. Put this on in the fall if possible, but do not hesitate to apply it in early spring. I should prefer to spread it after plowing and harrowing.

In place of the muriate of potash it may possibly be expedient, once at least, to apply kainit to each of the fields. This contains considerable common salt as well as potash. It costs about $15 a ton, while the muriate of potash costs about $40. The kainit, however, must be applied in considerably larger amounts. To get the same amount of potash as would be contained in 300 lbs. of muriate of potash it will be necessary to use about 1,200 lbs. of kainit. The immediate benefit to the soil would undoubtedly be greater in the case of the kainit than with the muriate of potash.

Lime for Field Crops.—The application of lime in some Ala tests to soils devoted to corn, tomatoes, lettuce and tobacco greatly increased the yield and the quality of the crops. With the tomatoes it was noticed that heavily limed plats were remarkably free from blight and other fungous diseases. The soil was limed at the rate of from 15 to 45 barrels per acre.

When Green Manuring is profitable.—Prof. William P. Brooks, Massachusetts, remarks:—In the majority of instances a crop which has been grown will be worth more to feed than it is for turning under. A crop standing in the field has a certain value as a means of soil improvement, a certain manurial value. It has also, in almost all cases, a certain value as food. It may be used as a food either by pasturing it or cutting and feeding in the barn. In either case, under proper management the excreta of the animals consuming the crop will be worth as manure about three-fourths as much as the entire crop would be worth if incorporated in the soil. If we turn the crop under, then in the one case we get its full manurial value. If, on the other hand, we feed it and carefully save and apply the excreta, or if we pasture and so manage that the droppings are evenly distributed. we have the food value and about three-fourths of the manurial value. The sum of these two in the great majority of instances will be greater than the full manurial value. There are, of course, conditions under which the crop cannot be profitably fed, either because of the absence of stock necessary to consume it or because of the location of the field. In such cases, the turning under of the entire crop may be wisest.

There can be no doubt that the latter practice is much more often in place upon light and sandy soils than upon the better soils. Upon the light and poor soils, legumes, not finding nitrogen in the soil, are forced to take it from the air. Upon the richer soils they would take it from the soil itself and there would be no essential increase in this element as a result of green manuring. This has been very strikingly shown by Julius Kuhn. Kuhn's experiments were carried out in 1891 at Halle, Germany. The soil was a good medium loam. It had produced wheat in 1890. After the wheat was harvested a mixture of 194 lbs. of peas, 44 lbs. of vetch and 35 lbs. of yellow lupine seed per acre was sown. The resulting crop was plowed under the last of October and rye was sown. The quantity of green material plowed in amounted to 8,650 lbs. per acre. This supplied about 50 lbs. of nitrogen. In the spring of 1892 the field was sown to barley, and also an adjoining field not green manured. The crops were practically equal under the two methods of treatment. In this case, then, green manuring produced no appreciable benefit. Kuhn estimated that the crop plowed in would have been worth for feeding about $13 per acre. On the other hand, the same experimenter found that on a sandy loam, green manuring with field peas sown in the rye stubble after harvesting increased the crop of barley the following year to the same extent as an application of about 175 lbs. of nitrate of soda. In the latter case, green manuring paid, while in the first it was attended with loss.

Numerous experiments in the United States establish beyond a doubt the possible benefits of green manuring upon the lighter and poorer soils. It is important to point out that even when the

crop is fed the manurial value of its stubble and roots may be considerable. Especially is this true concerning the lugumes (clover-like plants). A great deal of work to determine the manurial value of the stubble of different crops has been carried out at the Storrs School Experiment Station, Ct. . . .

It seems desirable to remark, that while the work was no doubt accurately done it appears doubtful, in view of known facts and the results of others, whether the results of these investigations do justice to the plants of the clover family. Indeed, in his report the author quotes results of other investigators, showing several times more nitrogen in roots and stubble of clover than his own investigation discovers. Thus, for example, Dr. Voelcker, of England, is quoted as reporting 100 lbs. of nitrogen per acre in the roots only of clover, while Dr. Weiske, of Germany, is quoted as reporting 180 lbs. in the roots and stubble. Dr. Weiske is also quoted as reporting in the roots and stubble of rye 62 lbs. of nitrogen per acre, of barley 22 lbs., of oats 25 lbs., of buckwheat 45 lbs., of peas 53 lbs, and of lupines 58 lbs. Though differing in detail, all these results demonstrate in a striking manner the fact that stubble and roots have a large manurial value. It would seem, therefore, in the great majority of instances that the feeding of the crop, the careful saving and application of the excreta of the animals consuming it, together with the manurial value of the stubble and roots, will give us the largest possible returns.

Cob and Coal Ashes are excellent for applying as a mulch for trees and shrubs during a drouthy season. They contain considerable fertilizing elements which all trees and fruits need. The matter of a mulch retarding the development of buds in the spring is a disputed question. It is admitted, however, by most horticulturists that little can be expected from this source, as experiments show that but very little benefit has ever been derived by attempting to retard the swelling of the buds in spring by means of mulch. Give the trees good cultivation and feed the soil liberally if it needs it, have the plant ripen its new wood early in the fall and then if the season is at all favorable you will have plenty of fruit.

VANILLA PLANIFOLIA.

Having secured a good crop of Vanilla pods this season, Mr. Geo. Wythes writes to the *Gardener's Chronicle* describing his method of procedure. He says:—We do not always thus succeed in fruiting the species, though generally the plant produces a fair amount of bloom. I have never known a pod to set naturally, and this shows the need there is to understand the peculiar formation of the flowers. The pollen is so much closed in, that considerable care is necessary to remove it to the stigma. Flowers that have not been artificially pollinated sometimes develop pods, but these fall as soon as half-grown, and are useless. In my previous note above referred to, I stated that we had recently planted this vanilla in a new position, and had given it more exposure. This has yielded us much better results, and though a partial shade is necessary when the plant is in active growth, it is injurious from October until March.

A total failure one year in the case of plants growing in shade, and of others in comparative light, induced us to plant in another house, where they were more fully exposed, and here we have had splendid results, some of the clusters having over twenty pods, and seven clusters on a single growth. The growths are very strong and healthy. Therefore, though partial shade is necessary during the hottest part of the day, I would condemn the use of one continuously. Though we have bees very close to the house, they do not appear to take the least notice of the plant when in flower; but it must be borne in mind that there are few flowers only open at the same time. They are rather insignificant also, being of a greenish colour, and devoid of aroma. It is important that the shoots be well ripened, and after the end of August I would shade but very little. The leaves under this culture will have less colour. We give a lower temperature in the winter months than is frequently advised. From March to the early part of September moisture is given freely, and the plants throw out thick fleshy roots, which lay hold of the wall or the woodwork with which they come into contact. What is termed a brisk stove heat is suitable during the growing season, but in the autumn and winter months 60° by day and 55° by night will suffice. The plants should not be syringed during the winter, as, if the pods are numerous, the syringing causes them to decay at the ends.

As regards temperature, I do not think a few degrees of heat more or less in the growing season of much importance if there is an ample supply of atmospheric moisture. We syringe three times daily, unless the plants are in flower, when it is best to keep the foliage dry. The vanilla grows grandly in a pine-stove if placed in such a position that the stems can get hold of some support upon which to fasten their roots. Having so few roots, only a shallow border is needed This in our case is not more than 6 inches. The compost should be good fibrous peat, with large lumps of charcoal and clean potsherds. No matter how grown, the plants have a tendency to get naked at the base. We therefore take down each spring some of the best top-growths, and place these at the base, giving some fresh material for them to root into, keeping the house for the time a little closer, and syringing freely. The pods after setting, are only a few weeks before they are of full size, but they remain for seven or eight months on the plants before they begin to colour. This is an advantage, as the plant in a fruiting state is an interesting object. When the fruits are gathered, they should be kept in a drawer or other dry place. They are best kept in an air-tight compartment. When quite ripe, they then keep good for years, retaining their rich aroma. I have not spoken upon pot-culture, as I regard the one described as the most suitable.

TEA, &c., COMPANIES.

The South Wanarajah Tea Estates, Limited.—The actual amount of tea sold was 444,384 lbs. including about 60,000 lbs. of bought leaf The gross selling price has averaged 6·81d. per lb., as against 6·51d. per lb. last year. Dividend of 5 per cent declared.

The Beaumont (Ceylon Proprietary) Tea Estates Co., Ld., declares a dividend of two per cent. [against five per cent. last year].

The Scottish Ceylon Tea Co., Ld., declares a dividend of six-and-a-half per cent. [against ten per cent. last year],

[The above is from the *Ceylon Observer*. The *Times of Ceylon* tells a different tale, saying:—

The profits of the **Scottish Ceylon Tea Company** for the past year amounted to £5,186, and the ordinary shares receive 10 per cent. for the year.

The **Ceylon Proprietory Tea Estates Company** has a net profit of £5,244, out of which the ordinary shareholders receive 4 per cent. for the year.

It is curious how our two contemporaries never *can* agree.]

The Mazawatte Tea Company An issue of 14,000 five per cent. cumulative £5 preference shares is announced. These shares form part of 20,000 in all, by the creation of which the capital of the company is raised to £650,000, viz., £300,000 in preferenee and £350,000 in ordinary shares, the former of £5, and the latter of £1. It is stated in the prospects that the money now to be raised will be devoted to new factories and warehouses, by the help of which the company's business will be concentrated and economies effected.

Sunnygama (Ceylon) Tea Estates.—The directors, in their report for the year ended December 31 last, state that the Sunnycroft division shows an increase over last year of 70,117 lbs.; but, owing to a bad attack of mosquito blight from which Pambagama suffered through a great part of the season, there has been a loss of 36,367 lbs. on that division, reducing the total increase to 33,750 lbs. The accounts, after deducting the interest on debentures, £580, show a profit of £2,299. which, added to the amount already at credit of revenue account, gives a total amount for division of £2,495. After payment of interim dividends on preference and ordinary shares at 3 per cent. and final dividend on preference shares at 3 per cent. there is a balance to carry forward of £95. Estimates for the current year for crop and expenditure (Ceylon) represent a laid-down cost of about 4 15-16d. per pound in London.

DISTRICT ASSOCIATIONS.

SOUTH MYSORE.

The Annual General Meeting was held at Munzerabad Club, Saklaspur, on the 30th ultimo:—PRESENT: F. Lonsdale Allen, R. A. Anderson, Graham Anderson, C.I.E., J. E. Butcher, W. L. Crawford, J. G. Crawford, Thos. Hunt, W. Lawder, C. Lake, A. R. Park *(President)*, E M. Playfair, S. Sladden, and R. Taylor. *Visitors*: Messrs. Barclay and Roffey.

The President informed the Meeting that owing to sudden and severe indisposition, the Honorary Secretary, Mr J. A. Harris, was unable to attend, and called on the Vice-President (Mr. Playfair) to read the following Annual Report :—

Gentlemen,—It is my pleasant duty to report that the somewhat gloomy forebodings expressed early in the year have not been realised, and that the season, on the whole, has been a moderately good one. The advices of sales of East India that have reached us indicate a depressed state of the market, which, owing to the increasing production in different parts of the world, seems likely to continue for some time. The cardamom crop was above average, but prices were lower, ruling from Rs.50 to Rs.60 per maund. Leaf disease has been less prevalent than for some years past. Crop prospects for the coming year are favourable, and the rain which fell in February has not on the whole been prejudicial.

The Plague.—The terrible outbreaks of this disease in several parts of the Province have been an appalling feature of the past year and the efforts of Government to stamp it out have been watched by this Association with sympathy as well as anxiety. It is satisfactory to notice how suddenly it collapsed in Bangalore, and it is hoped there will soon be a subsidence in Mysore. We may congratulate ourselves that it has so far practically been shut out of Kadur and Hassan, and our thanks are due to the Deputy Commissioners of these Districts and to those working under them for their untiring efforts in establishing and working an effective organisation. Should members complain that the Association has achieved little during the past year, I would ask them to remember that the executive purposely refrained from action which would in any degree have harassed Government at a time when it was contending with this epidemic.

S. I. P. E. C.—The Resolution of the Government of India has been before you for some weeks. From the time taken in coming to a decision, one might have expected a fuller and more conclusive statement. It is satisfactory, however, that the general tenor is favourable, but as was pointed out by the Chairman of the U. P. A., it is of the highest importance that, should a labourer be allowed to rescind his contract, the forfeit money should be deterrent and that six months' notice should be given. As regards the extradition proposals, if Government will not recognise Breach of Contract as a non-bailable offence, I think Magistrates should be obliged to inquire into the *bona fides* of the security offered. This, be it noted, is of equal importance with respect to cases within the jurisdiction of the Courts issuing the warrants. There appears to be no such obligation laid down in the Criminal Procedure Code. As regards the "other safeguards" referred to, it is advisable that we should endeavour to prevail on Government to make these as simple as possible, as otherwise the procedure might be found so cumbersome as to deter employers from applying for warrants.

Agricultural Chemist.—The outcome of the various discussions that have taken place, as far as Mysore is concerned, is the appointment of Dr. Lehmann, the Dewan exhibiting in the matter his accustomed liberal-mindedness. All those who are interested in agriculture cannot fail to be gratified at the appointment of so highly qualified a Chemist, and I hope shortly we may learn what course the Durbar intend pursuing as regards his work. Meanwhile he has lost no time in showing a desire to become acquainted with the local circumstances, as is seen by his present visit to this district.

U. P. A. S. I.—I refer you to the "Proceedings" for full particulars of the business of the year. Since their publication two matters of interest have been the subject of correspondence :—

(1) The classification of coffee.—As Reuters now quote Mysore, as well as other qualities, our wishes in this respect have been met, and as regards uniform sizing, it appears that the meshes in use are as nearly similar as the variations in size and shape of beans will admit.

(2) Co-operation.—This idea is a natural result of bad seasons, low prices, and high exchange. Whether practical or not, it is worthy of consideration, but if any scheme should take shape, it seems to me it would be wise at first to limit its operations to distribution, or say to promoting the sale of our produce in India, England or elsewhere.

Currency.—The Report of the Committee will probably be issued in the course of the year. There seems little doubt that they will pronounce in favour of a fixed exchange and a future gold standard.

Roads and Communications.—Railways.—Sanction for the extension of the line from Arsikere to Hassan has not yet been received. The Durbar still appear to hold the construction of the line to the West Coast in contemplation, but what route and what gauge will eventually be adopted, and when it is likely to be commenced, are matters for conjecture only. It was announced in the *Madras Mail* some months ago that a company had been formed for the purpose of introducing *Light Railways* into the Province, and I addressed a letter to Government at the time urging them to support the project, but am without further information.

Roads.—I reported the bad state of the Mudigiri-Saklaspur road with special reference to that portion lying betwen the river and the Waddenhulla bridge, and immediate attention was promised. The Executive Engineer of the Hassan Division informs me that five miles of the Hanbal-Devarunda road have been traced, that the remainder will be done this season, and then the project will be submitted for sanction. Work has been resumed in a perfunctory manner at the north end of the Saklaspur-Chickanhully road after a most inconceivable delay, but the matter of compensation as regards some of the lands through which the trace passes is not yet settled (as is, I believe, the case with the Hanbal-Devarunda road) which might lead one to suppose that the Land Acquisition Act had been rescinded. The extension of this road to Chickmaglur was approved by the District Board, and an estimate has been called for.

Anjur Bridge.—I regret to say that the site has not yet been decided on, and that further delay in the construction of this urgently needed work is inevitable.

Post Office.—I have reported several cases of irregularity, but there has been no result whatever, and I have come to the conclusion that it is useless to attempt to expose P. O. shortcomings. Such a state of things is not creditable to the higher officials.

Police.—General inefficiency and dilatoriness on the part of the Police have not infrequently been brought to my notice during the past year. Of specific complaints, one is the delay in serving warrants, and the difficulties placed in the way of maistries and others sent with them. I have reported this, but can record no improvement. Another is the failure of Inspectors, Jemadars and Daffadars to visit estates during the picking season, and it is alleged in some quarters that even Constables fail to call on their beat. I suggest that a strong representation be made to the Inspector-General regarding the general inefficiency and unreliability of the Malnaad force. The horrible murder of a Baskull cooly, returning from Mudigiri after cashing notes, calls for prompt and intelligent investigation. I trust the perpetrators will be apprehended and convicted, for, if this crime should go undetected, as several of a like nature have done, lawlessness will run rife and a feeling of insecurity prevail.

Forests.—I have written the Chief Conservator of Forests to enquire if grants of land for cardamom cultivation have been made in the forests of Kubbenhully, Bisleh and Kemphully, and await his reply.

Local Officials.—At the request of certain members I have laid a serious complaint before the Deputy Commissioner against the officials of the Saklaspur Taluq Cutcherry, and an investigation has been promised. Great inconvenience has been experienced in the Belur taluq owing to the Amildar not being invested with second-class powers. I have urged these being given, but sanction has not yet been received In important taluqs of this description it is essential that high-grade Amildars should be appointed on whom there need be no hesitation about conferring such powers.

Medical.—As soon as the authorities are less occupied with plague, the matter of a European doctor in Chickmaglur should be taken up, and a scale of fees to be charged by Medical officers of all grades in the District be submitted to the Senior Surgeon. The Civil Surgeon has promised to provide accommodation for in-patients in Saklaspur and Mudigiri hospitals.

Members.—Messrs. Stewart, Woodbridge, Daly, H. M. Playfair and C. F. deSalis have resigned, and Mr S. J. Wilson has joined the Association.

Accounts—are laid on the table and show a balance of Rs.287-9-0 at credit. I beg to place the resignation of my office in your hands, and as I shall be going home in April, do not offer myself for re-election.

The Report having been unanimously adopted, Mr. Graham Anderson, C.I.E., then made the following remarks :—

Gentlemen,—I feel sure that every planter in Southern India is rejoiced to find that, after nearly 30 years of negotiations, the Govern-

ment of India has been fully impressed with the justice of all that has been represented after studying the elaborate report of the Southern India Planters' Enquiry Commission. In due course the various Planting Associations of Mysore will doubtless have opportunities afforded of studying drafts of the improved legislative arrangements which are to be substituted for the unsatisfactory and unintelligible laws which have hitherto existed and which have frustrated the objects for which their provisions were specially extended to the Planting Districts, by encouraging unscrupulous individuals to become dexterously dishonest. We in Mysore are specially gratified to learn that the beneficial influences calculated to result from the peculiarly favourable position of the Mysore Province, which is entirely surrounded by the territories of the Paramount Power, will in the future cease to be neutralised by the absence of equitable and reciprocal facilities for the execution of warrants and extradition We feel sure that sympathetic consideration will be bestowed on all arrangements which will be made for this Province in which the conditions under which industries are conducted differ considerably from those existing in Ceylon, Assam and other Planting Districts. We may feel perfectly confident that, in consultation with the Durbar, the Government of Madras will not experience any insurmountable difficulty in arranging for the maintenance of cheap, prompt and efficient justice as between man and man, be he employer or employè, and that with the clearly defined object of restraining unscrupulous individuals nothing will be permitted which be distasteful to those who have constant congenial employment always to offer, or which will in any way unduly sacrifice the freedom and best interests of hundreds of thousands of the labouring peasantry upon whose welfare and work the developments of industrial success entirely depends.

The accounts were audited by Messrs. Butcher and Lake and passed.

The Proceedings of the last General Meeting were then confirmed and signed by the Chairman.

U. P. A. S. I. Subscription.—Resolved that the amount to be subscribed be left to the discretion of the Committee.

U. P. A. S. I. Delegates.—Messrs. Graham Anderson, C.I.E., G. Horne, and W. L. Crawford were elected.

Honorary Members.—Carried by acclamation that the Deputy Commissioners of Hassan and Kadur, the Sub-Divisional Officer of Saklaspur, and Mr. G. E. Ricketts, Assistant Conservator of Forests, be invited to become Honorary Members.

Postal.—Proposed by Mr. J. Crawford and *seconded* by Mr. Playfair that the Association urge the authorities to retain the P. O. at Bellagode.

Committee.—The present members were re-elected.

A vote of thanks to the retiring Honorary Secretary was proposed by Mr. R. A. Anderson in the following terms and unanimously carried:—

"We are about to say good-bye for a time to Mr. Harris, our Honorary Secretary, who leaves shortly to enjoy a well merited holiday in England I feel sure I merely give expression to the sentiments of all my brother planters when I venture to wish him and Mrs. Harris a most pleasant voyage and every possible pleasure and happiness among other friends and relations at Home. Mr. Harris has performed the duties of Honorary Secretary of our Association for several years past, and has won the esteem, regard and gratitude of our community for his devotion to his work, his proverbial courtesy and the untiring energy with which he has maintained the usefulness of this Association. During his term of office he has had to deal with many most difficult subjects, and whether we remember his speeches or peruse his written communications, we cannot fail to admire him as a most tactful and painstaking man of business in every way worthy of the unqualified confidence which he has always enjoyed. I feel perfectly sure that the successes which have been achieved during the period of his incumbency may, in a very large measure, be attributed to the prudence and skill which have at all times characterised the negotiations which it has been his duty to conduct for the maintenance and improvement of planting interests generally. I beg, therefore, to propose a most cordial vote of thanks to Mr. Harris, and to assure him that we one and all most highly appreciate the valuable services which he has rendered during his tenure of the office of Honorary Secretary to this Association."

Mr. Park was elected President and Mr. Playfair Honorary Secretary.

A vote of thanks to the Chairman closed the Proceedings.

HOW IT IS.

In the streets of the town where I live I sometimes meet a poor fellow who is so badly off that his appeal for a penny or two is hardly to be resisted. He has lost both his legs above the knees and punts himself along the pavement with his hands, like a loaded barge in shallow water. Thank Mercy, one doesn't often see human hulks like him. Where there is a single instance of a man having lost both legs or both arms there are a dozen where only one limb of the pair is missing. And where there is a single case of the latter sort there are a hundred cases of people who are lame, or more or less disabled, by disease or minor injuries which are scarcely noticeable, yet in the long run very serious to those so afflicted.

Consequently, when we sum up both classes we perceive that it isn't the total wrecks and the incurables that are most expensive to society, but the prodigious host which *must* work, and *does* work, yet always under difficulties and against hindrances. Men and women regularly employed, but who are continually breaking down in a small way, thus losing fragments of time and fractions of wages, are of the kind I mean. The amount of income lost in this way in one year in England is immense. And so far as the cause of all this is *disease*, and not accident or born bodily imperfection, it is almost always preventible and generally curable. Look at this, for example, and take heart.

"In the spring of this year, (1897)," the writer says, "my health began to fail me. My appetite was poor, and after meals I had pain and weight at the chest. I could not sleep owing to the pain, and I got weaker every day. I had so much pain that I dared not eat, and rapidly lost flesh.

"I was in agony night and day, and often sat by the fire at night as I could not rest in bed. I had a deal of muscular pain, particularly in the arms. I gradually got worse and worse and in two months, *lost two score pounds weight.*

"I saw a doctor who gave me medicines and injected morphia to ease the pain; but I was no better for it. Then I met with a friend who told me of the great benefit he had derived from the use of a medicine called Mother Seigel's Syrup. I got a bottle of it from Mr. S. Richardson, Chemist, Bridgman Street, and in a week I could eat well and food no longer distressed me. Therefore I kept on with the medicine, and soon was strong and well. I am now in the best of health and recommend this remedy to all I meet with. You are at liberty to publish this letter as you like."—(Signed) William Bridge, Grocer and Baker, 65, Bridgman Street, Bolton, October 5th, 1897.

Here we have an illustration of the proposition with which this article sets out. From Mr. Bridge's account of his own case we see that he lost a considerable time from his business. How much that represents in money he does not say; nor is it important to the argument. For two months or more he lost from his business practically all he was worth to it; and what that situation would have signified, had it been indefinitely continued, any intelligent person can imagine. Men frequently become stricken with poverty as with illness in that way. However well any business may be managed in an emergency by others, it is not to be supposed that it gets on as prosperously as when the proprietor is himself at the helm. And he cannot be there while he is suffering agonies from disease. This is true even if we make no calculation of the direct expenses created by illness, nor of the suffering experienced—the latter not computable in terms of money.

Now, please remark how quickly Mr. Bridge was cured of his ailment—bad as it seemed and really was. Dating from the time he began using Mother Seigel's Syrup, he says:—"*In a week* I could eat well, and the food no longer distressed me." His trouble was of the digestion only (acute dyspepsia), for which this preparation long ago proved itself a specific. Had he known of and employed it when the attack began he would have lost no time, felt no pain.

The lesson of the case is this:—As indigestion is a common complaint, and dangerous also when neglected, the remedy should be at hand for immediate use when needed. The more valuable the treasure the more strict should be the guard over it. And health is a jewel compared with which rubies are as the glass beads of savages.

MARKET REPORT.

By Mail advices of 21st April, 1899.

COFFEE.

The *London Commercial Record* says:—The pressure of sales continues and many catalogues have been compelled to be postponed in consequence of the heavy supplies at auction. The market, however, has for the most part exhibited a firm tone, and all good colory qualities have met a fair demand at full prices, but undesirable descriptions of all growths are as difficult to move as formerly. There have been some slight fluctuations in "futures," which close quietly at a slight decline, viz.:—

London	... Santos	... July delivery	... 28s 3d
New York	... No. 7 Rio...	„ „	... 5.15 cents.
Hamburg	... Santos	... „ „	29 pf.
Havre	... Santos	... „ „	... 35 francs
Holland	... Good ordinary Java	..	... 27¼ cents.

Imports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
Tons ...	17,176	13,255	13,565	14,379
	Home Consumption.		Export.	
	1899.	1898.	1899.	1898.
Tons ...	4,556	4,352	6,238	6,369

The preceding figures exhibit—

In the Imports a decrease this year of	8,014	tons.
Home Consumption an increase of	204	„
Export a decrease of	131	„
Stock an increase of	3,921	„

The details of this week's auctions are as under:—

Ceylon.—*Plantation.*—21 casks 6 tierces 12 barrels mostly sold—smalls 45s to 69s, low medium brownish 72s to 86s, bold ditto 89s to 93s, low middling greenish 96s, bold 105s, pea-berry 97s.

East India.—2,678 bags partly sold, as follows:—*Mysore* smalls 37s to 63s 6d, low middling 47s to 56s, good middling blue 78s 6d to 83s 6d, fine bold blue 101s, pea-berry 85s to 95s. *Coorg*, smalls 37s 6d to 46s, low middling to middling 46s to 58s 6d, good middling 66s 6d, good colory bold 81s to 88s 6d, pea-berry 84s 6d to 94s 6d. *Neilgherry*, smalls 37s 6d to 43s 6d, low middling to middling 43s to 52s 6d, good middling 65s 6d, bold 68s to 74s 6d, pea-berry 60s to 86s. *Wynaad*, pea-berry 80s 6d.

Jamaica.—194 barrels, 224 bags mostly sold, ordinary to fine ordinary greenish 29s 6d to 36s 6d, ordinary brownish 30s, low middling brownish to middling colory 44s to 51s 6d, pea-berry 45s.

Costa Rica.—9,783 bags mostly sold, smalls 28s 6d to 55s 6d, ordinary to good ordinary greenish 34s to 38s, fine to fine fine ordinary 39s to 46s 6d, low middling to middling 47s to 59s 6d, good to fine middling blue 61s 6d to 75s, good to fine bold blue 77s 6d to 100s, very fine 106s 6d, pea-berry 46s to 106s 6d.

Guatemala.—1,001 bags nearly all sold, smalls 27s 6d to 29s, good ordinary grayish 37s. middling colory 48s 6d to 49s, good middling colory 58s to 60s, good bold 67s to 70s, fine ditto 80s to 84s, pea-berry 72s to 80s.

Colombian.—1,548 bags mostly sold—smalls 28s 6d to 43s ordinary grayish mixed 30s, ordinary to good ordinary greenish 30s to 35s 6d, low middling to middling 45s to 55s, good middling colory 56s to 60s, dull green bold 65s to 68s, good dark green to fine colory 70s to 86s, very fine 93s 6d, pea-berry 54s 6d to 78s.

Salvador.—695 bags sold—fine ordinary foxy green 34s, fine fine ordinary greenish 40s 6d to 43s, low middling gray 45s, middling dull greenish 47s to 50s 6d, good middling 54s to 58s 6d, pea-berry 52s 6d to 62s.

Ecuador.—52 bags sold—good ordinary yellowish foxy, country damaged, 29s 6d.

Mexican.—Of 1,001 bags a good proportion sold—ordinary to good ordinary 27s to 33s, fine to fine fine ordinary 39s to 44s, middling to good middling 48s to 64s 6d, fine middling blue 66s 6d to 74s, good to fine bold 74s to 79s 6d, very fine 80s to 96s 6d, pea-berry 80s to 96s 6d.

Peruvian.—43 bags retired.

Nicaragua.—62 bags sold, low middling to middling 43s 6d to 50s 6d, pea-berry 64s 6d.

Venezuelan.—Of 140 bags offered a few bags low smalls sold at 27s 6d.

Brazil.—62 bags Santos bought in.

Receipts in Rio and Santos.

Since July 1—	1898-9.	1897-8.	1896-7.	1895-6.
Rio	2,732,000	3,804,000	3,083,000	2,023,000
Santos ...	5,008,000	5,680,000	4,678,000	2,783,000
Total ...	7,740,000	9,484,000	7,761,000	4,806,000
Crop	—	10,461,000	8,680,000	5,489,000

Rio Exchange 7d, previous day 7d.

Havre, April 20.—Santos good average April opened steady at 34½f. and closed steady at 34¼f., May opened at 34½f. and closed at 34½f.

Hamburg, April 20.—Good average Santos April opened steady at 28½pf. and closed quiet at 28¼pf., May opened at 28½pf. and closed at 28½pf.

New York, April 19.—Closing prices of No. 7 Rio were as follow:—

	April	May	June	July	Aug.
April 19 ...	5.00	5.00	5.05	5.15	5.25
April 18 ...	4.95	5.00	5.10	5.15	5.25

The parcels offered to-day comprised:—2 casks 16 tierces 15 barrels 3 bags Plantation Ceylon, 1,533 bags East India, 153 half-frazils Mocha, 15 barrels 72 bags Jamaica, 705 bags Guatemala, 810 bags Salvador, 2,714 bags Costa Rica, 218 bags New Granada, 267 bags Colombian, 89 bags Mexican. The sales were not finished until late. Good qualities sold well, common grades dull of sale.

IN AMERICA.

The March deliveries of Brazil were very heavy, reaching 549,588 bags, against a monthly average. July to March inclusive, of 372,209 bags, and larger than for any month since April, 1898, when the deliveries were swelled by withdrawals in anticipation of a duty being levied. Last week's deliveries of Brazil were 117,914 bags, of which 114,977 bags were from this port, against 81,159 bags same time last year. Full details of the movement will be printed in our next issue.

The market has ruled steady for Brazil sorts on the basis of 6 1-16c for No. 7 Rio. Mild sorts firm for high grade coffees, which are not in abundant supply. Padang Interior, 24½@25¾c, with fancy mats at 32@34c. Mocha, 19@21c. and better for fancy lots. Good Cucuta, 8½c, and if strictly up to grade, better, with fancy Maracaibo scarce and commanding full prices—say, 14@15c.

Prices realized at auctions in London for some of the principal marks of East India:—

MYSORE.	**O**	**A**	**B**	**C**	**PB**	**T**
Utolallu Mockett ◇ Mysore ...	99-6	71-0	57-0	—	100-0	49-0
Dataypore Mockett Mysore ...	95-6	69-0	53-0	—	97-6	47-0
Cowcoody △ Mysore FW S ...		92-6	63-0 62-6	49-6	93-0	46-0
MB Honeyvale Mysore ...		90-0	65-0	42-0	93-0	39-0
Mysore ▷ ▽ △ ◁ Q		103-0	66-6 bid	47-0 bid	90-0 bid	38-0
DBC Koosboor Mysore ...		105-6	71-0	44-6	96 0	40-0
BDG Mysore	101-0	83-6	63-0	—	95-0	51-0
	0	**1**	**2**	**3**	**PB**	**T**
Sriconteyas Mysore Sundekere ...	88-0	60-0 bid	40-0		80-0 bid	45-6
Hamilton's Chundrapore Mysore.		no bid	57-6	47-0	83-0	—
S & H Mysore		65-0 bid	55-0	45-6	83-0	37-0
S ◇ Kerekhan Mysore ...	60-0 bid	42-6 bid	32-0 bid	—	no bid	32-6
COORG.		**A**	**B**	**C**	**PB**	**T**
Bajee Collie South Coorg		86-0	58-6	40-0	94-6	35-0
		AA	**B**	**C**	**PB**	**T**
Boothancadoo Coorg		88-6	61-0	46-0	90-0	37-0
CMN Korthikad Coorg		81-0	56-0	37-6	84-6	35-0
		1	**2**	**3**	**PB**	**T**
Arbuthnot's Coorg Polli Betta Ceylon Estate ...		75-0 bid	52-0 bid	—	82-0 bid	37-6
Home Estate „ „ „ ...		75-0 bid	52-0 bid	—	83-0 bid	85-0
TRAVANCORE.		**A**	**B**	**C**	**PB**	**T**
Peermade Paycanum		67-0 68-0	50-0 49-6	34-0	65-0	31-6

NEILGHERRY.

	A	B	C	PB	T
Kotacul Nilgiris	61-0	49-0	44-6	65-6	36-0
Mailoor	75-0	59-0	48-6	70-6	50-0
Mullanoor	70-0	50-0	38-0	56-0	—
	bid	bid		bid	
Nilgiris Nellakotta	74-6	52-6	43-6	84-6	37-6
Adderley	no bid	65-6	42-6	86-6	36-0

WYNAAD.

	A	B	C	PB	T
Vangacotta	69-0	59-0	36-6	61-0	28-6

NELLIAMPATHY.

	A	B	C	PB	T
Chundra Mulla Nelliampathies ...	75-0	52-0	43-6	72-0	38-0
Karadie Mulla Nelliampathies ...	76-0	53-0	45-0	76-0	36-6
Lily Nelliampathies	78-6	54-6	43-0	76-0	38-0

TEA.

CHINA.—The better demand noticeable last week has quite disappeared, the enquiry proving very poor, even at lower prices. Auctions have offered 3,335 packages, of which about half sold as under:—

boxes new make Congou 8d.
boxes Scented Siftings 5¼d.
half-chests Moning 8d to 9½d.
half-chests Souchong 7d to 8d.
half-chests Kaisow 7½d.
half-chests Oolong at 6d to 8¾d.
boxes Caper 7¾d to 8¼d.
boxes scented Orange Pekoe 7½d to 7¾d.
boxes Foochow Pekoe 7½d to 8d
boxes Souchong 7d.

INDIAN.—Rather heavier auctions took place on Monday, totalling 24,400 packages, compared with 22,600 packages in the preceding week and 22,800 packages a year ago.

A quieter tone pervaded the market, partly due to the amount of money absorbed by excessive duty payments made in anticipation of the Budget declaration. Some influential buyers were therefore not operating, while others were only disposed to purchase at a concession in price. Importers, however, deemed the position sufficiently strong to warrant them in handling their tea with firmness and a large proportion was withdrawn. Considerable irregularity was noticeable in the bidding, and where sales were made a decline of ¼d to ½d per lb. was in many cases established, particularly for Pekoe Souchongs and inferior Pekoes. There was not much change to note in the better liquoring descriptions over 9d per lb., though a firmer tendency was occasionally displayed for full flavoured Assams and Darjeelings.

For 17,800 packages on estate account 10d per lb. was obtained contrasted with 8d per lb for 16,100 packages in 1898.

CEYLON.—Catalogues comprised 27.200 packages, versus 29,600 packages on the 11th inst., and 28,200 packages at the corresponding time of 1898.

For the reasons above mentioned, and also in consequence of the rapid rise during the past three or four weeks in the value of common to fair, business received a check, and dealers shewed reluctance to add to their stocks, while owing to the Easter holidays in Russia there was also a paucity of Continental orders. Under these circumstances a decided drop in quotations took place, leafy kinds below 8½d per lb. marking a fall of ¼d to ½d in most instances, and from that figure up to 1s per lb. the majority of parcels ½d to 1d per lb. A good number of the breaks, which were bought in owing to the low offers made in the room have been placed privately since at an advance. Finest were not so much affected, among the best being the following:—Flowery Pekoe, Mount Vernon 1s 8¼d; Broken Orange Pekoes, Henfold 1s 5¾d; Talawakelle 1s 4¼d; Diyanilakelle and Valamaly 1s 3d; Wootton, 1s 2¾d; St. Clair 1s 2½d; Silver Kandy 1s 2¼d per lb.

The average is 8⅝d per lb. On the 13th inst. it was fractionally over 9d per lb., and slightly above 7½d per lb. on the 28th April, 1898.

JAVA.—Nearly 1,700 packages of direct import passed the hammer, several favourite marks being represented. There was a steady all-round enquiry and these growths did not appear to be so adversely influenced as others. At present only about 400 pkgs. are advertised for next week.

Deliveries.—The clearances of all tea (on which duty has been paid) from the London warehouses, as per official returns, were—

From 1st to 18th April, 1899 ... ... *16,644,886 lbs.
„ „ 1898 ... ... 9,322,310 „

During the week the following have been printed for sale by public auction:—

	Sold.	Withdrawn	Total offered.
	Pkgs.	Pkgs.	Pkgs.
India	17,300	7,147	24,447
Ceylon	21,471	5,741	27.212
Java	1,605	75	1,680
Total ...	40,376	12,963	53,339

Also 444 packages from second hands.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated April 21st, 1899, states:—

QUANTITY BROUGHT TO AUCTION IN LONDON
FROM 1ST JUNE TO DATE.

	Indian.	Ceylon.	Java.
1898-1899 ...	1,505,623 pkgs.	999,833 pkgs.	42,943 pkgs.
1897-1898 ...	1,470,759 „	1,048,134 „	38,740 „

25,732 pkgs. Indian
27,309 „ Ceylon
1,680 „ Java
} Total 54,721 packages were offered in public auction this week.

Indian. The sale passed off with a quieter tone and prices for all grades were slightly weaker, many Teas in consequence being taken out of the sale owing to the firmness of importers. The official wire from Calcutta gives exports to U.K. for the first half of April as 73,000 lbs., against 56,000 lbs. during same period last year. 235 closing invoices have been sold in public sale as against 191 at the same date last year. The following averages are worthy of note:—"Ass. Co. Towkok," 1/3; "Goomtee," 1/2¼; "Ass. Co. Doomur Dullong," 1/2; "Runglee Rungliot" and "Singlo Tea Co. Jaboka," 1/1¼.

Ceylon. With two consecutive weeks of heavy auctions and a considerable amount of Tea trade money locked up in duty payments the market gave way fully ½d. per lb. on Teas for price and as much as 1d. on some of the better liquoring parcels. After the sale, however, there was a stronger demand, slightly better rates being obtained for some of the withdrawn lots. Private Telegraphic advice gives exports to U.K. from 1st to 15th April as 3,200,000 lbs., against 3,100,000 lbs. same time last year, and estimates the quantity available for month as 7½ million lbs.

Average for week 8·57d., against 7·54d. last year.

Java. The Javas were mostly sold, although prices were not quite so good as last week.

Bank rate 3 per cent. Exchange on London three months sight:—Calcutta 1/4 1/16. Colombo 1/4 1/16.

IN CANADA.

The market for Indian and Ceylon descriptions continues to gather strength rather than lose it. In consequence of the gradual reduction in stocks held by brokers, the local market is stronger, and teas that only a short time ago were offered at 13 to 13½c. could not now be obtained under 16c., and there is nothing in London that could be laid down on this market at less than 8½d. per lb. The demand for teas, the brokers report, is not as brisk as it was, but there is still, however, quite a little business being done in spot teas, and a little in London teas at from 18 to 25c. The chief demand, however, is for teas which can be obtained at about 15c., but teas at this price are practically unobtainable. There are some teas in second hands which can be obtained at 16 to 17½c., according to quality.

IN AMERICA.

Invoice and line trading quiet, with the market well held on medium and low grade tea.

COCOA.

7,084 bags were catalogued at yesterday's auctions. These met with a slow demand, only about half being disposed of at 1s. decline for Trinidad, 6d. decline for Grenada. Of 2,481 bags Ceylon only 980 sold at about steady but irregular prices.

We quote—Trinidad, middling to fine red 72s. to 76s., gray and mixed red 69s. 6d. to 71s. 6d.; Guayaquil, Caraquez 70s. to 71s., Arriba 71s. 6d. to 82s; Ceylon, middling to fine 67s. to 80s. Stock 111,149 bags, against 130,927 bags last year.

* Including payments made in anticipation of the Budget announcement.

PEPPER.

Black.—The market this week has been quiet but firm, and about 100 tons Singapore have been sold for arrival at higher prices—at 5¼d January-March and May-July shipment and at 5 9/16d June-August. On the spot sales of fair Singapore at 5¼d.

Auctions on the 19th inst. offered 500 bags Penang, and 200 bags Aleppy, which retired at 5d. and 5¼d respectively. 160 bags Tellicherry sold prior to auctions

The shipments of Black Pepper for the first half of April compare as follows:—

		1899.		1898.
U.K.—Sing.	20	60	*nil*	460
„ Penang.	40		460	
Continent		70		*nil*
United States		240		*nil*
Total tons...		370		460

White is also firm, and about 50 tons have been sold for arrival, including Singapore May-August (s.) at 8 9/16d. to 8⅝d. and Penang June-August at 8d. On the spot sales of fair Penang at 7 13/16d. per lb.

At public sale on Wednesday 43 bags Singapore and 46 bags Siam were bought in.

The shipments of White Pepper for the first half of April compare as follows:—

		1899.		1898.
U.K.—Sing...	20	60	70	150
„ Penang.	40		80	
Continent		20		*nil*
Total tons....		80		150

GINGER.

Cochin.—Offerings continue heavy, but great difficulty is experienced in getting reasonable bids. Catalogues comprised 342 cases 1,121 bags, but only 21 cases 120 bags sold under the hammer at 48s for medium and boldish roughly cut limed, 26s. for dull cut tips, and 24s. 6d. to 25s. for brownish washed ends, 17s. to 17s. 6d. for cuttings. and 17s. 6d. per cwt. for brown rough D's. All these prices, except for cuttings which weresteady, show a material decline.

Japan.—20 bags dull limed bought in at 19s per cwt.

Jamica.—251 barrels catalogued, and about 160 barrels sold as follows:—very bold branchy plump hard washed 106s to 107s 6d, fair to good bold and medium washed 73s to 80s, fair medium plump, part lean, 67s to 70s, good ordinary 62s to 66s 6d, Rhatoon 60s to 62s per cwt., showing a movement in buyers' favour.

INDIA RUBBER.

The market for Para is easier, with sellers of fine at 4s 3d per lb Scrappy negroheads have been sold at 3s 5½d per lb.

At auction to-day there was very little demand, and the greater portion offered was bought in; what sold realized rather lower prices.

Peruvian.—51 packages offered and 10 sold, fine at 4s 2d. entrefine at 4s 1d, negroheads at 3s 4d per lb.

Colombian.—15 bales sold, crinkly strips rather coarse and dirty at 3s 3½d to 3s 4¾d per lb.

Central American, Carthagena, &c.—180 packages offered and only 22 sold, pale clean scrap at 3s 5¼d, good scrap at 3s 5d, rather soft scrap at 3s 2¾d, clean pressed strips 2s 6d to 2s 7d.

Penang.—22 pkgs. offered and 1 sold, inferior pickings 1s 0¾d per lb.

Borneo.—5 pkgs. offered and 2 sold, good, a little mixed at 2s 0½d, inferior dead at 1s per lb.

Mangabeira, 37 pkgs.; Madagascar, 22 pkgs.; Mozambique, 56 bags, and Rangoon, 57 bags retired.

CARDAMOMS.

Business is reported in most qualities this week at prices paid in auction.

The shipments from Ceylon for the week ending March 28 were 17,173 lbs., of which 16,433 lbs. were sent to London. The total exports from January 1 to March 28 have been—

	1899.	1898.	1897.	1896.
Lbs. ...	158,361	134,116	130,592	88,186

CINCHONA.

As announced last week, the Amsterdam auctions on May 4 will be very small, and, supplementing the particulars there given, we may state that the total weight of the 4,639 packages (consisting of 253 bales and 82 cases Government culture and 3,748 bales and 556 cases private bark) is 396,541 kilos., divided as follows:—Ledgeriana, 28,924 kilos., succirubra, 5,681 kilos. Of the private bark (weighing 361,936 kilos.) 268,179 kilos. are Ledgeriana, 76,988 succirubra, 16,252 hybrid, 300 Calisaya, and 217 kilos. officinalis.

The exports of bark from Java for the first half of April amount to 585,000 Amsterdam lbs., which is slightly above the average.

The Ceylon exports for the week ending March 28 were 8,504 lbs. shipped to London. From January 1 to March 28 the shipments have been—

	1899.	1898.	1897.	1896.
Lbs. ...	150,080	167,533	126,640	115,038

QUININE.

Has passed through a dull week, and prices in second-hand have declined fully 2d. per oz. At the close of last week business was done to the extent of some 70,000 oz, including spot or May delivery at 1s. 4½d. to 1s. 4¾d., and June 1s. 4¾d. to 1s. 5d., but mostly August at 1s. 4d. to 1s. 6d. On Saturday the market was further depressed, in consequence of the good report from Java regarding the bark shipments, half of April being returned at 585,000 Dutch lbs. This week opened dull at easier prices, the small business done on Monday comprising spot at 1s. 4d. and May delivery at 1s. 3½d. to 1s. 4d. On Tuesday there was a further decline to 1s. 3d. spot or May delivery, but little business was done. There was a "bear" rumour on 'Change on Tuesday that makers had reduced their price to 1s. 3d., but it proved to be without foundation. Yesterday the speculative market improved somewhat, and 1s. 4d. was paid for August, and there were no willing sellers of spot stuff at 1s. 3½d. until the close, when 1s. 3d. was the price for prompt or May. To-day the market is flat and unchanged. The week's turnover is about 200,000 ozs. There is considerable doubt as to what the maker's next move will be. Much depends upon how the bark-sales go in London next week and in Amsterdam in May. It is not expected that the present unit will be maintained, but the holders of cinchona now hold the key of the situation.

In their periodical report Messrs. Gehe & Co. have something to say regarding the speculative movement and appreciation in the value of quinine. We quote from their remarks, not so much owing to their originality, but as showing that the opinions are similar to those that obtain in England and America:—"The upward tendency has arisen from a justifiable view, but it must be borne in mind that we may have strayed all too far away from really firm ground. Present circumstances are not new, but have, on the contrary, very often arisen. In every crisis a time arrives when an outside attack causes a psychological change, but it has always happened that when it was hoped the price position had reached its height, fate caused another downfall. This is to a certain extent due to natural circumstances, as a higher rate of production leads to more of the material being introduced into the market, which again lowers its worth. Last year the prices of quinine were raised from the low position into which they had fallen in 1897, and it would be a great pity if, through want of due care, it were allowed to be dragged down again."

(Average for all India 9·87d.) *April 21st.*

Garden.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price.
Neilgherry ...														
Glenorgan ...	21	8	—	—	9	8	5	9	7	7½	—	—	—	—
Travancore ...	166 p	7·82												
Glenmore ...	120½c	8	—	—	69½c	7¾	50½c	8¼	—	—	1½c	7	—	—
Riviera ...	46 p	7½	—	—	30	7½	11	8	—	—	—	—	5½c	5½

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

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ADVERTISEMENTS.—The charge for line advertisements is 4 as. per line for the first, 3 as. for the second, and 2 as. for the third and succeeding insertions. Five-line (or shorter) advertisements from Subscribers will be inserted for three issues for one rupee; non-Subscribers will be charged two rupees.

DOMESTIC OCCURRENCE.—The fee for inserting a domestic occurrence will be *One Rupee* for each insertion, payable in advance.

N.B.—Remittance, should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 26th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, *16th May—Weather.*—"The rain, it raineth every day." It rained on two days early last week; again on Sunday the 14th; and last night, it rained nearly all the night. This morning broke quite dull and monsoonish. Some fine weather would be welcome. *Crops*—It is feared that the rain on the open blossom has done a great deal of injury. The berries of the last set are showing up better now; but prospects are not very bright. *Labour.*—A feature of the season is that labour, especially for the time of year, is very abundant. *Works.*—Manuring is nearing completion. Destroying borer and supply holing are now in hand. *General health.*—Good.

COFFEE IN QUEENSLAND.

II. Picking, Curing, &c.

In our last paper we referred to the experiences of Mr. T. A. Bromley in the cultivation of Coffee in Queensland, supplementing them by a few observations of other planters in the same colony. Advancing a step in the matter of preparation for market, we arrive at the picking stage, a not unimportant one, especially in districts where labour-supply is scarce. Mr. Bromley is in the happy position of having a big little family to help him, and of being able to get children from roundabout to help him. He declares that children are by far the best pickers, and does not think "a coloured man" will ever make a good coffee-picker, though he admits utter ignorance of the Tamil. Making a practical test of his own capabilities, he set to work in the morning as soon as he could see, picked for all he was worth until breakfast, returned from that meal and worked till mid-day. After dinner went on picking again. Taking the field all day he had 110 lbs. of cherry as a result, or

nearly two bushels. He heard that a Tamil can pick 2½ bushels a day, but considers that "if he does, then an overseer would have to go behind him." Mr. Bromley's yield has been from 18 to 20 per cent. of berry to cherry, and he reckons that 12 per cent. is lost in the parchment. Working on these figures, and a local price of 9*d.* per lb. for parchment, he estimates the value of the finished berry at 10*d.* or 10½*d.* and deducting 3*d.* per lb. per cost of picking, sets the value at 7*d.* per lb. Before leaving this question of picking, we may observe that aboriginal "boys" have been tried on the Hambledon Plantation. At ½*d.* per lb., the price paid to aboriginal pickers, it was found that a man who worked steadily could average about 3*s.* 3½*d.* per day during the height of the picking season; but allowing for lesser gatherings in the early and late portions of the crop time, this is reduced to 2*s.* 6*d.* per day. Mr. E. Conley, Manager of Kamerunga State Nursery, has reckoned on this basis that this expenditure of 2*s.* 6*d.* results in a surplus of 5*s.* 11*d.* to the planter, out of which surplus "has to come the cost of clearing, planting and cultivation of the land, interest on outlay for over three years, cost of manufacture, interest on outlay for machinery, cost of bags, cartage, freight, insurance, commission, and a few other sundries." These figures were modified later, however, when it was stated that the price agreed upon for the work was 3 lb. *of coffee for* 1*d.* The total crop gathered amounted to 25,741 lb. 12oz. On the average there were 10 boys in the field per day for about 40 days, and they earned about 1*s.* 9*d.* a each, picking a little over 64 lb. cherry each.

These calculations have led us past the pulping and curing stage, to which we must now revert. Mr. Bromley's description of his search for truth in this direction is instructive. He had, in the first place, to make a pulper for himself. He made one on the lines of what is known in Ceylon as a rattle-trap, and it has answered well up to the last season, enabling a man and a boy to put through about 30 cwt. of cherry per day. Mr. Bromley had no one to teach him anything about pulping, fermenting or drying. He got a book from Ceylon, which gave him some good hints, and eventually he evolved this method. He pulps, and puts the pulped berries into a large wooden barrel cut in halves. The fermenting generally takes from thirty to thirty-six hours. He had read of barbecues, but thought them too expensive for his small outturn So he first levelled off a piece of land, covered it with cotton sheets, and put the parchment on these; but he could only dry from the top and the process was not quick enough. He then built rough tables, drove stakes into the ground, nailed transomes across them, and in the opposite direction nailed small battens. On these he spread the sheets, and the coffee on the sheets. In the fourth year he improved upon this. He made a great number of trays of 3-inch battens and sheets of perforated zinc 7 ft. by 3 ft. These latter he cut exactly in the middle, and made frames of the battens just large enough to take one of the half-sheets of zinc. He secured the zinc to the battens by means of smaller fillets and sticking into them a strong tough bar of wood to prevent a sag in the zinc. Then he made tables again, about 2 or 3 feet above ground, and laid the trays on these. He found natural sun drying perfect so far as it goes, but his difficulty was to tell when the parchment was sufficiently dried. Sometimes he overdried, with the result that the berry lost its shape. Then he went to the other extreme and removed the berry before it was properly dry. Though it did not deteriorate under these circumstances, it would not harden. Eventually he found out that the berry changes colour slowly from greenish gray to a slaty blue, and that as long as he could see through the berry outer covering that it was not dry enough, he watched for that change. Before the berry lost its shape he bagged it. Another amateur coffee-planter, with only an amateur mechanic's tools and workshop at his disposal, made his own pulper, husked and "silver-skinner" The description of this last is as follows:—"Simply a large wheel, the rim of which is built of straight, and not curved, sections. The rim is tubular, and in this space the berries bearing their silver skin find a place. The wheel is then set in motion, and the chafing of one berry against the other, and against the sides of the tubular rim, removes the silver coating.

With men of this stamp to push it forward coffee cultivation in Queensland should have a fair chance of success. At present the colony does not grow enough for its own requirements. Well, therefore, may our Queensland friends think prospects hopeful. The latest remarks before us on this point are as follows:—"That Queensland is eminently suited for successful coffee-planting, no one can now doubt. The industry has grown beyond the experimental stage, and now it is only a question of good management and economical working of the plantations. Mr. Newport, the Government Expert, will no doubt succeed in his work of instructing planters in the most up-to-date methods of planting and curing. There is no leaf disease here, the climate and soil are adapted to the plant, and, if there be any difficulty, it will be in harvesting, owing to the present scarcity of pickers, but this is a matter which, like all other problems in agriculture, will settle itself as the occasion arises."

THE DEPRESSION IN COFFEE.

In publishing the annual report of the Nilgiri Planters' Association—which reached us just too late to be inserted in our last issue—we would call attention to the gloomy tone of the remarks on Coffee. The remark that chiefly calls for notice is this:—"One thing is certain, that coffee planters must reduce all expenditure to the lowest possible level if they are to pay expenses, with present prices." With this we do not agree. If Nilgiri coffee planters reduce all expenditure to a minimum, they may rest assured that present prices will not continue: rates will sink nearer and nearer the level of values of Brazilian coffee. Though in many cases the superiority of India coffees is now only in *name*, the reputation still clings, and prices rule higher than prices of Brazils. But if the quality continues to deteriorate as it has done of late, we shall soon have a new state of affairs to deal with. On the other hand, if by judicious manuring or improved cleaning and curing the quality of Indian coffee can be raised to its old position, there need be no fear but that prices will recover. The very report under notice comments on the fact that throughout the year "a very few really fine marks of E. I. coffee" have, to a certain extent, maintained their values. The question is not, shall India turn out superior or inferior coffee, but shall it turn out superior or *none*? In inferior grades it cannot hope to compete with Brazil, which can

produce much more largely and at a lower cost. It seems to us that improved cultivation (including manuring), improved curing, and improved methods of placing on the market are the points to which coffee planters in India should pay the most attention. Naturally, too, they must endeavour to obtain the maximum of good results at a minimum of expenditure.

THE INDIAN TEA ASSOCIATION.

Some interesting extracts from minutes of the proceedings of a recent meeting of the General Committee of the I. T. A. are given on another page. The fact that Mr. Blechynden's work in the States was put a stop to "without reference to India" is significant. If India, which provides the money, is not to be consulted on points of such importance as this, she will no doubt begin to consider whether she should continue to tax herself as heavily as at present The remarks on the Paris Exhibition show that money is to be spent in giving Indian tea prominence there. So far, the U.P.A S.I. does not appear to have arrived at a decision as to how far it will be prepared to invest some of its reserve fund for the same purpose. Exhibitions are always expensive and though the indirect profit is sometimes great, exhibits rarely result in a direct gain to the exhibitor. It will be seen that Government is to contribute towards the cost of a scientific officer for the tea districts in the North. This is a decided step in advance and should lead to the early drafting of a definite plan of action. It is a great pity that something similar cannot be done in the South, where the need of scientific aid is repeatedly felt. Mysore will no doubt get along all right now, but remote Travancore is not so well off, and even on the Nilgiris, the Shevaroys and the Pulneys but little assistance can be expected from the Mysore Agricultural Chemist, however willing his Government may be to lend his services, or he to give them.

GOVERNMENT AND CINCHONA.

The *Madras Mail* of 17th instant contained the following note:—"Mr. Standen, the Government Quinologist, Madras, has been deputed to visit Java to study the system of planting cinchona and of manufacturing quinine there, and will be absent for some months. It is proposed by the Madras Government to considerably extend its cinchona plantations on the Nilgiris, and a large area has recently been cleared close to the Pykara Falls, which has greatly marred the beauty of part of the rocky valley through which the Pykara river falls between the Downs and the low country." The action of the Government is inexplicable. In the first instance, if Mr. Standen is competent to fill the appointment of Government Quinologist it should be unnecessary to spend public money to enable him to study the system of planting cinchona and manufacturing quinine in Java. It looks very much as if he were to learn his work at the expense of the State! Then, again, the Government has no more moral right to lay itself out as a cultivator of cinchona and a manufacturer of quinine than it has to start tea or coffee planting or to set up a sugar refinery or a sausage-making concern. If it is content to learn from Java, all may yet be well, for the Java Government has decided, *on principle* (note this!), to give up the cultivation of cinchona and transform the plantations into experimental gardens. Almost at the moment it has thus decided, a Madras official is being sent over to learn how to conduct work that the Government of Java has decided, *on principle*, to abandon. The protest of the planters of South India must be fresh in the memory of the Government of Madras, and we trust that that protest will be repeated, if the information as to contemplated extensions is correct. We trust also that the protest will be brought before Parliament, which is shy of giving support to State interference with private trade or industry.

COOLY CRIMPING IN SOUTHERN INDIA.

At a Committee Meeting of the Kanan Devan Planters' Association held at Munaar, Devikulam, on the 8th May 1899, Mr. H. M. Knight, in the chair, the recent issues of the *Times of Ceylon* containing correspondence with reference to the alleged crimping of 20,000 coolies from Ceylon for Travancore, and the whole of Mr. Davidson's correspondence with regard to Mr Martin's 40 coolies were laid before the Meeting and the following resolutions, the first proposed by Mr. Hedger, the second by Mr. Hunter, were unanimously passed:—

"That while expressing sympathy for those unfortunate Ceylon Proprietors whose Superintendents have been mislead by their Kanganies and the Editor of the *Times of Ceylon*, and while desirous of working in harmony with Ceylon Planters and having no intention of taking on any Ceylon coolies at present, the members of this Association emphatically protest against any attempt being made by Ceylon agitators to dictate to them as to what coolies they should employ or where they should come from."

"That this Association desires to express its strong disapproval of the action of the Editor of the *Times of Ceylon* in giving currency to false rumours without making any attempt to have them contradicted till he was written to by Mr. Fairlie, and having seen all the correspondence, this Association particularly desires to place on record its contempt and disgust with the untruthful editorial statements (as noted below) of that Journal in its issues of 1st and 2nd May and consider that perversions of this kind are calculated to degrade British Journalism in the East."

STATEMENTS REFERRED TO ABOVE.

(1) That this Committee having read the correspondence are satisfied that Mr. Martin's 40 coolies were refused by Mr. Davidson before anything was known here of the agitation in Ceylon.

(2) That no advice of any sort was tendered by Mr. Fairlie or any one else to Mr. Davidson with regard to the refusing of the coolies; and

(3) Consequently he did not cave in as alleged by the Editor of the *Times of Ceylon*, and refused the coolies because he thought he could lay the advances out to better advantage locally.

(4) In addition to the above mis-statements the Committee are satisfied that the Editor of the *Times of Ceylon* took no steps on his own initiative to contradict those false rumours, but circulated them freely, although he could have found out the facts in five minutes on application to Mr. Fairlie

(5) That Mr. Fairlie himself, in the first instance, wrote to the Editor of the *Times of Ceylon*, asking him if the rumours referred to Messrs Finlay Muir & Co in Travancore and thus put a stop to the agitation; for which this Committee tenders its thanks to Mr. Fairlie.

It was also recorded, to remove any doubt in the public mind, that Mr. Hunter had the issue of the 24th ultimo before him when he wrote his letter to the *Times of Ceylon*.

PARA RUBBER.

Mr. Consul Churchill tells the story of Pará Rubber, and gives many interesting details. The *Hevéa* tree is not conspicuous; it is like an ash and requires 15 years to come to maturity. It is found over an area of 1,500,000 square miles, all along the valleys of the Amazon and Tocantins into Perú and Bolivia. It blossoms in August and will not grow properly except in the forest. No one will be likely to trouble much about it unless he finds it ready at hand. Fifteen years is a long time to wait for returns. There seems to be no fear of the Amazon variety being exhausted, as it is reproduced by Nature on so vast a scale, but by then or even before some substitute will most likely have been invented. The richest rubber zones, says Mr. Churchill, are along the banks of the Southern tributaries of the Amazon, but in Matto Grosso the whole area of the head waters of the Paraguay has been shown to be nearly equally productive. We also read:—

A rubber collector's outfit is of the simplest, comprising a gourd, a clay bowl, a spoon or paddle, an axe and 'machete.' Thus equipped he selects a suitable spot and erects a small hut, where he stores the rubber and cures it at leisure. Having erected a hut and obtained the requisite equipment the collector proceeds to gather rubber and fuel. He leaves his hut, equipped with an axe and knife, a basket containing cups and clay as a gourd. He has to use the knife in order to cut his way through the undergrowth, and also to cut down a sapling occasionally to bridge a rivulet. At times he is knee-deep in ooze or up to his waist in water. On arrival at a rubber tree he chips away the rough part of the bark, makes a more or less smooth surface, attaches a cup, and makes a small gash above it for the sap to fall into the cup; and repeats this process in a line round the tree until he has attached five or six cups. Then he proceeds to the next tree and does the same. He continues this process until he has tapped from 60 to 150 trees. On the following day the gashes in the trees are made a little lower than those made previously. Some trees are far apart, but when comparatively close together a collector can attend to 120 or 150 trees in a day. Some collectors tap the trees in the morning and return to collect the sap in the evening; whereas others tap in the evening and collect in the morning. When the accumulation of rubber is sufficient—usually the collection of three or four days—the collector lights a fire in his hut, places the funnel over the fire, and ladles a thin coat of milk over the paddle and holds it over the smoke to coagulate; the process is repeated until a large cake has been formed To release the paddle from the cake it is necessary to make a slit on one side. The paddle mould makes a cake of uniform and even shape. The paddle is in general use in the State of Pará. In other parts a spit is placed on two upright forked sticks, and given a rotary motion. By this means the rubber is cured with greater ease. Paddle smoked rubber is preferred as it is drier and more carefully cured.

Many attempts have been made to introduce improved curing apparatus. Up to the present, however, they have not been received with popular favour, because the universal process, although very primitive, possesses the advantages of being simple and inexpensive.

The process of curing rubber is very injurious to the eyes. Many cases of total blindness result from it.

There are three grades of Pará rubber, fine, medium, and coarse. The best quality is classified as fine. If rubber is not uniform and contains impurities, it is classified as medium The coarse quality, or "Sernamby," consists of scraps that have not been cured.

An expert collector gathers 7 lbs. of rubber in one day in the Lower Amazons, but three times this amount is collected in the Upper Amazons in the rich parts.

The collecting season in the Lower Amazons begins when the waters have subsided—about July—and ends in January or February. Collecting is not undertaken as a rule in the wet season, because the quantity of water that accumulates in the forest impedes the movements of the collectors, and the rainwater that runs down the trunks of trees prevents the clay cups from adhering to the bark, and also because the sap is weaker in this season.

TEA AND COFFEE ON THE NELLIAMPATHIS.

In the Administration Report of the Cochin State for 1894-95 it was stated that the number of Coffee Estates on the Nelliampathy Hills remained the same as in the previous year: 19; the number of tea plantations—2—was also unchanged. The total yield of coffee was 479,460 lbs., or an average of 175 lbs. per acre: the total yield of tea was 4,028 lbs., the average yield per acre of mature plants being 70 lbs. In the previous year the average yield of coffee was about 450 lbs.; of tea about 369 lbs. per acre. In 1895-96 the yield of coffee increased to 316 lbs. per acre, that of tea to 105 lbs. In 1896-97 there was a very serious falling-off in coffee, the yield of which was only 70 lbs. per acre, while the yield of tea fell to 102 lbs. The figures for 1897-98 show a recovery in coffee, but a lamentable decrease in tea. They are as follows:—

	Coffee.
Plantations	19
Total area	8,502
Under mature plants	3,337 acres.
Under immature	287½
Total under coffee	3,624½
Average number of coolies employed permanently ..	295
Average number of coolies employed temporarily...	1,484
Total yield ..	350,176 lbs.
	Tea.
Number of plantations	4
Total area	67 acres.
Under mature plants	59
Under immature	8
Uncured leaf	16,000 lbs.
Manufactured	4,000

The violent fluctuations in the outturn of crops are not explained in the reports under notice.

TELEGRAPHIC QUOTATIONS.

	May 13	15	16	17
LONDON.—				
Bar Silver	28	28⅛	28 3/16	28 1/16
Bank Rate	3%	3%	3%	3%
Coffee	...	[quiet]	...	...
Mysore, Av. (B) size ...	66s.	...	66s.	...
Ceylon	105	...	105	...
Cocoa	72s. 6d.	...	...	...
Cinchona	1⅛d.	...	...	...
NEW YORK.—				
Coffee—Fair Rio ...	6⅜	6⅜	6⅜	6⅜
„ Futures, Aug. ...	5·89	5·89	5·89	5·93
Silver—Comml. Bars ...	61	61⅛	61⅜	61⅛

NOTES.

Unprofitable. An American writer observes:—It does not pay to cultivate lands without returning necessary fertilizers and home-made manures.

Cooly Crimping in Ceylon. On another page we publish a vigorous protest of the Kanan Devan Planters' Association against the remarks and correspondence that recently appeared in the *Times of Ceylon* with reference to alleged crimping of coolies for employment in Southern India. Our contemporary's mare's nest will be remembered for years to come!

Sale of Ceylon Tea Estates. The Bunyan and Ovoco Tea Plantations in the Maskeleya district, Ceylon, containing 563 acres, of which 533 acres are under cultivation, were offered for sale at the Mart on 27th ultimo by Messrs. Farebrother, Ellis and Co., and knocked down to Sir Thomas Lipton at £25,000, including the plant and machinery and live and dead stock.

Brazilian Coffee. A Santos report dated 30th March 1899, says:—In Europe sales were made, as we hear, at 28s 3d c. & f. for *superior* April-May shipment. At the most favourable terms of both coffee and exchange markets of the week this price leaves no commission whatever and even a loss, if the seller, as we think, has to ship a Havre type. Receipts are very irregular, but show a decided tendency to fall-off.

The London Tea Market. In their weekly cable to Colombo Messrs Gow, Wilson and Stanton reported on 11th instant that the market was weak. Fair liquoring Ceylon Pekoe Souchong was quoted 7½*d.* and the average for the week 8¼*d*, both figures showing no change. The whole 21,000 packages of Ceylons offered were sold. Of Indians 12,000 were sold out of 16,000 offered, and the average is given as 9*d.* showing a rise of ⅛*d.*

Retailing Tea at a Shilling a Pound. At a meeting of the Liverpool and District Grocers' and Provision Dealers' Association on 17th ultimo the Chairman called attention to the fact that tea at 1s. and sugar at 1¼d. were being sold retail when they could not be bought at that price wholesale. He thought it was time to take steps in the matter. It was decided to send out a recommendation on the subject—to the effect, no doubt, that sales at these low rates should be discontinued.

Cardamoms. Cardamoms were one of the late Mr. Daniel Hanbury's favourite studies, his paper on the subject (*P.J.*, 1885) being historic. It is recalled by Mr. F. L. Lewton in the *Amer. Jour. Phar.*, who has found in the Philadelphia Commercial Museum specimens of Siam and Chinese cardamoms similar to those described by Hanbury. It is well to note that what was rare in 1855 may be as common as possible now, although not to be found in American or British commerce.

Calcutta Tea Sales. The first of the new season's tea auction, was held on Friday, the 12th instant when about 10,000 packages were offered for sale, of which 8,000 were sold. There was a good demand for teas with stand-out quality from all districts and for all pekoe souchong and medium sorts, especially pekoes and broken pekoes with point. All teas with desirable cup were well competed for, and a large portion of these were withdrawn. The prices compared favourably with last year's opening prices.

Testing Seeds. The testing of seeds has been reduced to a science in Europe, especially in Scandinavia and Denmark. When the Danish seed control station was first established in 1870-71, the average purity of grass seeds was 64 and their germination only 45, whereas now the figures have been raised to an average of 94 purity and 89 germination. In other words, the purity of the seeds and their germinating quality is now about twice as good as it was 25 years ago. One man and an assistant is all the help needed to run a seed control station.

America's Imports of Tea. The imports of tea into the United States for the first eight months of the present fiscal year, ending February, were as follows:—

From—	1898. Pounds.	1899. Pounds.
China	32,145,071	26,647,600
Japan	19,731,223	27,469,665
United Kingdom	1,491,014	943,533
East Indies	1,469,126	1,069,657
British North America	439,125	596,152
Other Asia and Oceanica ...	257,778	1,187,253
Other countries	1,911	9,392
Total...	55,535,248	57,923,252

A Present of Coffee to the Queen. Some little time ago the missionaries of the Zambesi Industrial Mission, in British Central Africa, sent to the Queen a box containing about 20 lbs. of coffee as a sample of the crop (of some forty tons) which had been raised on the plantations of the Mission, by means of native labour, under the supervision of the missionaries. The sample represented the coffee in four of its different stages of preparation. (1) In the berry, as exported, after being gathered, pulped, and dried; (2) the berries cleaned and stripped of their husks as sold in the London market; (3) the berries roasted; (4) the coffee roasted and ground ready for use.

The Decline in Cinchona. The *British and Colonial Mail* has the following remarks on the decline in the value of the unit:—The depressed feeling in the speculative quinine market had affected some of the holders of bark, and they were prepared to take lower prices at the cinchona auctions on Tuesday. Add to this a fact that had much more influence, *viz.*, that the greater proportion of the bark sold was poor stuff, parted with at a very low price. Then the regular buyers for the most part determinedly refrained from making bids. These were the circumstances of a decline in the unit, the latter coming out at 1⅝d. against 2½d. at the last London auctions, a decline of 35 per cent. . . . . the quinine manufacturers, although buying eagerly at a 2½d unit a month ago, would scarcely have anything this week when they could buy much cheaper. Out of 800,000 lbs. offered, nearly 200,000 lbs. sold.

Artificial Fertilizers. The *American Agriculturist* remarks:—Better fertilizers at less cost than in former years are now the rule, at least among high-grade goods. While the consumption of fertilizers has probably doubled within the last ten years, yet the discovery of raw products and the utilization of by-products have more than kept pace with the consumption and have caused lower prices. The discovery of Florida, Tennessee and Algerian phosphates has kept down the price of phosphoric acid. The opening of new nitrate deposits in Chili and the formation of new companies there, together with the utilization of animal products in this country, has reduced the price of nitrogen; also the utilization of ammonia from coke plants and from iron works. Potash is mixed at less expense and sold on closer margins than

formerly. All these causes have resulted to the advantage of the buyer of plant food.

Helopeltis. *Physiologist* writes to the *Ceylon Observer*:—My experience is that this insect confines its ravages chiefly to the low-country. I have always found it worst in the dry season, most noticeable in fields seven to eight months from pruning. I do not believe that it decreases as the shoots get smaller, or harder either. In the young fields this insect may be found as well, not on the tea, but on the leaves of the cinchona and guava trees, which is much in evidence up here. I have repeatedly seen the children go up and pick off from one to half-a-dozen off the trees mentioned, the tender leaves of which also bear signs of the ravages caused by this insect. I have tried catching them, and have had brought in for months and months about half a tobacco-tin of the insect, but it shewed no signs of extermination, so I have left off wasting money on such uncertainties until a more efficient method has been devised whereby to rid the tea of this troublesome pest.

Copper Sulphate and the Treatment of Vines. It is only since 1897 that sulphate of copper has been imported into Patras (Greece) to any extent, but as it is apparently the only remedy known as yet against the "*peronosporos*," importation is likely to increase annually until sufficient is brought into the country to treat all the currant and grape vineyards of Greece with the solution known as the "bouillie Bordelaise." Last season many proprietors, for the sake of economy, and others who did not believe in the efficacy of the remedy, neglected to treat their vineyards with a solution of sulphate of copper, the consequence in many districts being the partial or total loss of the crop. In 1897 about 2,500 tons of sulphate of copper were imported into the Patras district, principally from Great Britain. This was sold retail at £20 per ton. The importation last year was about 3,000 tons which fetched on an average £22 per ton. This year, owing to the rise in the price of copper, price has gone up to £28 per ton, duty-paid, or the equivalent of £23 15*s.* f.o.b. London or Liverpool.

Rubber from year-old Trees. The *Queensland Agricultural Journal* remarks that the most interesting point under discussion in relation to rubber planting in the British West Indies is a series of experiments now being carried on in London and Trinidad, by which it is proposed to secure rubber from year-old trees of the *Castilloa elastica*. It has been found that seed sown broadcast over a prepared field will yield an abundant crop of young trees, which at about a year old can be cut and sent to a factory where, with ordinary machinery operating a simple process, eight per cent of fine rubber can be extracted from the young shoots. This can be done in the laboratory. It is claimed that the process is a simple one, that but little machinery is necessary, and that in future the world's rubber supply will be secured from an annual crop of young trees sown on cultivated estates, and not from remote forests as at present. A series of experiments has shown that the young tree contains about eight per cent. of rubber, which would at present prices return an estimated profit of 200 dollars to 400 dollars per acre. The extraction of rubber from young shoots has been accomplished chemically in the laboratory, but whether it can be applied to the economic production of rubber on a large scale remains to be seen.

The Two Sides. Recent remarks of Professor W. H. Jordan, Director of the New York Experiment Station, deserve to be studied by Indian planters. Paraphrasing them to apply to coffee and tea planting rather than to dairy-farming, we give the gist as follows:—The marked change which had taken place in agricultural methods in recent years could much of it be traced to the work of these stations, but agriculturists ought not to expect too much. The stations are yet in their infancy, as regards practical usefulness. In former years there was a vigorous expression of individual opinion in regard to agricultural methods. The stations had done away with much of this, they being replaced by more scientific methods. There were two divisions to agriculture, the agricultural and the commercial. The experiment stations dealt with the former more than the latter. The commercial side should not be allowed to predominate. What was really wanted was more planters who were stronger on the agricultural side and weaker on the commercial side. The fundamental principles necessary to success are on the agricultural side. When perfected the commercial side will care for itself. The experiment station has furnished the necessary standards employed in agriculture and its kindred subjects. In this way have these stations been a great and important factor in progress, for without these standards there is still chaos.

Cinchona in Java. The *Chemist and Druggist* has the following:—The unknown quantity to quinine speculators is the condition of the cinchona-industry in Java, and whether it pays the planters or not to produce. "Why shouldn't it pay?" asked a sapient person in the Commercial Sale-rooms the other day. "Oak bark sells at 5*l.* a ton, and pays." "Because it is a by-product," added a long-headed broker. "They cut down the oak-trees for the sake of the wood." In Java they grow cinchona for the sake of the bark. We have before us a report regarding the plantations there, which gives the latest available information, and from this we learn that the Government has decided on principle to give up the cultivation of cinchona, and transform the plantations into experimental gardens. This will be done gradually, no seedlings being planted in place of the uprooted trees. The Government plantations are eight in number, and to three of these plantations nurseries are attached for the propagation of seedlings and grafting. The number of trees in the plantations diminished in 1897 by 11 per cent., and, as the reduction will go on at about this rate yearly, it will be eight years at least before the Government ceases to be a competing factor. There are eighty-three private plantations in Java, of which fifty-eight are situated in the Praenger province. These show no indication of reduction. The Bandoeng quinine-factory is now able to produce quinine to the extent of 3,500 ozs. per day, or 2,500,000 ozs. a year and the Pandang Aroem works are gradually pulling up. So that there is no intention of stopping Java quinine. Thirty-four cases of the Bandoeng brand were landed at Amsterdam this week.

GENERAL ARTICLES.

THE INDIAN TEA TRADE.

In our London report of Indian tea this week, says the *Grocer*, we give particulars of the actual outturn of the crops for the present season (now drawing to a close) for 1898-99, as published under the authority of the Indian Tea Association, by which it will be seen that the total production was nearly 153,000,000 lbs., or the largest ever known. The increase over the entire crops in 1897-98 and 1896-97 was, in round numbers, between 4,648,000 lbs. and 4,683,000 lbs., whilst as compared with 135,479,000 lbs. in 1895-96, and 127,127,000 lbs. in 1894-95, the aggregate quantity of Indian tea raised this season was many millions of lbs. heavier than in those years. From the very outset, when the crop was originally estimated at fully 158,000,000 lbs., the yield of tea in British India for 1898-99 has been regarded as of unexampled extent, and at one time a lower range of prices than ever was expected to rule in consequence. In this hope, however, the trade have been greatly disappointed, for besides increasing demands for consumption at home, there have been developments and wider outlets for shippers in other quarters, which have been large enough to absorb the whole of the surplus supply above shown; and since the end of December last the market has, without interruption, maintained a strong rising tendency.

That Indian tea has a powerful hold upon consumers, not only here but in other countries, may be inferred from the expansiveness of the deliveries, which progress at a faster rate than hitherto. In London alone, during the past twelve months—*i.e.*, from April, 1898 to March, 1899, inclusive—they amounted to 142,712,200 lbs., as contrasted with 127,418,450 lbs. in 1897-98, and 124,587,600 lbs. in 1896-97. These totals, it should be explained, combined the clearances for home use as well as for exportation, as in the private returns of the movements of the article the quantities retained for domestic consumption and those shipped away to foreign parts are not kept separate. For details of these distinct branches of the tea trade we refer our readers to the summary of the Board of Trade returns on another page, giving the official figures for the first quarter of 1899 and the two previous years. The comparisons thus afforded convey a good idea of the favour that Indian tea is growing into everywhere, and also furnish a convincing proof of the rapid strides that it is taking in beating all former records of its consumption and distribution. As in most trades of a legitimate character, the general and persistent demand for Indian tea has proved to be the backbone of the whole business; and as portions of supplies, which formerly came almost exclusively to the United Kingdom, have been diverted to other markets, who have threatened to outbid the native British for a larger share of the available crops yielded in Assam, Cachar, Sylhet, Darjeeling, and other well-known districts, the landings in London, as the chief port of entry in this country, have been much lighter than might otherwise have been calculated upon, and the stock has recently diminished to 52,399,850 lbs., compared with 59,051,400 lbs. in April last.

It has, therefore, been on reasonable and justifiable grounds that prices have taken a sharp upward turn since the beginning of the year, and, judging from the existing state of the market, there is nothing in its position and prospects to encourage the belief that an early return to cheaper rates, such as prevailed in the closing months of 1898, is in the least probable. The lowest points for Indian tea ever known were, no doubt, during the latter half of the year just named, when Pekoe Souchongs were knocked down in public auction at 5d., and leafy Pekoes at 5½d. per lb., with other common kinds in proportion; but the full rise since then has been 2½d. to 3d. per lb.; and this difference in the wholesale or import price must have seriously affected, even if it has not entirely covered, the margin for profits usually allowed on tea in its passage from the shipper or consigner to the hands of the consumers or retailers. The future of tea may thus not unreasonably be described as *couleur de rose* from a producer's point of view—a fact which must be highly gratifying to those who, year after year, were struggling hard to open fresh fields for extending the use of British-grown tea; and the more remunerative prices now current cannot fail to stimulate the Indian planters to still greater exertions.

CINCHONA: A RETROSPECT AND A PROSPECT.

There is no need to tell regular readers, says *The British and Colonial Druggist*, that cinchona bark and quinine are now at one of the most interesting periods of their history since the introduction of the former to Europe in 1640 and the discovery of the latter about 1820. For the benefit of those, however, who have missed the opportunity of following recent developments in these drugs a few succinct notes on these will be worth giving, and we may at the same time add something new in the shape of information as to the course of events in the future

* * *

The situation of the moment is this. Quinine has seen a period of active speculation, during which its price in the "second-hand" market (that is in the buying and selling of German quinine in London that mainly takes place in Mincing Lane and between parties none of which are makers) has gone up to 1s 9¼d. per ounce, and since receded to 1s. 4d. This advance was anticipated in the *B. & C. D.* of January 27th, at which time quinine was exciting no attention, and was only worth 10½d. per ounce. The natural cause of such an advance, was, according to our articles of that and subsequent dates, the short supplies of bark that continental makers of quinine possessed, in spite of the huge shipments from the producing countries in 1898.

* * *

The course of events that has led up to this state of affairs is remarkable. South America, the home of the cinchonas, has for some years been almost a negligible source of supply for cinchona bark. Since the cultivation of the cinchona trees was taken up in Java, India, and Ceylon, prices have declined so much as to discourage the exporters and collectors in South America from pursuing their labours. India and Ceylon, once started on the cultivation, rapidly grew, the latter especially extending its output so quickly as to cause most venturesome prophecies of its future. But prices became too low even for it, and Java, which was longer in getting on its feet, when it did stand took a firmer footing, and so has been able to endure the cutting down of prices. The Dutch in this island laid hold of the best kind of tree, and then made tremendous strides in securing the bark market, which was thus transferred from London to Amsterdam. Ceylon planters at last found prices so unremunerative that they began uprooting trees, and turning their attention to other things. India reached her height in 1889, and has since then been going down fast, her planters also being disgusted with the reward of their outlay. And all this time Java has not only managed to hold on but to grow.

* * *

While all this has been going on the consumption of quinine has been enlarging. The reduction of the price of bark was to a large extent the result of a combination of the quinine manufacturers. At length the worm turned; the bark importers in Amsterdam made a stand, and supported by the strength of the market that had now been attained (through the fact that Java exports had not grown enough to make up for the loss from India and Ceylon and the increased consumption) they secured a slight advance in the price of bark. This encouraged India and Ceylon to ferret out all their stores, and ship as much as they could. Hence it came about that in 1898 there was more quinine in bark form shipped from the growing countries than ever there has been before. Yet, to-day, stocks of bark in the public warehouses of Amsterdam and London are lower than they have been for years. So that the observant ask, what is to become of the price of quinine? Where is the bark to come from? And that is a subject for another paragraph.

* * *

If it be true that India and Ceylon last year put forth as big an effort as they are capable of, then we cannot look to them for increased supplies unless they begin again to extend plantations, and the crop from these would not be ready for five years at least. Java appears (though the statement here is more doubtful) to be in the same condition. It looks then as if we must turn our attention to the original source of bark once more And here we are dealing with a mysterious factor. No one can speak except hazily about the supplies America holds. Judging by the history of past years, it would seem that we must depend on Columbia for most of the natural South American bark. And it will not pay Columbia to start collecting again until bark is much dearer than it is at present. A planter we have seen, who has a very lengthy acquaintance with

the chief producing districts, considers that a unit of 4d. would have to be reached before it would pay to collect even the riche barks. This means that, whereas now the unit is 2½d, *i.e.*, that $\frac{1}{100}$ lb. of quinine costs whilst in the bark 2½d., the same amount would have to be worth 4d. If this were so, quinine (in bark, would be worth, to manufacturers, 2s. 1d. per ounce, and worth, to the wholesale dealers, about 2s. 6d. per ounce. If Java, India, Ceylon and Africa cannot produce enough to meet the demand until five or six years have elapsed and the expert's view given above is correct, then there is nothing for it but to pay the price we have named.

* * *

And that is a prospect worth studying, Perhaps it will tempt some of our readers to sigh for the planter's existence. But they have had their bad times—these planters—and it is to be hoped their opportunity is coming at last.

* * *

The next question is, will they make use of their chance? They can scarcely help doing so if they do not behave with the utmost folly. In that unlikely possibility, however, that we had in mind when we spoke just now of Java's apparent condition—the possibility, that is, that it has not been sending over as much bark as it can by normal collection, there may arise a forced collection under the impression that present prices are worth this; and if the quinine makers, aided by this, do manage to press the price down a little the importers may give way further. But this would be extraordinary folly on the part of the bark growers and importers, and not in accordance with their recent conduct. If they show only the smallest amount of firmness they can let makers see that the recent manœuvre which the latter made is transparent and refuse to be drawn into working the game of the latter.

CHINA TEA.

The following figures show approximate exports from China and Japan in 1898-99 as compared with 1897-98:—

FROM CHINA

To United Kingdom and Continent.

	1898-99. lbs.	1897-98. lbs.
Hankow and Shanghai	12,230,663	15,099,727
Foochow	12,976,578	12,606,188
Amoy	688,318	686,651
Canton	5,149,722	5,889,288
	31,045,281	34,281,854

To United States and Canada.

	1898-99. lbs.	1897-98. lbs.
Shanghai	16,621,547	20,836,003
Amoy	15,036,413	15,861,506
Foochow	9,178,280	7,740,345
	40,836,240	44,437,851

To Odessa.

	1898-99. lbs.	1897-98. lbs.
Shanghai and Hankow	22,783,272	19,462,293

FROM JAPAN

To United States and Canada.

	1898-99. lbs.	1897-98. lbs.
Yokohama	25,944,170	26,826,182
Kobe	13,948,634	16,732,118
	39,890,804	43,558,300

It will be observed, says a Colombo paper, that there is a comparative decrease all round, save in the case of shipments from China for Odessa, which are 3,300,000 lbs. in excess of those in 1897-98.

RAINFALL AND FERTILITY.

Mr. John Hughes, F.I.C., writes from London to the *Ceylon Observer*:—

Sir,—That fertility is largely associated with the rainfall is fully recognised: but that excessive rainfall causes a loss of fertility is perhaps not so fully recognised.

At Rothamsted for upwards of 20 years a most complete system of collecting and recording the rainfall, as well as the drainage water passing through 20 inches of arable land, has been established, and the results afford valuable practical information.

The amount of nitrogen found in this drainage water has been carefully determined and calculated into the equivalent of nitrate of soda and the results have been tabulated as follows:—

AVERAGE RESULTS OF THE RAINFALL AND DRAINAGE AT ROTHAMSTED FOR 20 YEARS, 1877-78 to 1896-97.

	Rainfall 1-1000th Acre Gauge.	Drainage.	Retained in Soil or Evaporated.	Nitrogen lost per Acre reckoned as Nitrate of Soda.
	Inches.	Inches.	Inches.	lb.
September	2·63	1·04	1·59	25·0
October	3·38	2·07	1·31	40·7
November	3·14	2·41	0·73	40·3
December	2·42	·95	0·47	23·5
January	2·04	1·67	0·37	16·4
February	1·95	1·55	0·40	15·7
March	1·88	1·00	0·88	9·4
April	4·89	·52	1·37	6·3
May	2·17	·58	1·59	7·2
June	2·33	·61	1·72	7·9
July	2·80	·73	2·07	13·3
August	2·94	·87	2·07	18·4
Harvest year	29·57	15·00	14·57	224·1

It will be noticed that the losses of nitrogen during the winter months from September to February, average 161·6 lbs. nitrate of soda, or 72·1 per cent. of the entire average losses of the year.

From these figures it will be understood that after continuous rainfall the soil becomes *temporarily* impoverished, and consequently in need of readily available plant-food.

These remarks will have special application to a climate like that of Ceylon, where there is a heavy annual rainfall, and to plantations like those of tea, coffee, and cacao, which are kept constantly under cultivation and free from weeds.

TEA IN AMERICA AND EUROPE.

Mr. Ayden, who recently returned to Colombo, after spending six months' travelling in the interests of Ceylon tea, stated to a representative of the *Times of Ceylon* a few days ago that Ceylon teas were certainly gaining ground in the United States as against Japan and China teas. He agreed that the "Thirty Committee" were doing well in advertising as was done at present, and could not suggest any better method, and he was not in favour of subsidizing certain firms to push the article as was recommended in certain quarters.

"Are you in favour of introducing green teas into the country as advocated by Mr. Mackenzie?" asked the reporter. "Yes, I think there is a fine opening for Ceylon green teas. Of course they will have to compete with China and Japan greens, but I think that is only a matter of time, especially if the planter makes the tea"

THE AMERICANS WANT.

A certain amount of black tea would always be used, but it was only a small percentage of the total consumption, the principal teas being the greens and oolongs.

They had been greatly handicapped by the duty imposed at the time of the war of 10 cents. (5d) per lb., while coffee went free.

It made tea so much more expensive than coffee, which had a tendency to become cheaper. That the latter was the national beverage was seen in the fact that coffee was consumed last year at the rate of 11 lbs. per head of the population as against under 1 lb. of tea. Tea was drunk very much more in Canada than in the States, even amongst the French-speaking people, who, however, live in the same way and have much the same habits as their English-speaking neighbours. He thought in America the trade were favourably inclined towards Ceylon tea, though they used it in blending with China and Japan teas. Our tea can be obtained by itself in the principal cities, but it was difficult to get pure Ceylon tea in the smaller towns, though they had some very excellent blends. Apart from the pushing of tea Mr. Ayden had time to look round and was struck with the go-a-headness of the people. Even this was to the advantage of Ceylon, for if once they could be got to take up our teas they would go for it for all it was worth as they do with every other things they go in for.

Mr. Ayden's next journey was from London through Holland, Germany, Austria and Central Russia as far as St. Petersburg. Asked which country was the greatest tea-consuming one, he replied without hesitation Russia, adding that there was a great future for our teas there. Ceylon tea was used there to blend with China teas in order to increase the strength. With regard to the tea-duty in that country he did not think there was much chance of getting it reduced. It was very heavy, being about 1/8 per lb. and he mentioned that he had to pay three roubles for a lb. of pure Ceylon tea or 6/ in English money.

With respect to the other countries visited, tea was not a big article and was not much consumed, though here again Ceylon tea was becoming more liked than China and Japan and the prospects were favourable. The trader had no difficulty in selling tea, as it is shipped, direct to Hamburg, Bremen, and other Continental Ports.

PLANTING IN B. C. AFRICA.

COFFEE IN MLANGI.

An ex-Ceylon Planter writes to the *Ceylon Observer*:—In the middle of our cold season the thermometer during the night goes as low as 48 and 50 deg. and during the day seldom above 65 deg. The cold commences with the middle of our crop season, July; but unfortunately the drought during the blossoming months left us little to trouble about. So no one was very busy, for the study is to keep down expenditure.

COFFEE

here is not the success I anticipated. This country is subject to periodical droughts during the blossoming months, September, October and November, accompanied with hot winds from the plains between the sea and here, which do a tremendous amount of damage to coffee; besides burning up the blossoms and set crop. It scorches the trees to such a degree that it takes about two years for them to recover: not only is the wood killed, but the very trees especially young ones (one or two years old) are so much damaged that they never recover, being burned right into the ground. The result of those scorchings is that canker sets in, the trees are bark bound, the sap-cells become diseased and black and empty beans become in course of years so numerous that the only visible remedy is the cutting down to the ground. This no doubt accounts for the stumping of old coffee, which has been done in this country by planters from time to time. After stumping a good sound crop is obtained again, the same as the maiden crops usually are

The necessity for

SHADE

is now recognised and most planters in the country are going in for it by either planting local trees or imported ones. I must say I prefer the latter, at least those that have been proved good coffee shade trees such as the dadap, albizzia moluccana, &c.; but the difficulty is in getting seed imported as it is only procurable from the East where leaf-disease is so prevalent. We have some excellent shade trees in the country, but they don't grow so fast as the dadap and others familiar to me in Ceylon.

I never saw coffee on the Uva-side or anywhere else in Ceylon

BLOSSOM

the same as it does here: 10 to 15 spike in a cluster is the usual number. So you need not wonder at 8 cwt. an acre being secured from the primaries as a maiden crop, which is quite common, if a favourable season is got; but older coffee gets weakened by repeated droughts, and supposing it gets favourable weather during the blossoming season, the berries drop off even when the size of peas, the same as they used to do in Ceylon through the effects of leaf-disease. This does not occur, however, where there is any shade, even that of an individual tree or two suffices to save the crop. Our climate is, I suppose, as suitable as any in the world (and our soil in most districts is exceptionally good) for the successful cultivation of coffee, were it not for those occasional dry seasons, so disastrous to the health and vigour of the coffee tree.

I am strongly of opinion that the best and most successful way to treat coffee here and ensure the best results is to allow it to run up into

NATIVE COFFEE

or at least till it reaches six feet the same as is done in Java, so that the crop would be matured higher off the ground and the cover effected by the lofty trees would keep the ground cool. At present cultivating, as we do, our trees, well handled and pruned leaving little wood, are forced too much, beyond their strength, blossoming to the tune of a ton per acre, which they are unable to stand, when the thermometer registers 96 deg. and 98 deg in the shade and the ground does not, during the night, lose the heat of the day before, being quite warm in the morning. No dew falls as a rule during this time (October and November our best blossoming months). Owing to the country bush-grass burning night and day at this time of the year, the air is fearfully dry. The objection might be raised to allowing coffee to run up to 10 or 15 feet, viz., wind (the trees' greatest enemy). I know most districts in Ceylon, some where I've seen the coffee pulled up by the roots by wind and others where you had to get off your horse and hold on to the grass by your teeth, and others where bullock bandies were blown off the road, with 1½ ton loads in them; and yet coffee with staking when young stood it all and paid well. We have no such wind here, coffee is never staked, and does not need it, in any of the districts I have seen. I am quite convinced that low topping, *especially in green wood*, does a fair amount of harm to our coffee and this is usually done to try and secure a big maiden crop.

I myself tried it and nearly killed some beautiful young coffee: in fact it has never recovered the shock it got, with a dry season to boot.

We are now in

TELEGRAPHIC COMMUNICATION

with the old country and it is expected that we shall have a railway from the coast before long. The Portuguese Government is to build a line from Quilimane to Chirmo: the line has been surveyed and the funds voted for the construction of this line which is very necessary to connect with our mountain line into the Shire Highlands as the river from Chinde (our coast port) to Chiromo and Katungas is a very unsatisfactory means of transport, as the water is very low for half of the year, rendering it almost unnavigable for the smallest draft steamers constructed. It is just as bad as your Kelani and Kaluganga are in the dry season.

Our projected

RAILWAY

from Chiromo into the Highlands and from thence to lake Nyassa has been twice surveyed over by Mr. McCrombe on account of the African Lakes Company and a party of Engineers are now at work between Blantyre and the lake on account of Government. So this line which is an absolute necessity for the future development of the country is bound to be constructed soon, and (when as it is well-known) Mr. Rhodes and his Beira-Mashonaland Railway company are interested in the line to tap the B. S. A. Company territory North of the Zambezi, and beyond this protectorate, is a sure guarantee of a railway being built from Chiromo through the planting districts, which show no engineering difficulties, at no very distant date.

Our present means of transport are very unsatisfactory and traffic gets congested every dry season and thousands of labourers are employed for transport when they might be utilized for agricultural purposes.

Missionaries and trading Companies are determined to have the railway carried right to their very door in Blantyre, irrespective of the future requirements or the development of other parts of the country.

TEA

is a success here: it grows fast and flushes well all the year round, with the exception of about two months, and the quality, flavour and strength compare fairly well with Ceylon's medium elevation tea. Not to trust to my own opinion, I sent a flush to an experienced Ceylon planter to make and taste and he pronounced it as excellent tea and a good marketable article. I have planted up a few acres and intend to extend, although there is a fear of over-production and lower prices. Our cheap labour (2d per diem) will enable us to compete with Ceylon and India, if not China.

The tea introduced into the country by the Blantyre Mission (which most old planters have got a few bushes of) is not of a superior jât; but I have seen many worse in Ceylon, and it seems to suit our climate well, which is the great thing.

This country seems to be the home of the

TOBACCO

plant and should become a great competitor of Cuba, Manila, and other countries if acreage and soil is to be considered.

P.S.—Dunraven, Mlangi, 15th March, 1899. We have had a very good year, and a decent crop is maturing on the trees nearly everywhere and people and prospects are looking much brighter than they were when I wrote the above letter.

JAPAN TEA IN CANADA.

The Japan tea market during the past year has been an interesting one on account of its peculiarities.

It was a year ago, all but two weeks, since it opened. The actual date of the opening was April 28. Until May 8, a steady business was done, although at gradually declining prices. On that date, however, heavy buying commenced, with the result that all grades below "finest" advanced.

A month later, cable advices to the effect that the United States intended putting a duty of 10c. per lb. on tea caused a falling-off in business and a depreciation in values. And when it was known that the duty was an accomplished fact, the prices suddenly dropped 4 to 5 yen per picul. A yen, it may be noted, is equal to 49 8-10c. in gold, and a picul is equal to 133·3 lbs. With the drop in prices, however, came a good demand, especially for the low grades, but this continued only for a few days, as buyers were eager to secure the early second crop leaf, and prices advanced to what they were before the duty excitement developed. For some days the prices paid were higher than those paid for first leaf.

The end of July saw the market again taking a "bearish" turn, and it continued to decline until the third crop began to arrive, and this being particularly good quality, both in leaf and liquor, prices again appreciated. In October, the market became slightly easier, sellers being more willing to meet the views of buyers, but, since then, the market there has ruled steady, and, it is worthy of note, most of the purchases since then have been on Canadian account. The total amount of settlements in Japan up to March 24 last was 214,000 piculs, against 218,000 the same time last year.

Up to December 15 last, according to a statement published in the *Canadian Grocer* some weeks ago, the quantity of tea shipped from Japan to Canada was 11,283,948 lbs. against 8,334,693 lbs. to the same date in 1897.

In spite of the ups and downs of the market the range of values in Japan the past season has been considerably higher than it was the previous season. The quality of the leaf and crop has also been better, particularly the third crop, which is said to be the finest ever known in Japan.—*Canadian Grocer.*

INDIAN TEA ASSOCIATION.

The following are extracts from an abstract of proceedings of a meeting of the General Committee held at Calcutta on the 1st instant:—

Proceedings of the Assam Branch of the Association for March were laid on the table. These proceedings included, among other matters, a memorandum by Mr. J. Buckingham, C.I.E., the Chairman of the Assam Branch, with reference to a resolution passed by the General Committee at their meeting on 6th February in which the opinion was expressed that it would be injudicious to discontinue the American Market Fund at present. Mr. Buckingham stated in his memo. that he was of opinion that the Assam Branch should strengthen the hands of the General Committee by protesting in the strongest terms against the discontinuance of the work in America. From a letter, dated 20th April, which had been subsequently received from Mr. Buckingham, the General Committee learned that the Committee of the Assam Branch concurred in the opinions expressed in the memorandum

It was decided to inform Mr. Buckingham, in reply to his letter, that it was not open to the General Committee to take any further action in the matter, as it had been decided at a meeting of the London Committee, held on 31st January, without reference to India, that operations in America should be discontinued. In his letter of 3rd February Mr. Tye, the Secretary of the Association in London, had stated that the Committee were unanimously of opinion that the time had arrived for discontinuing the work, and had accordingly instructed Mr. Blechynden to bring his Mission to a termination Mr. Tye further stated that Mr. Mackenzie, the representative of Ceylon in the United States, had also informed his Committee that the work in America could well be brought to a speedy termination.

Letters of 24th and 31st March, and 7th April, from Mr. Ernest Tye, Secretary, Indian Tea Association, London, having been previously circulated, came up for final consideration and disposal. In these letters Mr. Tye stated that the London Committee had made an arrangement with Mr. E. F. Langdale to carry out the sale of Indian tea at the Paris Exhibition on the understanding that the Association should not be responsible for any outlay beyond the sum of £1,000 agreed to be paid to the Royal Commissioners for the space which had been allotted for the representation of Indian tea. Mr. Langdale was well known in connection with work of a similar description, as he had been associated with the Health Exhibition held in London in 1884 in a like capacity. It was understood that in the arrangements to be made Mr. Langdale would follow the lines observed by him at the latter Exhibition which gave general satisfaction. Mr. Langdale would arrange for the service of Indian tea in the cup, and would make special efforts to render the Court in which it would be served attractive to visitors. The London Committee had also had under consideration the question of the lines upon which a new Levy should be conducted for opening out new markets other than the American for the sale of Indian tea, and had received favourable replies from a few concerns in London to the circular issued by them on the 24th February, in which subscriptions were invited.

The General Committee noticed, however, that the London Committee had not specifically stated upon what lines the new levy was to be raised. The answer which had been received to their telegram of 11th April, which it was decided at the last meeting of the Committee should be sent, did not make the intentions of the London Committee clearer, and it was therefore agreed to despatch immediately a further telegram asking for details of the new scheme for opening out foreign markets. The General Committee were strongly of opinion that no satisfactory appeal for funds could be made without some knowledge of the programme proposed and that speedy action was essential to success. A remark to this effect was to be included in the telegram to be sent to the Committee of the Association in London.

Letter of 7th April from Mr. Ernest Tye, Secretary, Indian Tea Association, London, dealing with the American Market Fund, came up for final consideration and disposal after previous circulation. In this letter Mr. Tye stated that from an interview he had had with Mr. Mackenzie, the representative of the Ceylon Association in the United States, he understood that Mr. Mackenzie had recommended the Ceylon Committee of Thirty to continue the work in America for two or three months only in 1900. The decision of the Ceylon Committee had not, however, been so far received. The General Committee also understood that the balance remaining of the amount raised by the last Levy, after the close of Mr. Blechynden's Mission, would be devoted to the continuance of the advertisements issued jointly by the representatives of Indian and Ceylon teas.

The General Committee were of opinion that no action could be taken by them with reference to these matters, which came strictly within the province of the Committee of the Association in London, and ordered the letter to be recorded.

Considered letter of 7th April from Messrs. Gow, Wilson & Stanton of Rood Lane, London, enclosing copy of the statistics of imports, deliveries, and stock, of Indian and Ceylon tea in London

during the month of March. From these figures it appeared that the deliveries of Indian tea during March 1899 were nearly 1½ million pounds above those of March 1898. This brought up the increase in deliveries of Indian tea for the first ten months of the season to 13¼ millions ahead of the corresponding period last season, while the stock was 6½ millions below that at the end of March 1898. Messrs. Gow, Wilson & Stanton were of opinion that smaller Ceylon deliveries were accounted for by the higher relative prices at which the lower grades of Ceylon tea were selling during a large portion of the season. It was satisfactory to notice that the stock was practically the same as a year ago.

The letter was ordered to be recorded.

Considered memo., dated 24th April by the Vice-Chairman asking the views of members of the Committee as to whether it would be advisable to address, from a tea point of view, the representatives of the Bengal Chamber of Commerce on the Special Committee which had been appointed by Government to examine into the merits of the scheme for a Central Railway in Calcutta, a Central Passenger Station and a permanent bridge over the Hooghly. The Vice-Chairman pointed out in the course of this memo. that it was proposed to levy a toll of 1½ pies a maund on goods, to pay interest on the cost of the works in connexion with these projects if they are not self-supporting. It appeared to him that tea was more particularly concerned in the matter of the proposed tax than most other trades, because it was quite certain that tea would not use the new line. He understood the promoters of the scheme to say that the Railways would themselves pay this tax. It was to his mind quite obvious that, if the Railways had to pay the proposed tax on the goods they brought into Calcutta, sooner or later in some form or other, such goods would have to bear the burden. He wished to have opinion of the Committee as to whether tea grown in Assam or elsewhere should be taxed to improve Calcutta, and to give profit to a private Company. The Vice-Chairman added that his object in circulating the memo. was not to oppose the scheme, which he personally would like to see carried through, but merely to put forward the case from the tea point of view against the payment of the proposed tax.

After some discussion the Committee agreed to suggest these points to Mr. E. Cable, and Mr. J. Gemmell, the representatives of the Chamber of Commerce on the Special Committee appointed by Government, and to ask them to see that they are considered. The Secretary was directed accordingly.

Considered letter No. 1826-Agri. of 27th April, from the Secretary to the Government of Bengal in the Revenue Department in reply to the Committee's representation No. 162 of 15th idem to that Government with reference to the question of the appointment of a scientific officer for the tea districts. In their letter the General Committee asked whether any assistance could be afforded from Government funds for the purpose of securing the services of such an officer. In the reply quoted it was intimated that His Honor the Lieutenant-Governor was pleased to sanction a grant of Rs. 5,000 a year, for a period of three years, for the purpose, by which time it was hoped that the expenses of the Committee for the opening of new markets would have diminished sufficiently to permit of the withdrawal of the grant.

The General Committee received this announcement with much satisfaction, and directed that an expression of their most cordial thanks be conveyed to His Honor the Lieutenant-Governor through the Secretary to the Government of Bengal in the Revenue Department, for the grant he had been pleased to sanction.

At the last meeting of the Committee a letter of 14th March, from the Secretary to the Chief Commissioner of Assam, on the same subject, was considered. In this letter Mr. Cotton stated in reply to the Committee's representation of 21st February, that he was unable to hold out any prospect of being able to contribute from provincial revenues towards the expenditure which would be involved in securing the services of a competent scientist to undertake the work.

The General Committee now decided, in view of the grant promised by His Honor the Lieutenant-Governor, again to approach the Chief Commissioner of Assam, informing him of the action taken by Sir John Woodburn, and asking whether it would be possible for a similar amount to be contributed by the Assam administration. If this additional assistance were forthcoming the General Committee thought that a further sum of Rs.5,000 a year, for three years, might be contributed from the General Funds of the Association. A total of Rs.15,000 per annum would then have been raised which, in addition to a contribution of Rs. 200 monthly, promised by the Assam Branch of the Association, would bring the monthly income attached to the new post up to over Rs.1,400. It was considered that by the expenditure of this sum the services of a competent scientific officer could be obtained without difficulty and all other charges be met.

The General Committee considered that the matter was one which should be laid before all the members of the Association at the Annual General Meeting, especially in view of the fact that it would probably be necessary to recommend to members that a portion of the surplus funds of the Association should be devoted to the purpose. It was accordingly decided to issue immediately a circular to all members informing them that assistance had been promised by Government to the proposed expenditure for the engagement of a scientific officer, but that the Committee were not in a position to state definitely the form the scheme would eventually take. They had, however, reason to believe that they would receive sufficient assistance from Government to enable them to defray the balance required from the surplus funds of the Association if members generally were agreeable to this course being adopted. They therefore proposed to draw the attention of members to the question at the Annul General Meeting, and to take the sense of the meeting upon the proposal.

The Annual General Meeting was fixed for 3 P. M., on Friday the 26th May 1899.

TEA, &c., COMPANIES.

The Degolla Estates Company.—At an extraordinary general meeting of the Degolla Estates Company, held at Kandy, on the 8th instant it was unanimously agreed to reduce the Company's capital from R220,000 to R130,000, and another meeting will be held on the 12th proximo to confirm this resolution.

Alliance Tea Company of Ceylon.—Nett profit £5,207-11-2. Interim dividend of 3% is now supplemented by a final dividend of 4%, making 7% for the year.

The following table gives the acreage and results for the year:—

Estate.	Acreage in bearing. Full.	Partial.	Tea crop. lbs.	Cost per lb. in cents (including manuring).	Nett price realized per lb. in pence.	Working profit.
Aberdeen	387	—	128,740	32·39	5·13	—
Calsay	342	—	153,505	29·00	7·54	£1,688
Dunkeld	322	50	144,926	31·32	6·59	812
Luccombe	717	—	265,397	32·81	5·88	423
Thornfield and Gleneagles	455	15	230,884	29·00	8·82	3,877
Uda Radella	340	40	180,116	27·79	7·52	2,418
	2,563	105	1,104,168	30·40	7·00	9,230

Imperial Ceylon Tea Estates.—Nett profit £3,935-2-5. Dividend 4%.

The following table gives the acreage and results of the tea estates for the year:—

Estate.	Acreage in bearing. Full.	Partial.	Tea Crop. lbs.	Cost per lb. in cents (including manuring).	Nett price realised per lb. in pence.	Working Profit. £
Binoya ...	441	—	169,151	31·80	6·74	1,081
Edinburgh ...	306	39	168,439	27·55	7·47	2,602
Friedland ...	158	3	61,685	28·59	7·18	629
Mottingham ...	212	—	106,361	29·98	6·27	531
St. Vigeans	185	—	68,718	29·42	7·54	814
	1,302	42	569,356	30·40	7·00	9,230

Hope Tea Co.—Interim dividends two of 10%, final 5% making 25% for the year. Crop 14,662 maunds, average 8⅛*d.* per lb.

Hopetown Tea Co.—Crop 884 maunds, average As.6-82 per lb. Profit Rs. 6,457-9. Dividend 4%.

Rungamottee Tea Co.—Profit Rs.1,134-15-10. Crop 2,799 maunds, average 7*d.*

Chota Nagpore Tea Co.—Crop 83,570 lbs., average As.5·5 20p. Profit Rs. 13,122-4-11. Dividend 10%.

Doom Dooma Tea Co.—Crop 1,956,825 lbs., average 11 $\frac{23}{32}$*d.* Profit £26,347. Dividend 12½%.

NEW PROCESS OF TEA MANUFACTURE IN COLOMBO.

A SERIES OF INVENTIONS.

THE NEW VENTILATING FAN.

The *Times of Ceylon* says:—At Messrs. Davidson & Co.'s Sirocco works in Forbes Road, Maradana, Mr. F. G. MaGuire has just finished erecting a complete plant for the manufacture of tea by "hot process," and has put through the first break from start to finish. He manufactures on Tuesdays and Fridays; but on other days visitors will be welcomed. The factory is fitted throughout with nothing but Davidson's patent machinery, and includes several novel features. During a visit made this morning by a representative of the *Times of Ceylon* Mr. MaGuire explained these. First of all there is the new withering machine, which is the only one at present erected in the island, though previously a model one, with which experiments have been conducted, was set up on Polatagama estate in the Kelani Valley, and which existed all last year. The machine is capable of keeping two rollers going, and is driven by a new and ingenious engine which has proved quite a success at home. It is a high-speed engine without any packing, except on the piston ring. The governor and the valve also are both situated inside the steam chest, and this forms a special feature of the invention, for, as shown by Mr. MaGuire, the governor regulates the working of the machine to a nicety unapproached by an outside governor. The main bearing and crank shaft, too, are submerged in oil, and an indicator is fixed to the outside of the oil bath, to constantly show the depth of oil.

Even when wet leaf is put into the witherer, in an hour's time it is ready for the roller, and in three hours the whole process from green leaf to black tea—but not the grading, &c.—is completed. With the roller, experiments are now being carried on to effect an increased degree of pressure by means of interchangeable cones in the centre rolling table. From the roller the tea passes into an evaporator, the object of which is to decrease the percentage of water to obtain a good twist on the leaf in the second rolling. The machine is fitted with one of the new patent fans, encased and driven by its own little engine The down draft sirocco for firing is, of course, familiar to our readers; but at Maradana this also is fitted with a new fan, in place of a chimney for the blast. Besides requiring a far less quantity of fuel the driver now consumes its own smoke, so that nothing but clear gas issues from the shaft. Then at the other end of the room, is one of Davidson's large sorting machines and a Davidson MaGuire packing machine, on which this morning twenty acme chests were being placed in position to receive the first batch of tea to be sent to Belfast to be sampled and sold. In course of time some of the breaks made will be put on the local market; and experiments will be carried on for another month. The leaf from which the first break of tea has been made was bought from a native estate in Kaduganawa at 6 cents a lb; and Mr. MaGuire claims that from this inferior material he has made good tea. The tea continues hot from start to finish, and by this means it is asserted that after a few additional experiments, it will be possible to make tea of a penny per lb. higher value than by the old process, which besides the saving of time and fuel, would, naturally amply repay any additional outlay in machinery. There is the further valuable consideration that instead of an expensive three-storey factory a simple shed of one floor will suffice to accommodate the machinery for the manufacture of any quantity of tea Estates, it is expected, will send down leaf to be experimented with, as a practical way of testing what is claimed for the new method in improving prices. At the end of the office a laboratory has been fitted up in which chemical tests are carried on, and where with a powerful little miscroscope the leaf is examined in the various stages of manufacture.

THE "REVOLUTION" IN FANS.

Perhaps the most ingenious of all the new things to be seen a Messrs. Davidson's Works, however, is the fan. This was described in a letter in our paper of the 28th March, and the first shipment of eighteen ventilating fans arrived by the last Bibby steamer. These had been proceded by two fans for smoke chimneys, one of which has been sent to Balangoda for Messrs. Finlay, Muir & Co., and the other is going to one of the Haputale estates of Lipton, Limited. The eighteen ventilating fans were all of 30 and 35 inches diameter, and last night the remaining eight were booked—two by one firm, and six by another, the orders being for two fans in each factory. Another shipment is expected by the next Bibby steamer, when various sizes, from 15 inches to 35 inches, of the ventilating fans will come to hand. The new fans have not been advertised at home as yet, because, although the number turned out at Belfast is daily increasing, the existing demand can hardly be coped with. Before long, we are informed, 25 a day will be produced, and then the invention will be extensively advertised, and the production will be increased as quickly as possible to 100 per day. A contract has been obtained for the ventilation, and cooling and heating, of the Law Courts in London, which have always been in an unsatisfactory atmospheric condition; and the fans are to be used in connection with the scheme, which involves a separate plant for each court with refrigerating and heating apparatus for winter and summer respectively. The air will also be filtered, so that fog and other impurities may not enter. In addition to this the ventilation of the House of Commons is to be similarly improved; and exhaustive experiments were to be made a week or two ago by the Admiralty to see whether the new instruments did what was claimed for them, in which case Sir William White, the Chief Director of Naval Construction, had declared they would be adopted at once throughout the new vessels of the Navy. Information of the result of these tests has not yet come to hand. The flax and linen industry of Russia, which had been considerably pushed in recent years, and which requires fans for the benefit of the work people, has also produced a wonderful demand for the new patent, which, we are told, has been ordered in such numbers that the Russian market alone constitutes a very important element. It is in Ceylon, however, that the fans have been first advertised and first erected in different factories

To describe the fan, one of which, 30 inches in diameter, is already in position and working at the Maradana establishment, we may say that it involves an entirely new idea in practical engineering. The fan hitherto familiar to the public possessed blades extending from the circumference to the centre, and it follows, as a fact, that the maximum amount of work done by each blade is at the circumference, the force being lessened gradually until the centre is reached, where there is very little speed at all. Thus with any opposing pressure the efficiency of the old fan is greatly reduced, and air may even pass the opposite way through the centre, while the blades are doing their work at the outer edge. Davidson's patent may be described as shaped like a revolving squirrel cage, the blades being all of equal length round the circumference, and thus performing equal work throughout. By the same arrangement the space for the passage of air is as large as the fan itself, and the result is evident even to the lay mind, and is a marvellous advance on the old idea. An interesting feature is that the principle involved in the construction of the blades is in agreement with the contentions of professors, but contrasts with the experience of engineers in all other fans; and the new vindication of the scientific theory is to be shortly discussed at the Institute of Mechanical Engineers. The advantage of the machine is that, while the air emerges with greatly increased force, it enters in a regular and even manner, producing no disturbance in the vicinity. The air in fact is drawn from all directions as powerfully as from immediately in front, and thus a much greater area of space is under its action. The regularity of the entrance of the air was also shown when a funnel was fixed to the bracket which holds the fan. The atmosphere rushed into this in a full and regular steam, indicating the fan's great capacity for disposing of an unusual volume of air in a given time. The speed was tested at various distances and from various directions by an anemometer, and established the inventor's contention. The fan was then running, driven by a belt, at 380 revolutions a minute, and 10,584 cubic feet of air per minute were being drawn through. This entered at the rate of 2,000 feet, but was ejected on the other side at the rate of 5,530 feet. When reversed the fan does nothing. It may also be mentioned that the bracket

holding the fan has the shaft suspended like the axle of a bicycle, and the two bearings are in one piece, so that, even if carelessly erected by an inexperienced person, they cannot be put up out of line. On the outside a solid disc prevents high wind, or even a cyclone, disturbing its efficiency; and the air is discharged with equal force on all sides. The force of this air can be utilised for an upper loft by the fan being enclosed, and the air conducted to the storey above. The power used was only about ¼ h. p.

Close by the fan already in position preparations were going forward for the erection of a still larger fan, to be completed by this afternoon. Although no harm would result, it would be waste of energy to over-drive a small fan, and, according to the amount of work to be accomplished, machines of certain diameters are recommended. Mr. MaGuire further explained that the fans can be driven by electric motor and by water power, with new Pelton wheels recently patented by the inventor of the fan. A volume of photographs further shows the variety of uses to which the invention can be put; and other pictures represent some highly interesting tests, one of which, in competition with one of the older style of fans of three times its area, was fully described in our issue of the 28th March.

THE VANILLA BEAN IN MEXICO.

The State of Vera Cruz has been considered the home of the vanilla, but recent developments show that vanilla can be cultivated in the State of Tobasco and on the Isthmus of Tehuantepec. The true home of the vanilla, where it flourishes the best in its wild state, is a narrow strip about 30 miles wide, 5 miles from the coast, and 90 miles long. The upper end of this strip is about 50 miles south of Tampico, and extends along the coast 90 miles towards the city of Vera Cruz, the bottoms along the Tuxpan, Casonez, and Nautla rivers, and the creeks contiguous, constitute the richer parts. Here the cultivated varieties yield most without artificial fecundation, either on account of the number of wild bees in the locality or by self-pollenation, with some claim as impossible. The United States Consul at Tuxpan says that

ARTIFICIAL FECUNDATION

must be practised in order to produce the beans in commercial quantities. The vanilla plant is a vine of a bright green colour, with a smooth, waxy, transparent bark. It has a thick, waxy-looking leaf, light green in colour, 6 to 9 inches long, 1½ to 2 inches wide, and sharply pointed. The vine reaches out tendrils which cling tightly to its tree support, but do not, as some believe, draw nourishment from the tree. The best time to set out the vines, or rather cuttings, is in April or May. The cuttings are the vines divided into lengths, usually 2½ to 3 feet long. Some of these can be cut in two according to the number of joints. Two to three joints are sufficient to put under the ground, with the same number of joints above ground. The joints are easy to propagate, in fact, they are hard to kill if kept from being bruised. A cutting can be kept in the house on a dry shelf, and will live for months with scarcely any apparent change. In making a vanilla plantation much depends upon the selection of location. The first thing is to have the plantation where the pilfering of the beans while ripening can be prevented. A vanilla plantation need not be large; a few acres, with care and proper fecundation, will soon produce excellent results from a monetary point of view. Patient care and attention at the proper time is the chief secret of success.

THE VINE REQUIRES RICH SOIL,

heat, ventilation, shade, and moisture. Rich pockets of land along the creeks and river bottoms are best. A profusion of wild vines of all kinds growing into a jungle, with abundant loose soil affording ventilation at the roots, is the best proof of the adaptability of the land. The land should be free from sand on account of the drought, and free from clay, which would cause the vines to rot during the rainy season. There should be plenty of small trees, at the feet of which the vines can be planted. Trees which have smooth bark, and which never shed their bark or leaves, and grow to be no longer than 2 to 4 inches in diameter and from 7 to 10 feet high, are best for this purpose. Usually a variety of such grow on all wild lands, and any of them are good if the trunk of the tree be smooth, with plenty of sap. A small orange tree affords a good trunk for vanilla to grow to. If, while clearing the land, there be not enough of such trees found already growing, to plant the desired number of vines (there should be from 1,500 to 2,000 vines to the acre) enough should be planted, selecting the kinds that make the most rapid growth, which exist in abundance, and are destroyed by the thousands in nearly every new clearing of land. The ground should be kept clean from weeds. All under-growth should be thrown around the vines to decay and serve as manure for the roots. The ground around the roots should not be disturbed. One or two vines should be planted to each tree, and tied at first to the trunk with some flat, flexible band, such as strips of cocoanut leaves or plantain fibre. Round cord should not be used, as it is liable to cut and injure the green, succulent stem of the vine. Live-stock are never permitted on a vanilla plantation. The stems and roots of the vine are disturbed as little as possible.

THE VINE NEEDS NO CUTTING OR PRUNING,

and all other wild vines are cut out and kept from choking the vanilla vines. The trees should be topped to prevent too high a growth, so that the flowers can be reached from the ground. Light and ventilation beneath, shade from the sun above, rest and plently of moisture – but free from standing surface water— are the prime requisites for the growth of vanilla vines. One peculiarity of the vine is that after three or four years' planting, the stem will rot off at the roots, and continue to rot three to four feet up the vine, while the top looks green and flourshing. In the meantime, from above where it is going to rot, it shoots out fine little rootlets like threads, and continues them to the ground. So delicate are these threads running along the trunk of the tree, and so prominent the rotted off end of the stem, that it gives the vine the appearance of living independent of the earth, thus giving rise to the theory that it is an air plant. It will sustain itself in a severed state, but to make material growth and fruitage it must connect itself with mother earth. The new vine will commence bearing the third year from planting, and full crops may be expected the fifth year. A vine will bear from 15 to 45 beans a year. Some vines have been known to produce as much as 65 beans at one time. Twenty beans to a vine is a good average. Rarely do those who grow the beans cure and market their crops. Some buy the green beans and make a business of curing and exporting them. Consul Jones says that judging from the way they all get rich at the business, and the difference between the price at which they buy the green bean and the price at which they sell the cured, there must be more profit in the curing than in the growing. Still, in view of the price of vanilla, and the demand for it all over the world, there are large profits for both parties. Wild lands suitable for vanilla can be bought for £1 to £2 per acre. There are vanilla-producing plantations in the vicinity of Papantla that could not be bought

FOR £100 PER ACRE.

Various estimates have been furnished as to the cost per acre of converting wild lands into vanilla-producing plantations. Approximately, £17 an acre is correct, which is very moderate for so profitable a plant. The greater part of the vanilla in the district of Tuxpan is grown about Papantla, much of which is exported from Vera Cruz, it being easier to reach Vera Cruz by water than Tuxpan by land. The two busy seasons of the year are during the pollenation months—March, April and May, and the gathering months—November, December, and part of January. During the balance of the year the plantation should have absolute rest, other than keeping down the weeds and undergrowth. Many of the beans are gathered in October, sometimes before they reach their growth, by those who see an opportunity of gathering them unknown to the owner, or by the owner, for fear of losing them, because he has not his vines where he can watch them. Beans gathered too soon are woody and inferior in quality, lacking the oil that furnishes the flavour. Good ripe beans lose but little of their weight while curing; 5 lbs. of green beans will weigh 4⅓ lbs. when cured. The quality and flavour are increased by allowing them to mature and by the proper curing. The curing is principally done by Spaniards who have followed this business. The process adopted is slow and laborious. The secret is to evaporate the water while retaining the oil, and to take care not to injure the flower. Vanilla is principally exported from Mexico to the United States—about £400,000 worth annually.—*Journal of the Society of Arts*, April 21.

COFFEE CULTURE.

Some interesting facts about coffee are printed in the second number of a little magazine called "*The Brazilian Bulletin*," the organ of Mackenzie College in Brazil. The writer of the article was able to learn little of the early history of coffee, although it has been in use at least 1,000 years. The very origin of the name by which the little berry is known is obscure. It has been said that the word came from the Arabic *kahwah*, but this is a doubtful conclusion, as coffee did not originate in Arabia. A somewhat better explanation is that it took its name from Kaffa, in Abyssinia, where it is found growing in a wild state.

The coffee plant belongs to the genus *coffea*, and is an evergreen. It usually grows from a single shaft, although sometimes six or eight slender trunks form the plant. Its leaves are smooth and dark green and the flowers of the plant are fragrant and white. The berries themselves, the essential part of the plant, are formed in clusters of from three to twelve in number, and have very short stems or none at all. In size the berries are, when ripe, about as large as the ordinary cranberry, and they resemble that fruit rather closely also in shape and color. In each berry are two little seeds, each a little irregular half-sphere, surrounded by a yellowish, sweet pulp that must be removed by one process or another. The berries must be polished to put them in shape for the market.

Those familiar with the produce market may remember seeing the expression male-berry, or pea-berry. Sometimes the berry contains only one seed, which is almost round, and this seed has taken the name "male." Much of the Mocha coffee is of that sort, and it is found in several places to some extent.

In the several varieties of coffee there is no very great difference, and what there is may be the result of differences in climate and other conditions that affect fruits in general. The *Coffea arabica*, as it is known in science, is a shrub from four to eight feet high with leaves a little broader than those of the common Brazilian native plant. The *Coffea liberica* is a tree in size and appearance and often reaches the height of thirty feet. The plant can be grown anywhere beyond the reach of frost, and where there is not excessive dryness or moisture. It thrives best on the steep slopes of mountains, about 1,000 feet above the sea-level. It has thrived, on the other hand, on the Brazilian plains and other lands that are properly drained for the purpose.

The planter has to wait from three to five years before his young trees begin to bear to any extent. The richness of the ground in which the plant is placed is an important factor as to this. Trees, if properly cared for, will bear good crops for twenty or thirty years, and even longer in many places. In many of the coffee producing countries the average tree yields only a little more than a pound to a crop. In Brazil the average yield of a tree is anywhere from three to six pounds. The advantage of the Brazilian growers, if this statement is accepted, is evident. The comparison made by the writer is given here:

"The rapid decline of coffee planting in the West Indies," says the article, "and its total failure in Ceylon and many other parts of the East, leave Brazil with but few strong competitors. Brazil now produces two-thirds of all the coffee in the world."

When one reads of coffee and its market, one finds many confusing names used to designate the different kinds of the berry. These names refer to the place from which the berry is shipped. Practically, all the coffee in the market belongs either to the Liberian or the Arabian class. The Brazilian Government has spent much time and money in the effort to introduce into that country the best plants, and there are now large plantations in Brazil where nothing is grown but pure Java coffee, from imported seeds, and others where nothing but the pure Bourbon or the pure Mocha is produced.

Adulteration of coffee is a common practice among merchants. An almost endless variety of ingredients, none of a harmful nature, are used to cheat the buyer. Among the ingredients used are chicory (which is the best known), carrots, dandelion root, barley, buckwheat and corn. These ingredients do not contain the caffeine, or theine, the particular chemical part of the berry that is pleasing and beneficial; they are found, too, only in the ground coffee, although some disciple of the wooden-nutmeg-way of doing business did actually counterfeit the green berry during the recent reign of high prices, by moulding a mass of some unknown ingredients into the shape of the coffee berry and then flavoring it with extract of the real article. Low prices, however, do away with adulteration.

The writer gives high praise to the healthful qualities of coffee. This is what he says: "As a beverage, coffee is valuable for its stimulating influence upon the system; it produces a buoyancy of feeling with no unpleasant reaction, lessens the sense of fatigue and sustains the body under prolonged muscular strain. Coffee contains less tannic acid than tea, and does not disturb digestion; it refreshes and stimulates, while it retards tissue. If the seed is roasted to a reddish brown it loses 16 per cent. in weight and gains in bulk 30 per cent. If the roasting is carried on until the berry is a dark brown it loses about 20 per cent. in weight and gains 50 per cent in bulk. In roasting the percentage of caffeine is lessened and the aroma increases. This aroma is a fleeting quality of the coffee, for it fades away quickly if the berry is kept long after being roasted, and to preserve this quality the roasted coffee of trade is covered with some substance, such as the white of eggs."

In Brazil, the host tenders to a visitor the cup of coffee, as in Japan and the East the cup of tea is offered. This coffee is ground and roasted on the spot every time it is served. The Brazilians know how to prepare the drink, too. Instead of steeping it or boiling it, they pack the finely ground berries in a conical bag, and pour two draughts of boiling hot water through the mass. That makes a real cup of coffee.

The writer observes that the Brazilian coffee-growers, in many instances, have been addicted to furnishing quantity rather than quality to the consumers, and also, that the expense of production has been against them as compared with planters in other countries. This, it is hoped, will change in time, for coffee is a crop that the small farmer, who has not appeared to any great extent in Brazil, can more easily raise. One farmer can easily take care of from 2,000 to 10,000 coffee trees while he is cultivating his corn, rice, beans, and other products and caring for his cattle. While the price of coffee was high, the Brazilian planters almost invariably raised that crop exclusively, and thus lessened their income; when the price of coffee went down, the Brazilian planters were left in the lurch, and could not get their coffee to market without a loss.

When the coffee area in Brazil was somewhat limited, the crop was open to the dangers of excessive and sudden changes of the climatic conditions. Now, the area devoted to coffee is so large that no purely local accident or mishap can ruin the crop entirely, and the range of latitude in the area is so great that, when the coffee plants are blossoming in one part of Brazil, the ripe fruit is gathered in another. Thus, the market is supplied throughout the year.

"It is a singular fact," the author says, "that while English and German capital has been attracted to the coffee industry of Brazil, and large sums have been invested, American capital and enterprise have not seen this fine opening; which is particularly attractive to the small farmer, but have been looking up the same thing in the Sandwich Islands and Mexico, where the conditions are less favorable."

The inducements offered to the small farmer of coffee are attractive. The process of laying out a coffee orchard is described as very simple. The farmer first cleans the virgin forest by cutting down the trees in his way. When the trees are dry they are burned and the land is divided off into squares. This can be done, it is said, at an expense of from $37 to $54 an acre. The holes for the plants are dug from eight to twelves feet apart, and from six to eight inches deep. The process of planting is varied by the planters, some preferring to plant young trees that have been started in nurseries, others to plant the seeds in the orchard. Two or three seeds are put into each hole, which is covered with a roof of bark or chips, and this is kept on until the plant can bear the hot sun. Corn and beans can be planted between these holes for the first two years. The coffee tree at bearing age has cost the small farmer from about 27 to 54c. The small farmer can give to his coffee a degree of attention not possible on a large estate.

THE MARCH COFFEE MOVEMENT IN THE STATES.

The March deliveries of coffee in Europe and the United States were heavier than for any preceding month during the present trade year: in fact, if April and May of 1898 are excluded, when coffee was withdrawn to anticipate a duty, they are the heaviest for any month on record. It is evident that low-priced coffee has very largely increased consumption. Formerly tea was the cheaper beverage, but now it is coffee, and the result is that it has become the most popular drink in the United States.

Based upon the records of the United States Bureau of Statistics, we are enabled to compile the following table showing the beverages most in favor and their comparative use, for the fiscal year ending June 30, 1898:

	Gallons.
Coffee	1,324,250,520
Liquors, all kinds	1,266,804,738
Tea	547,890,180

The above estimate is made by taking the average yearly net imports of coffee for two years, allowing 16 per cent. for shrinkage in roasting and estimating that every pound of coffee makes two gallons of beverage; while every pound of tea is estimated to make six gallons of infusion.

From the April 1 report of the New York Coffee Exchange we compile the following table showing the deliveries in the United States for the first three months of 1899, as compared with the same period in 1898:

	1899.	1898
January	568,087	560,754
February	431,321	452,505
March	673,133	531,284
Total three months	1,672,541	1,544,543

The following table shows the movement and supply during March:

	Bags.	Bags.
Total stocks, March 1, 1899—		
United States	1,277,057	
Europe	3,687,987 =	4,965,044
Arrivals during March—		
United States	605,675	
Europe	729,353 =	1,335,028
Total supply, March 1, 1899		6,300,072
Less stocks, April 1, 1899—		
United States	1,209,599	
Europe	3,773,959 =	4,983,558
Deliveries, March, 1899		1,316,514
Deliveries, February, 1899		1,046,961
Deliveries, January, 1899		1,132,355
Deliveries, December, 1898		1,260,445
Deliveries, November, 1898		1,131,930
Deliveries, October, 1898		1,050,270
Deliveries, September, 1898		1,131,838
Deliveries, August, 1898		963,052
Deliveries, July, 1898		822,450
Total deliveries, 1898-99		9,855,315
Total deliveries same time 1897-98		10,415,395
Total deliveries same time 1896-97 ...		.. 9,060,399
Total deliveries entire year 1897-98		14,571,902
Total deliveries entire year 1896-97		12,244,204

The total visible supply of the world on April 1 was 6,515,558 bags, against 6,174,766 bags at corresponding date in 1898— a gain of 340,792 bags, but 85,205 bags less than January 1, 1899, and 613,242 bags smaller than on November 1, 1898, when the total visible supply reached the highest point on record, or 7,128,800 bags

The total receipts of Rio and Santos coffee from the crop of 1898-99 (July to March) were 7,503,000 bags, or 1,660,000 bags less than for the same time in 1897-98, but 90,000 bags more than in 1896-97.

The official spot quotation of No. 7 Rio in March was 6 1-16 cents (the lowest) and 6 3-16 cents (the highest), against 6½ to 6¾ cents in February, 1898. Fair to good Cucuta brought 8 to 8¾ cents, and Padang Interior 24½ to 25¾ cents.

It is worthy of note that the monthly deliveries from last September to April 1 show no such wide differences as marked those during the spring of 1898, when the duty question was before Congress. As they declined below the average during June, July, and August, it is reasonable to conclude it was due to the excessive withdrawals in April and May, and that the deliveries for the past few months represent the normal requirements of the country.

It is apparent that the receipts of Rio and Santos in 1898-99 will be close to 9,000,000 bags, being about 1,500,000 bags below the crop of 1897-98, but larger than any preceding crop. If the 1899-1900 crop is up to or beyond the average crops of the past three years, there need be no fear of much of a rise in coffee. In fact, if the supply should be very heavy, coffee might go lower. The present visible supply is equal to nearly one-half the yearly production of the world, and an insurance against any radical upward movement. The cost of carrying this visible is no greater than at the time when it was one-half less.—*American Grocer.*

DISTRICT ASSOCIATIONS.

NILGIRI.

Proceedings of the Annual General Meeting of the Nilgiri Planters' Association held at the Masonic Hall, Ootacamund, 10th May, 1899. PRESENT:—Messrs. Wapshare (*Chairman*), W. L. Edmiston, J. Harding Pascoe, A. L. Alexander, T. Kenna, A. S. Crum, J. T. F. Wilson, J. Stanes, H. Sheldrich, S. Bayley, the Honorable Mr. H. Percival Hodgson, and Mr. E. G. Windle, Honorary Secretary.

1. Proceedings of last meeting were taken as read and confirmed.

2. The Honorary Secretary's Annual Report and Statement of accounts were read as follows:—

"MR. CHAIRMAN AND GENTLEMEN,—The Annual Report for 1898 is as follows:—At our last Annual Meeting the number of members was 74. During the past year 4 have left the District, whilst 3 resigned, and 2 were unable to continne their subscriptions, owing to the hard times. Two new members have joined, so that our number is now 67. Accounts for the year are:—*Receipts:* Balance on hand on 1st January, 1898, Rs.567-13-11, Subscriptions received for Lady-bird Fund, Rs.1,850, Other subscriptions, Rs.847-1-0, Due to Honorary Secretary, Rs.123-4-10; total, Rs.3,388-3-9. *Disbursements:* Remitted to Lady-bird Fund, Rs.2,125, Balance of Subscription to U. P. A. for 1897-98, Rs.272, Part of Subscription to U. P. A. for 1898-99, Rs.250, Delegates' expenses, Rs.200, Writer for 13 months, Rs.260, Mr. Kenworthy Brown, Rs.52-8, Rewards for Coffee Theft cases, Rs.45, and General expenses, Rs.183-11-9; total, Rs.3,388-3-9. With reference to the balance due to the Honorary Secretary, there were 19 subscriptions unpaid for 1898, which will more than cover this amount. The accounts have been audited by Messrs. Gerrard and Morgan and are laid on the table. The proceedings of the U. P. A. will be familiar to you all. We cannot sufficiently regret the complete failure of the experiment of importing Lady-birds, an experiment to which the members of this Association contributed so largely. The reason of the failure is not evident; the most likely supposition appears to be that the thawing out of the Lady-birds was not sufficiently gradual. No further action has yet been taken, but the matter will not be allowed to drop, and, in the meantime, some useful information has been collected, whilst further efforts will no doubt have the advice and assistance of Mr. Barber, the lately appointed Government Botanist.

In the matter of an Agricultural Chemist, the Mysore Government has been the first to show the way, and we may hope to hear from Mysore planters at the Bangalore Conference how the new departure is progressing. The sittings of the Currency Commission still continue, and planters will notice with satisfaction that a large number of experts agree with them that the re-opening of the Mints is advisable. The results of the Planters' Enquiry Commission have now taken shape in the form of orders passed by the Government of India, requesting the Madras Government to draw up a Labour Ordinance for the relief of the special disabilities dealt with by the Commission. From the sympathetic attitude which the Madras Government has consistently shown to planters in this matter we may be assured that no unnecessary delay will take place and that any representations made by the Planting Member of Council during the inception of the Bill will be carefully considered. The Association views with some alarm a tendency on the part of Government to reduce expenditure on the District roads; this was shown by its desire that the services of the D. B. Engineer should be shared with the Ootacamund Municipality, and by

the allotment of a portion of the current up-keep funds to expenditure in plague precautions. Those who live in a Hill District are well aware of the outlay necessitated by sudden storms and steep gradients, and this Association earnestly deprecates what it must consider to be a retrograde step. We have been fortunate in escaping the plague hitherto. All possible precautions have been taken by the Collector, and information circulated as to the proper steps to be taken both to avoid and treat the disease. The opening of the Nilgiri Railway is still in the future. Coffee thefts have been few: in those detected the Association has gratefully to acknowledge the energy of the Police, to whom a reward has just been paid on the strength of the recommendation of the District Magistrate, Coimbatore, when delivering judgment in an appeal against a conviction for theft by the Acting Head Assistant Collector, Mr. S. G. Roberts. Postal irregularities are as numerous as ever, but your Honorary Secretary having failed to obtain any satisfaction in any one of the numerous complaints sent in by him, can only suggest that the Director-General of P O. in Calcutta be addressed on the subject. The past season for coffee was a good one, as far as quantity of crop was concerned, in the greater part of the district, but quality generally was indifferent, whilst the fall in prices besides being the most rapid and severe experienced during the last 25 years has reached an unprecedentedly low level. Offers during October, 1898, were at the rate of Rs.1,000 per ton uncured, whilst in March, 1899, the prices fell to Rs.640 per ton, and in some cases no offer could be obtained. The main reason for the fall was of course the swamping of the markets by the large Brazilian crops, but it was and has been noticeable throughout that a very few really fine marks of E. I. coffee, to a certain extent, maintained their values. That quality, for the past two or three years, has, as a rule, been poor, is undoubted, and this brings us to the question as to whether the deterioration is due to causes entirely or partly within our control. We are agreed that the bean cannot develop normally without a sufficiency of moisture, and some consider that the partial failure of the monsoons sufficiently accounts for poor quality. Leaf-disease was worse last year than it has been for some time, but the attack came on too late to affect the quality of the bean, which has suffered on highly cultivated estates equally with others on which less work was done. Another opinion is that the artificial cultivation combined with leaf disease during a long term of years has deteriorated the plant, and that a remedy is to be sought by introducing other strains, in other words, new blood. The subject of deterioration has been discussed by this Association and will be brought up again to-day; it is needless therefore to dwell upon it further here. One thing is certain, that coffee planters must reduce all expenditure to the lowest possible level if they are to pay expenses, with present prices, and that other products should be carefully looked for. In any case, a continuance of these prices, which seems but too probable, must mean ruin to many and the survival of the fittest. Prospects for the coming season began fairly, though even at low elevations the coffee would have been the better for another fortnight of dry weather. Blossoms, however, were on the whole good, but the remarkable burst of monsoon weather as the flower opened injured it considerably and spoilt the setting of much of the blossom, estimates of damage done on different estates ranging from 7 per cent to 80 per cent. The attention of coffee planters is drawn to Mr. John Cameron's report of his visit to Coorg It is to be hoped that he will publish regular accounts of the experiments in hybridising which he alludes to, and which we would have liked to have heard more about. A careful periodical report by Mr. Cameron on Mr. Mockett's Mysore hybrids would be most interesting and would probably advance coffee culture more than anything else. At present such different accounts of the results obtained by Mr. Mockett are in circulation that planters are uncertain as to what to believe. but there is no doubt that a report from a practical botanist would do much to clear up doubts. The year 1898 as regards prices for tea in the home market has been one of the worst experienced by planters for some time; happily at the date of writing these remarks prospects are much brighter In the words of Messrs. Gow, Wilson and Stanton, who make tea statistics a specialty, "The tea-producing industry has been passing through a severe crisis," from which let us hope it has emerged. The average rate of exchange during 1898 was 1*s.* $4\frac{3}{16}$*d.* against 1*s.* $3\frac{15}{32}$*d*, in 1897, and the average price for *all Indian* teas in 1898 was 8 30*d.* per lb. against 9 in 1897. A glance at figures will show that the year 1898 compares unfavourably with these the previous year both as regards exchange and price of tea. The statistical position of tea is now very strong. Some six million pounds of British grown tea was consumed in the United Kingdom in 1898 in excess of the previous year, while new markets took ten million pounds in 1898 in excess of 1897. These figures are most encouraging. At the present time consumption has more than overtaken production.

Referring more especially to our own District (the Nilgiris and Wynaad) the season 1898 as regards yield can hardly be termed a favourable one owing to partial failure of North-East rains, nor were the prices obtained for Nilgiri Teas in Mincing Lane Market with a few exceptions what high grown flavory teas should fetch. Those best entitled to speak on the subject attribute this to want of attention on the part of large buyers being given to small breaks, whilst others with whom this Association is inclined to agree, attribute it to the fact of some gardens not having fully equipped factories, and more especially inadequate withering accommodation, which latter is against the production of good teas Wynaad planters have every reason to be pleased with the prices now being obtained for their teas, which with the large yield per acre obtained in that district and consequent cheap of production leaves a fair margin for profit. Cinchona prices have greatly improved, and in spite of the recent re-action, the position is good, with a fair prospect of its continuance if not of a further improvement. Unfortunately, there are comparatively few plantations left in this district. This Association notices with regret that Government has resumed planting operations. The Association, whilst regretting the illness which led to the loss to the district of its late Collector, Mr. Butterworth, must congratulate itself on the good relations existing between its members and the courteous district officials. The resignation of the Honorary Secretary and Committee are now placed in your hands."

The Report and Statement of Accounts were passed.

3. Mr. E. G. Windle was re-elected Honorary Secretary, and the following gentlemen were asked to serve on the Committee:—The Honorable Mr. H. Percival Hodgson, Messrs. Wapshare, Nicholson, Edmiston, R. James, Mullaly, J. Stanes, T. Wilson, Wilbraham, Sheldrick, Grey, Pascoe, Buchanan, and A. K. Haji Fakeer Mahomed Sait.

4. **Delegates to U.P.A.S.I. Meeting.**—Messrs. Edmiston and Windle were elected.

5. **Proposed Labour Ordinance.**—The Honorable Mr. Hodgson reported progress to date.

6. **Mr. J. Cameron's Report of Visit to Coorg.** Recorded. Copies can be obtained at the "P. O." Office or Messrs. Higginbotham & Co. Price 8 annas.

7. **Adulteration of Coffee.**—Read letter from Secretary, U. P. A., and copy of Honorary Secretary's reply, dated April 14th, 1899. Resolved, the Honorary Secretary's reply is approved of and that the matter be referred to the U. P. A. S. I. with the support of this Association.

8. A reward of Rs 25 to Inspector Brito, for his services in working up coffee-stealing case, was passed.

9. **Deterioration of E. I. Coffee.**—Mr. Hodgson introduced the subject, comparing E. I. curing with S. American methods. Messrs. Stanes and Windle mentioned that enquiries in London went to show that the latter mode of curing would not suit E. I. coffee. Resolved, that the subject be brought up for discussion at the Annual Meeting of the U. P. A. S. I.

10. **Importation of Lady-birds.**—This was also brought up by Mr. Hodgson, who referred to the success attending the sending of Lady-birds by post from the Cape to Ceylon. The Honorary Secretary was asked to write to Mr. H. O Newport, requesting him to forward a trial consignment by this method.

11. **Planting Produce at the Paris Exhibition.**—Read letter from Secretary, U. P. A., dated 11th April 1899. The Honorary Secretary was requested to write to the Secretary, Indian Tea Association, asking if a coffee-room can be established in conjunction with the proposed tea-room, and the probable expense of so doing.

12. **Indian Tea in Australia.**—Read letter from Secretary, U. P. A., dated 18th March 1899. Recorded.

13. Plague notice issued January 27th, 1899, by S. G. Roberts, Esq. Recorded.

14. **Madras Land Bill.**—Letter from the Collector, Nilgiris, dated 18th March 1899. Resolved, that the matter be referred to the Planting Members of Council.

15. **Export of Indian Tea.**—Letter from Secretary, U. P. A., dated 19th April 1899. The Honorary Secretary was requested to write to coast agents asking for figures.

16. **Postal Irregularities.**—Proposed by Mr. Edmiston, seconded by Mr. Sheldrick, that complaints of mistreatment and non-delivery of letters, etc., througout this district being now so frequent, members of this Association do in future collect and forward to the Honorary Secretary such covers as may have been wrongly dealt with and full particulars of such cases of non-delivery as may come within their notice, to be forwarded to the Director-General of P. O. Carried unanimously.

17. **Lowering Rates of Labour.**—The Honorary Secretary mentioned that it was proposed in the Kotagiri district to lower rates of pay, and that he was convinced this could be done and would be done with local labour, but that if imported labour was to be dealt with other districts tapping the same sources of supply must join. The Honorable Mr. Hodgson thought that rates could not be touched.

18. A vote of thanks to the Honorary Secretary for his sevices was passed unanimonsly.

A vote of thanks to the chair closed the proceedings.

N.B.—Local rates of pay have now been reduced on the Kotagiri ghaut to Rs.5-8 a month for men and Rs.4 for women, and have been accepted. Imported labour has also been warned of a reduction. It is hoped that other parts of the district will combine to effect a similar saving. Contractors' rates are also being reduced.

MARKET REPORT.

By Mail advices of 28th April, 1899.

COFFEE.

The *London Commercial Record* says:—The supplies at auction continue far in excess of the time available for their disposal and there are consequently considerable arrears which have yet to be offered. The position was made worse yesterday by the dark state of the atmosphere in the morning, preventing samples being properly examined, and only a small portion of the quantity due to be offered was brought to the hammer. Practically there is no material change in the position of the market, as there has been a continued good demand for all colory qualities. with an occasional advance for the superior samples, whilst grey and inferior grades have again been very difficult of sale at rather easier prices. Ceylon brought prices over those obtained for similar quality of other growths. Jamaica was cheaper. There have been slight fluctuations in the market for futures, closing about 3d to 6d cheaper, *viz.*:—

London	Santos	July delivery	28s 3d
New York	No. 7 Rio	„ „	5.15 cents.
Hamburg	Santos	„ „	28¾ pf.
Havre	Santos	„ „	34¾ francs
Holland	Good ordinary Java		27 cents.

Imports, Deliveries and Stock of Coffee in London are as follows:—

		Stock.		Imports.	
		1899.	1898.	1899.	1898.
West India	tons	880	687	861	1,149
Ceylon	„	134	106	203	125
East India	„	3,901	2,662	4,787	3,411
Mocha	„	427	474	182	271
Brazil	„	4,026	3,134	1,088	1,317
Other Foreign	„	9,443	6,885	9,154	9,971
Total tons		18,811	13,948	16,275	16,244

		Home Consumption.		Export.	
		1899.	1898.	1899.	1898.
West India	tons	107	174	276	618
Ceylon	„	45	59	89	77
East India	„	730	810	1,082	1,044
Mocha	„	225	248	39	47
Brazil	„	323	438	397	621
Other Foreign	„	3,629	3,051	4,965	4,706
Total tons		5,059	4,780	6,848	7,113

The preceding figures exhibit—

In the Imports an increase this year of	31 tons.
Home Consumption an increase of	279 „
Export a decrease of	265 „
Stock an increase of	4,863 „

Auctions this week have passed off as under:—

Ceylon.—*Plantation.*—7 casks 7 tierces 14 barrels 14 bags sold—smalls 43s 6d to 47s, medium to bold brownish 55s to 70s, low middling 86s 6d to 96s 6d, bold 104s to 108s, pea-berry 55s to 104s.

East India.—6,530 bags mostly sold as follows:—*Mysore*, smalls 30s to 70s, low middling 51s 6d to 55s, middling to good middling 60s 6d to 73s, dull bold 79s to 82s, good to fine 98s to 112s, pea-berry 55s to 114s; *Coorg*, smalls 35s to 43s, low middling gray 50s to 56s 6d, middling to good middling 57s 6d to 67s, fine middling 83s bold faded gray 79s to 80s, good to fine colory 83s to 101s, pea-berry 73s to 100s; *Shevaroy*, smalls 45s, low middling 49s 6d, bold 71s, pea-berry 70s; *Naidoobatum*, small 39s 6d to 48s, low middling to middling 57s to 66s, good middling 71s 6d, bold good to fine 91s to 104s 6d, pea-berry 89s to 107s 6d; *Neilgherry*, smalls 30s to 45s 6d, low middling to middling 52s to 60s, bold 72s 6d to 88s 6d, pea-berry 60s to 77s 6d; *Wynaad*, smalls 43s, low middling 52s to 55s, bold 73s to 78s 6d, pea-berry 72s; *Nelliampathy*, smalls 41s, low middling 52s 6d to 53s, bold 75s 6d.

Jamaica.—Of 91 barrels 191 bags offered a small part sold, ordinary greenish 30s, good to fine fine ordinary 38s to 44s 6d, middling blue 60s, pea-berry 37s to 50s.

Costa Rica.—3,914 bags mostly sold, smalls 37s to 39s 6d, ordinary to good ordinary brownish 32s to 39s, fine ordinary 40s, low middling dull 47s 6d to 52s 6d, middling to good middling 57s to 69s 6d, fine middling 75s 6d to 76s, bold good to fine blue 77s to 85s 6d, very fine blue 97s 6d to 100s, pea-berry 70s 6d to 105s 6d.

New Granada.—272 bags about half sold, fine fine ordinary dull greenish 40s 6d, middling ditto 49s 6d, bold 62s 6d, pea-berry 42s to 54s.

Salvador.—138 bags about half sold—middling soft blue 49s, good bold mixed 65s, pea-berry 75s.

Columbian.—300 bags mostly sold, fine fine ordinary to low middling gray 41s 6d to 46s, middling to good middling greenish 47s 6d to 56s 6d. good bold 60s, fine medium hard gray 72s 6d to 73s.

Cuban.—Of 128 bags offered 67 bags sold, smalls 34s 6d, good middling 61s, bold good 80s 6d, pea-berry 75s.

Vera Paz.—Of 517 bags catalogued 200 bags sold, middling bright gray 57s to 58s, fine medium blue 84s 6d to 85s, bold good hard gray 84s, very fine blue 104s 6d, pea-berry 75s to 90s.

Nicaragua.—414 bags sold, smalls 37s 6d, middling to good middling 55s to 59s, good bold 78s, pea-berry 83s.

Mexican.—222 bags sold, smalls 33s, low middling 44s to 46s 6d, pea-berry 46s 6d.

Receipts in Rio and Santos.

	1898-9.	1897-8.	1896-7.	1895-6.
Total	7,824,000	9,597,000	7,869,000	4,844,000
Crop	—	10,461,000	8,680,000	5,489,000

Rio Exchange 7 3/16d, previous day 7 1/32d.

Havre, April 27.—Santos good average April opened steady at 34f. and closed barely steady at 34f., May opened at 34¼f. and closed at 34f.

Hamburg, April 27.—Good average Santos April opened steady at 28pf. and closed dull at 28pf., May opened at 28¼pf. and closed at 28¼pf.

Auctions to-day consisted principally of East India, the assortment of which included some fine marks, which, however, only partially passed the hammer. Good qualities sold fairly well at steady rates, ordinary grades slow of sale.

Prices realized at auctions for some of the principal marks of East India:—

	MYSORE.					
	O	**A**	**B**	**C**	**PB**	**T**
Ubban Mockett ◇ Mysore	93-0	67-0	52-6	—	94-0	40-6
Sanderson K Mysore		80-0	60-0	44-0	85-0	35-0
Alikan Mysore		86-6	52-0	41-0	no	34-0
		86-0	bid		bid	
Mockett G ◇ Mysore		98-0	73-0	52-0	98-0	51-6
			72-6			
Do. B ◇ do.		96-0	66-6	46-0	96-0	46-0
				bid		
J P & H B Guntanaik ◇ Mysore		no	no	35-6	70-0	32-6
		bid	bid			
F G ◇ N Mysore		97-0	50-0	—	94-6	37-0
J R E ◇ Bupponji Mysore		70-0	50-0	42-0	79-0	33-6
		bid	bid		bid	

	0	A	B	C	PB	T
H C S Mysore		100-0	70-0	50-0	106-0	44-0
			71-0		105-6	
B A B Mysore		98-0	68-6	49-0	94-6	39-6
Gubgall Mysore		80-0	52-0	38-6	94-0	33-0
H E I Mavinkere Mysore ...		82-0	55-0	35-0	83-0	35-0
D B C Koosboor Mysore ...		98-6	69-0	48-6	92-6	41-6
Belgode Mysore	79-0	56-0	46-0	—	76-0	34-6
S ◇ Channahadloo Mysore ...	no bid	no bid	no bid	—	75-0	34-0
Merthi Channally Mysore ...	55-0 bid	42-0 bid	—	34-0	75-0	—
C S G S Dythamara Mysore...	80-0	63-6	39-6	—	no bid	35-0
	0	**1**	**2**	**3**	**PB**	**T**
Elliot's Mysore	85-0	59-0 bid	45-0	—	85-0 bid	33-6
Do.	78-0 bid	56-0	45-0	—	83-0	33-0
Norvayhegude Mysore ...	no bid	55-6 bid	37-0	—	85-0 bid	43-0
Cannon C ◇ M	109-0 112-0	83-0 bid	70-0	—	114-0	45-0
Jeccan U ◇ Mysore ...		82-6 82-0	56-0	44-0	85-0	36-6
Murkull U ◇ Mysore ...		80-0	56-0	43-0	83-0	37-6
Woger Mysore		84-0 85-0	57-6 57-0	43-6	90-0	36-6
Elliot's Mysore	85-0	54-0 bid	46-6	—	85-6	37-6
Sanderson A Mysore ...		76-0	54-6	44-6	75-0	32-0
Nabbi Sahib Hari Hasade Mysore (Cherry)		47-0	44-6	40-0	49-0	28-0
Yester □ Mysore ...	no bid	no bid	no bid	—	74-0	31-0

COORG.

	A	B	C	PB	T
Craïg's Eliza Coorg	80-0	53-0	39-0	83-0	35-6
Binny's Coorg Cannon Kadu ...	80-0	56-6 56-0	35-0	83-0	35-6
Hope Coorg Bamboo	77-0 bid	55-0	—	83-0	33-0
D B C Coorg	94-0	67-0	40-0	95-6	37-0
C S Coorg	93-0	65-0	40-6	95-0	43-0
C Palkinad Coorg M ◇... ...	84-0	59-0	41-0	92-6	43-6
Koogulbetta Coorg	80-0	53-6	39-0	87-6	36-6
W M B Attymangla South Coorg ...	79-0	53-0	39-0	81-0	37-0
D C G Kusboor Coorg	65-6 bid	49-0 bid	39-6	83-0 bid	35-0
St. Edmund's Coorg	74-6 bid	46-6 bid	33-0	84-0 bid	35-0
Mangles Allicutty Mountain ...	71-0 bid	47-0 bid	39-0	76-0 bid	34-6
A M Nellore	83-0	57-6	35-0	82-0	35-6
A B Acktoor...	no bid	45-0 bid	36-0	65-0	34-6
Hirekulali	90-6	60-6	43-0	80-0	40-0
A B Heroor	84-0	57-0	47-0	90-0	40-0
Mangles Santagherry ...	80-0 bid	53-6	—	85-0	37-0
Do. Hallery	82-0 bid	57-0	44-0	84-0	34-6
	1	**2**	**3**	**PB**	**T**
F ◇ Dunkeld Coorg	81-0	59-0 58-6	43-6	86-0	34-6
W W F ◇ B	85-0	59-0	—	94-0	43-0
Trelawny's Perambo Colly ...	84-6	59-6	—	85-0	36-0
C C Bollaras Estate	73-0 bid	52-6 bid	—	84-0	35-0
A & Co. Kana Kadu	70-0	45-0 bid	43-0	no bid	36-6
Robinsons Kaima Betta... ...	83-0 84-0	57-6 58-6	— —	86-0 bid	37-6
Moypardie	72-0	50-0	—	73-0	34-0
Salisbury	no bid	no bid	33-0		31-0
Wright's Hooroor	81-6	53-0	—	80-0	36-6
K C Sidapur	84-6	57-0	39-0	82-0	36-6
Wood Suntikoppa	74-6	46-6 bid	—	78-6	34-6
Cockerton's Hooroor Coorg ...	69-0 bid	no bid	—	80-0 bid	41-0
H C W Billikeray Mountain ..	101-0	83-0	67-6	100-0	35-0

NEILGHERRY.

	A	B	C	PB	T
Devon Nilgiri	72-6	52-0	40-0	77-0	36-0
Woodbriar Nilgiris	78-0	54-0	45-0	77-6	36-0
Devon Nilgiri	78-6	55-0	39-0	74-0	34-6
Waverley	76-0 bid	53-0 bid	bid no	—	34-6
Gadbrook	71-6	51-0 bid	39-6	bid no	34-0
Kotergherry G A	87-6	55-0	—	85-0	30-0
Palmer	54-0 bid	43-6 bid	38-6	58-0 bid	32-6
Tudor Valley	75-6	56-0	43-6	60-0	37-0
Waterfall	88-6	60-0	45-6	77-0	35-0

NELLIAMPATHY.

	A	B	C	PB	T
OCC Alexandra	78-0	53-6	—	79-0 bid	36-6
Do. Victoria ...	78-0 bid	53-0 bid	—	no bid	35-0
Nelliampathy Manalaroo ...	75-6	53-0 52-6	41-0	79-0 bid	34-6

WYNAAD.

	A	B	C	PB	T
Avondale Nellacotta	72-0 bid	no bid	no bid	no bid	33-0
Clifton do.	no bid	no bid	no bid	no bid	34-0
Wynaad P & Co.	73-0	52-0	43-0	72-0	36-0
Do. do.	78-6	55-0	43-0	70-0 bid	34-6

NAIDOOBATUM.

	A	AA	B	C	T
Guynd W P C	104-6	99-6	66-0	48-0	93-0
Do. do.	103-0	96-6	63-6	44-6	85-0 bid
Kelly do.	108-6	101-6	71-6	48-0	107-6
Sandy Hills do.	103-0	98-6	65-6	45-0	95-0
Helen do.	102-6	91-6	61-0	41-0	82-0 bid
Lauriston do.	96-0	91-0	57-0	39-6	89-0
Naidoobatum T		50-0	51-0		

SHEVAROY.

	A	B	C	PB	T
Carara	71-0	49-6	45-0	70-0	34-6

TEA.

INDIAN.—There was a considerable shrinkage in the amount brought forward at public sale, the total being 14,100 packages contrasted with 24,400 packages in the week before, and 31,500 packages for the corresponding period of 1898. Demand was not very brisk and dealers generally were disinclined to operate at previous rates Importers on the other hand being unwilling to accept any marked reduction a large proportion was withdrawn. Prices in the case of desirable liquoring invoices did not shew much change, but others as a rule sold at a further decline of ¼d per lb.

For 11,000 packages on garden account 9⅜d per lb. was obtained *versus* 8⅛ per lb. for 19,800 packages, and 7¼d per lb. for 8,700 packages in the two preceding years.

Totals printed during April:—

1899.	1898.	1897.
61,200 pkgs.	74,300 pkgs.	35,100 pkgs.

which will make the quantity put through the Mincing Lane Auction Room from 1st July 1,457,000 packages, against 1,455,000 packages last season.

CEYLON.—Only 17,500 packages were offered on Tuesday, opposed to 27,200 packages on the 18th inst., and 35,400 packages a year ago. Notwithstanding these limited supplies competition was somewhat restricted and quotations tended in favour of buyers, especially for Pekoe Souchongs and Pekoes drawing light infusions, which were ½d per lb. lower. Biddings for the better grades were mostly disappointing and as these are now comparatively cheap, it is to be hoped that they will shortly receive more attention from the trade.

The average is 8½d per lb. On the 20th inst. it stood at 8⅝d per lb. and 7¾d per lb. in 1898.

Catalogued for the month comprised:—

1899.	1898.	1897.
74,400 pkgs.	80,100 pkgs.	63,500 pkgs
(Avge. 8¼d per lb.)	(Avge. 7⅝d per lb.)	(Avge. 7¼d per lb.)

JAVA.—Rather under 400 packages of direct import passed the hammer, but without much alteration in values to notice. For the 1st and 8th prox. 512 packages and 331 packages are declared.

Offerings in April were :—

1899.	1898.	1897.
4,000 pkgs.	3,700 pkgs.	5,000 pkgs.
(Avge. 8¼d per lb.)	(Avge. 6d per lb.)	(Avge. 6d per lb.)

Deliveries.—The clearances of all tea (on which duty has been paid) from the London warehouses, as per official returns, were :—

From 1st to 25th April, 1899 ... ... *19,630,586 lbs.
„ „ 1898 ... ... 13,744,505 „

During the week the following have been printed for sale by public auction :—

	Sold.	Withdrawn	Total offered.
	Pkgs.	Pkgs.	Pkgs.
India ...	... 10,789	3,342	14,131
Ceylon ...	... 15,026	2,526	17,552
Java ...	... 368	—	368
Total ...	26,183	5,868	32,051

Also 453 packages from second hands.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated April 28th, 1899, states :—

QUANTITY BROUGHT TO AUCTION IN LONDON
FROM 1ST JUNE TO DATE.

	Indian.	Ceylon.	Java.
1898-1899 ...	1,520,420 pkgs.	1,017,519 pkgs.	43,311 pkgs.
1897-1898 ...	1,502,327 „	1,083,576 „	40,715 „

14,787 pkgs. Indian
17,686 „ Ceylon
368 „ Java
} Total 32,841 packages were offered in public auction this week.

Imports, Exports, and duty payments of Tea from 1st of June to the end of March are given below as shown by Custom House figures. Between that date and the 13th April duty was paid up on lbs. 14,860,778 mainly as a precaution against any possible increase in the duty, as against lbs. 5,784,410 during the same period last year.

Indian. The small auction passed with a slightly easier tone, a decline of a farthing per pound being frequently noticeable, many parcels being in consequence withdrawn. Apparently there is only a small amount of Indian Tea to be brought to auction during the remainder of the season, and the sale advertised for next week is less than 10,000 packages. The corresponding sale last year amounted to over 30,000 packages. During the whole of May, 1898, close upon 90,000 packages were catalogued.

Ceylon. A further general decline of ¼d. to ½d. per lb took place; but at these prices buyers operated readily. Teas over 8½d. per lb. are now as cheap as they have ever been, taking their good quality into consideration. Such teas did not receive any benefit from the recent advance, and as the decline above mentioned is general, such kinds are actually cheaper than they were some two or three months ago. Average for week 8·42d., against 7·81d. last year.

Ceylon Tea sold on Garden Account, 1st Jan. to date 1899, 331,175 pkgs., av., 8·47d. 1898, 372,059 pkgs., av., 7·63d.

Java. The small quantity brought forward was mostly sold at prices showing about a half-penny decline from the highest point of the market.

Bank rate 3 per cent. Exchange on London three months sight :—Calcutta 1/4 5/32. Colombo 1/4 5/32.

IN CANADA.

Cable advices immediately imparted a stronger tone to the stocks held on spot. During the past week there has not, however, been as many transactions between brokers and wholesalers as there was from the fact that stocks held by the latter are now fairly large, and in view of this, together with the hope they have that the present high range of values on low-grade teas will not exist for a great while longer, has caused them to be less eager buyers. A letter, however, received from Colombo, states that there are no prospects of a fall in prices for some months to come. "With the prevailing drought," states this letter, "planters find difficulty in making up estimates, and, unless we get some rain, some experts predict another shortage this year." On the local market, there have been, during the past week, transactions in low-grade Indian and Ceylon teas at 16c. which cost 12½c. within the last month. At the prices prevailing in London it would cost something like 19 to 20c. to lay down the lowest priced teas which are now selling on that market. There is very little being done in Japan teas, either from spot stocks or for future delivery.

COCOA.

Auction on Tuesday comprised 5,384 bags which quantity produced a very poor enquiry, even at an irregular decline in value of from 6d to 3s per cwt. No more than 1,900 bags sold under the hammer, but subsequently a fair proportion of the bought-in lots found buyers. Of 1,648 bags Trinidad offered 750 bags sold at 1s to 2s decline, viz., superior red 78s to 79s, good to fine ditto 71s to 75s, fair 70s, pickings 56s, black 53s. 121 bags fine red Grenada were quoted at 69s to 70s, a depreciation of 6d to 1s per cwt. 120 bags Jamaica retired unsold. 469 bags Bahia rather more than half sold at 68s for fair, being 1s below valuation. Of 437 bags Guayaquil catalogued, 20 bags old landed summer Arriba, wormy, sold at 72s. 43 bags Samana, 465 bags Venezuela and 66 bags African passed the hammer unsold. Ceylon was again well represented, the catalogues embracing 2,252 bags, but not much enthusiasm was evoked, barely 350 bags selling at 73s to 79s for fine to superior bold and medium red, 67s to 72s for fair to good ditto, 50s up to 61s 6d for pickings and 53s per cwt. for blacks, being 2s to 3s down.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

		1899.	1898.	1897.	1896.
Imports, B.P.	bags	69548	76624	57182	65712
Foreign	...	24148	46146	23707	24986
Home Con., B.P	...	30422	39941	31587	27829
Foreign	...	18656	20740	24529	21851
Exports, B.P.	...	18819	11305	17690	12910
Foreign	...	12356	10469	14894	7680
Stock, B.P.	...	65890	85217	85781	90797
Foreign	...	45710	48427	44503	71820

PEPPER.

Black.—The present week has been a very quiet one in this market, and value of Singapore on the spot in 1/16d per lb. cheaper—at 5 7/32d to 5 3/16d at which about 800 bags have been sold. For arrival the only sale reported is a little lot of 25 tons Singapore June-August shipment at 5½d per lb.

Auctions on Wednesday offered 40 bags fine shot Mangalore which sold at 8¾d; 109 bags Lampong, 100 bags Penang, and 80 bags Tellicherry, all of which passed the hammer unsold.

White is unaltered in value with business exceedingly small. On the spot small sales of fair Penang have been made at 7 13/16d For arrival a limited business has been done in Penang July-September (s.) at 8 1/16d.

At public sale on the 26th inst., 18 bags brownish Ceylon sold at 8d, while 408 bags Singapore were bought in at 8¾d, and 103 bags Penang at 8⅜d per lb.

Long.—80 bags fair grey partly sold at 38s per cwt., being dearer.

Sweet Red.—5 cases bought in at 55s per cwt.

GINGER.

Cochin—More moderate quantities were catalogued than has been the case for some time, 376 cases 503 bags being the total. Enquiry continues very poor and only 81 cases were placed—bold and medium roughly cut and scraped, limed 70s, medium and small ditto, rather wormy 37s 6d, small wormy 23s 6d, bold brown washed rough Calicut 33s to 33s 6d, mouldy ditto 30s per cwt.

African.—20 bags sold at 18s 6d per cwt for fair.

Jamaica.—The heavy quantity of 1,421 barrels catalogued proved far too much for the market, and it was necessary for holders to submit to a fall of from 4s to 7s per cwt in order to sell. Barely 600 barrels sold, the prices being 70s to 78s for fair to good bold and medium washed, 64s to 68s for leanish medium, 65s for medium hard plump washed, 60s to 63s for good ordinary dark, and 56s to 58s per cwt. for ordinary ditto.

St. Lucia—2 barrels dark brown rough realised 52s per cwt.

Green.—4 barrels brought 15s per cwt.

INDIA RUBBER.

The market continues quiet, with small sales of fine hard Para at 4s 2¾d to 4s 3d spot and forward. Negroheads, scrappy at 3s 5½d, Island at 2s 10d. Peruvian slab (scarce) at 2s 11½d, ball at 3s 4½d per lb. In to-day's auctions where importers met the market a fair part was sold at rather easy rates.

* Including payments made in anticipation of the Budget announcement.

CINCHONA.

The *Chemist and Druggist* says:—At the London auctions on Tuesday only odd lots of low-percentage bark found buyers at a decline of about 25 per cent. to 30 per cent. on last sales' rate, the unit value being 1½*d.* per lb., against 2¼*d.* at the previous sale. The nine catalogues comprised:—

	Packages offered.		Packages sold.	
South American bark (soft Colombian 1,817, Cuprea 668, yellow 191, Calisaya 61, Cartagena 38, red 90) ...	2,865,	of which	704	were sold
East Indian cinchona	779	,,	267	,,
Ceylon cinchona..	468	,,	86	,,
Java cinchona	342	,,	—	,,
African cinchona	99	,,	99	,,
	4,553		1,156	

The following are the approximate quantities purchased by the principal buyers:—

	Lbs.
American and Italian factories...	96,734
Brunswick factory	56,628
Frankfort-on-Maine and Stuttgart factories ...	11,154
Paris factory	9,088
Messrs. Howards & Sons	8,936
Mannheim and Amsterdam factories	7,640
Druggists, &c.	1,880
Total quantity sold	192,060
Bought in or withdrawn	598,140
Total quantity offered	790,200

The following prices were paid:—

African.—Fair quality chips, at 4⅞*d.* to 6⅛*d.*; broken quill and chips, 4⅞*d.* to 5¾*d.* per lb.

Ceylon.—Ledgeriana, original stem-chips, 8⅜*d.*; poor red original chips, 2¼*d.* and 3½*d.* per lb. for fair.

East Indian.—Ledgeriana, original stem-chips and shavings, 3⅛*d.* to 6*d.*; renewed, 3*d.*; Crown, original stem, 4¾*d.* to 10*d.*; renewed, 5*d.* to 7*d.*; root, 5⅛*d.*; original red stem-chips, 3*d.* to 3¾*d.*; ditto chips, 4¼*d.*; renewed, 3⅜*d.* to 5*d.*; Hybrid, original stem, 4½*d.* to 4⅜*d.*; root 4⅝*d.* per lb.

South American Bark.—The auctions included a large quantity of *Soft Colombian*, imported in 1882 to 1885. In their younger days 4*s.* to 4*s.* 9*d.* per lb. was refused for some parcels, but on Tuesday 5½*d* per lb. would have bought the best lots (said to contain 3¼ per cent. quinine sulphate), but buyers would not go above 3½*d.*, and after a few heroic attempts to sell, string after string was bought in at the limits. Bolivian cultivated *Calisaya*, flat, damaged, sold at 9*d.* to 9¾*d.* per lb., thin quill at 8*d.* per lb. *Cartagena*: 12 packages realised 1⅝*d.* per lb. for small and rather broken. *Guayaquil* red bark was all bought in at nominal prices. Some *Cuprea* bark, which long ago had eaten its head off, was sold at 1⅝*d.* to 1¾*d.* per lb. The soft Colombian and Cuprea represent, it is believed, a loss of 60,000*l.* to the sellers.

The bark sold to manufacturers on Tuesday represents 60,000 ozs. or thereby of quinine sulphate. They were low quality barks. It will be noted that the firms who generally buy most largely were on this occasion small buyers, because they declined to pay the prices asked by the sellers for the higher quality barks. The sales scarcely form a criterion for the quinine speculator, and these matters must wait next week's auctions at Amsterdam. There is total quantity of quinine sulphate in the bark to be offered equals 19,450 kilos. (680,750 oz.). The manufacturing bark contains an average yield of 5·52 per cent., against 5·26 per cent. in March, and 5·21 per cent for the ten auctions of 1898. How the sales will go is a knotty problem. The Java shipments last week were nil (so it is said). Meanwhile the arrivals in Amsterdam are large, no fewer than 1,410 packages having arrived by one vessel this week.

QUININE.

The course of this article has again been downward, and fruitless attempts were made by speculators to bolster up the market on Friday and Saturday last, but on Monday the improvement was lost, small sales being made for August delivery at 1*s* 4*d.*, and there were buyers for May delivery at 1*s.* 3½*d* per oz. On Tuesday, in consequence of the disappointing bark-sales, the market remained inactive, with sellers at 1*s* 4*d.* and buyers at 1*s.* 3*d.* for August delivery. Wednesday brought a further decline; a sale of 8,000 oz. of Zimmer's brand at 1*s.* 1½*d.* per oz. actually took place, and the two leading German brands, which have been the subject of so much speculation, dropped to 1*s.* 2½*d.* spot and 1*s.* 3*d.* August, but we heard of no sales at these figures, and by the afternoon prices had recovered by ¼*d.*, there being no eager sellers. To-day the market is again quiet.

Another report says:—

Sulphate of Quinine has fluctuated from day to day since our last. The article attracted an active speculative demand on Saturday, and, with few sellers, value of HB and B&S recovered at a bound to 1s 5d spot and May delivery, and 1s 5½d August. On Monday "all the wind was out of the sail," and value declined to 1s 3½d spot and May delivery, and to 1s 4d August. On Tuesday the market became utterly disorganized on the unsatisfactory result of the Bark auctions and without business the situation was 1s 4d sellers, 1s 3d buyers, all positions. On Wednesday matters improved, and after 1s 3d had been taken for 5,000 ozs. August delivery value recovered to 1s 3¾d. Yesterday (Thursday) a steady tone was manifest with sales at 1s 3d spot, 1s 3¼d May delivery, 1s 4d for August, and 1s 4¼d October. The sales in all do not exceed 60,000 ozs. To-day the market is firm and dearer.

Official Quotations.

Sulphate of Quinine—	*in tins.*		*in 1 oz. vials.*	
	s. d.	s. d.	s d	s. d.
Howards & Sons ..	1 8	@ 0 0	1 9 (for 1,000 ozs.)	@ 1 10
Thomas Whiffen ...	1 6½	„ 0 0	1 8½	„ 0 0
Brunswick ...	1 6	„ 0 0	nominal	
Mannheim ...	1 6	„ 0 0	nominal	
Auerbach ...	1 6	„ 0 0	nominal	
Zimmer Jobst ...	1 6	„ 0 0	nominal	
Milan ...	0 0	„ 0 0	0 0	„ 0 0
Taillandier ...	1 5	„ 0 0		
Amsterdam ...	1 6	„ 0 0	nominal	
Pelletier's ...	1 10	„ 0 0	0 0	„ 0 0

(Average for all India 9·18d.) *April 28th.*

Garden.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.
Neilgherry ...	**220**	**7·50**												
COA ...	20	7½	—	—	20	†7½ 7¾	—	—	—	—	—	—	—	—
New Hope ...	200	7½	—	—	43	7¾	—	—	—	—	157	7½7½	—	—
South Wynaad ...														
Kanambyle & Cher..	53	8¾	—	—	26	†8	23	†9½	4	7½	—	—	—	—
Travancore ...	**575 p**	**8·14**												
Isfield T Co Isfield...	74 p	7¾	—	—	34 p	8	18	8¼	22	7¼	—	—	—	—
Kanan Dev Hil A ...	122½c	9	—	—	34½c	8¾	50½c	9½	23½c	†8½	—	—	15½c	10
8th Trav Co Ven ...	117	8	—	—	50	8	57	8½	24	7½	—	—	6	6½
Stagbrook ...	73	8½	21	9¼	20	8	10	8	16	7¾	2	7½	4	6
Tav TEst Bon Ar ...	189 p	8	—	—	50	†7½ 8	58	†8½	12	7¾	8	7½	61	6½8½

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

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N.B.—Remittance, should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 2nd proximo. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, 23*rd May.*—*Weather*—Distinctly monsoonish last Saturday, 20th. It looked as if the burst was on. There was fairly heavy rain in parts. It has cleared up since, though it becomes overcast towards the middle of the day. *Crops.*—The last set is swelling; but, unfortunately, there is very little of it. *Labour.*—Plentiful All seasonable works well in hand. Borer does not appear to be very bad this season. *Health.*—Good.

FOREST CONSERVATION.

A writer in the *Queensland Agricultural Journal* comments on the ruthless destruction of valuable timber trees by "the rural public." Our readers have learnt to appreciate the value of forest trees. Many of them, indeed, have learnt by bitter experience. Denuding virgin land of its shade in bygone days they have had, in many instances, to wait long months for fresh shade to grow up to protect their crops. And if it took such men years to learn the value of shade, how easy it is to see that "the rural public" in a colony like Queensland, may require years also to assimilate the lesson that has been taught them. A story is told of a man who was recently in treaty for the purchase of a large property not 50 miles from Queensland, and one inducement held out to him was that the timber on the land was worth at least £500. "Oh! bother the timber," was his reply. "I want it cleared off to grow stuff for the stock." Just as in former days the planter in Southern India wanted to get rid of the timber, to grow coffee. Yet it is possible that a well-managed timber estate in these parts would pay better than coffee or tea. Government takes

this matter in hand on such a large scale that private enterprise is perhaps wise to leave it alone. But every planter at least should study forestry sufficiently to know which trees to retain on his estate and which to destroy. He should recognize the influence of trees on rainfall, on the soil and its fertilising properties, and on the soil as a protection against an excessive flow of water. In France, the work of restoring the forests is being systematically carried on, and in mountainous country denuded of timber, the course of torrents is stopped or deflected by means of stonework and fascines made of live willow. These fascines readily strike root, and form a barrier behind which the débris from the high lands accumulates, and so by degrees the wasting of the surface is arrested, and forest planting begins. The reafforestation of a denuded hillside, cut into deep chasms by the descending torrents, extends its influence to the plains below, often for hundreds of miles. The silt washed down from the bare hills is carried on to the lowlands, and in many cases rich alluvial plains have thus been overwhelmed with gravel, sour mud, and other silt.

In France and Germany—and we might say also in India—scientific forestry receives the attention it deserves. But in India also there is still a great deal of unscientific forestry and far more of reckless destruction of trees In many zemindaris valuable timber has been cut down so recklessly for sale that there is practically none left. The goose that laid the golden eggs has been killed. The same sort of thing has happened in many countries. The Queensland writer instances the Khanate Bucharia, which was once upon a time the most flourishing and fertile region of Central Asia. It was well timbered and well watered. What has happened to this earthly paradise has happened also in our midst. A mania for clearing seized the inhabitants within the last thirty years. All the great forests have been destroyed, and what was spared was swept out of existence by fire during the civil war. Now mark the consequence. With the disappearance of the forests, the water-courses gradually dried up; there was no water left to feed the empty irrigation canals. The great barrier against the desert sands was removed, and irresistibly they advanced upon and gained daily on the fertile plains; and it is now only a question of a short time when this magnificent region will become a desert as desolate as the solitudes that separate it from Khiva. Again, Dr. D. Morris, C.M.G., M.A., &c. &c., in his report on the "Economic Resources of the West Indies," in alluding to the forests of British Guiana, says:—The total export of timber is £16,000 per annum. The forest lands yield a yearly revenue of about £48,000, made up of "acre money," royalty on timber shingles, charcoal, balata (the milky juice of the bullet-tree (*Mimusops globosa*), a kind of guttapercha), and gums. These forests, rightly controlled, should constitute an important source of wealth to the colony. Owing to the difficulty of reaching the region above the falls the forests below have been cut over several times and the best timber removed. In some localities firewood-cutters and charcoal-burners are destroying valuable timber and preventing the growth of young saplings.

"With all the knowledge we possess on the subject of forest conservancy we still persist in the suicidal policy of extermination." The remark does not apply where Government rules the forests in India, but it unquestionably applies in many zemindaris, and we are by no means sure that there are not still many sinners against the science of forestry among the planting community. It is at least certain that India imports a great deal of timber and exports far too little, considering its resources as a tree producing country. There are many valuable timbers grown, but few are made proper use of. Where they are used at all they are probably cut down until supplies are exhausted. Natural reproduction is allowed no chance, artificial reproduction receives but little attention. In a small way planters might do much, by example and the exercise of influence, to remedy this state of affairs. They might also turn many an honest rupee by giving practical attention to forestry as a money-producing industry.

COFFEE IN DISTANT LANDS.
VI.

Paraguay.—The following small paragraph is going the round of the press:—An effort is now being made to develop Paraguay as a coffee-producing centre, it being thought that the country can be made to produce an excellent grade, in quantities sufficient to be an important factor in the South American market at least The United States Consul at Asuncion, in a recent report on the subject, says that there are now about 343,407 coffee-plants in the Republic, and all the product can be readily disposed of in the Asuncion market, because the people are great coffee-drinkers. It is believed that the Paraguayan coffee can compete in the markets of Europe.

The following information has reached us direct from Asuncion:—The cultivation of coffee is in its infancy. Several attempts have been made, and on a small scale it has given a fairly good result. The Government has recently granted half a square league of land and other facilities to an Englishman who has had experience in Costa Rica, who considers this climate and soil well adapted to its cultivation. No official reports have been published as yet on this subject.

Mauritius.—The Annual Report of the work carried on at the Station Agronomique of the Colony of Mauritius during 1897, says:—The young coffee plants raised at the "Station" last year have suffered a little from the drought and their growth was on that account retarded; besides the Liberian coffee trees, especially those reared at Pamplemousses were severely attacked by the common scarabee (*Crotopus punctum*). This insect is not perhaps so abundant in every district of the Island, but at Reduit and in the Pamplemousses gardens its attacks are very injurious to young plants whose leaves it eats off as fast as they grow; several plants completely lost their leaves and some had to be replaced.

This pest does not up to now attack the local variety but the Liberian coffee only and may become a serious drawback to the raising of new plantations. Some can be destroyed at night by means of insect traps furnished with a lamp and reflector, but, as a rule, they are not attracted by light and the best measure to adopt for their destruction is to send round "chocras" early in the morning to pick them while they are still benumbed by the coolness of night, as in the daytime they fly away as soon as you approach to capture them These coleopters assemble on

certain plants in preference to others, and if they are not destroyed within a few days all the leaves will fall off or will be left only with the mid rib. Under such conditions if the plant does not die off, vegetation remains inactive and the result is a delay in growth, of one year at least.

On large plantations another measure would be the keeping of flocks of turkeys or even hens to prey upon these insects which could be made to drop upon the ground by shaking them off the trees early in the morning; those are the only birds here likely to feed on these insects. For one or two years some small plantations of Liberian coffee have been started in several parts of the Colony, but from information received they do not seem to have been attended with the same success everywhere, and if some made a good healthy growth others did not turn out successfully. Such variable results, although it may be too early to decide, show how advantageous it would be to make trials in as many places as possible in order that the nature of the soil or climate where this culture would be profitable might be determined.

The coffee plants at Reduit were attacked besides by several coccids These insects when in great numbers prove detrimental to the growth of the plant; they infest the young green twigs and the inner surface of the newly formed leaves which are not yet fully developed; the leaves then become covered over on the upper surface with a black-felted coating having the appearance of soot which is caused by the mycelium of a fungus.

This fumagine is merely the consequence of the presence of Kermes which exude on the leaves a sweetish substance which furnishes excellent nutriment for the growth of the fungus. It is not, therefore, properly speaking a parasitic fungus, but the honey-dew which it exudes on the leaves coupled with the attacks of slugs causes a diminution of growth in the young plants; their leaves curl up and are no longer capable of discharging their respiratory functions in a normal way. These insects which were identified by Mr. D'Emmerez are the *Lecanium inide* (*viride ?*), which is the most widespread and the *Lecanium coffee* more rare up to the present time; they are found especially on the Liberian coffee, but occasionally also on the common variety.

These parasites unfortunately are not easily reached by the different insecticides which can be applied, as they are protected during all their stages by hard and impervious scales beneath which they are in safety. Certain mucious remedies applied on a small scale become too expensive and are scarcely practical on large plantations; the more so because strong insecticides cannot be applied owing to the continuity of growth in the trees as they would prove detrimental to the slender organs of the plant and be more injurious than the pest itself. Berries were again attacked this year by the larva of the fly described last year: the *Thiptocera octoguttalis* (determination of Mr. Alluad, Vice-President of the Entomological Society, Paris) and a large number were destroyed before attaining maturity. This fly is not very abundant but is very destructive; the larva is seldom found in the berries infested as it moves quickly and travels from one seed to another after damaging the peduncle of the fruit which blackens and dries up; by picking off and destroying all the berries which begin to turn yellow and which may contain the larva, their multiplication might perhaps be checked.

These are not the only insects injurious to coffee. Small branches or twigs are sometimes observed whose leaves turn black and dry up without apparent reason; if the twigs thus attacked are examined, a small hole of ½ a millimeter in diameter is found at the place where the infection began, in the middle of and underneath the twig; this opening penetrates as far as the centre and then follows the medullary canal upon a length of 2 centimetres; in the tube thus formed larvæ and complete insects measuring 1½ mm. and varying in colour from brown to black are found. These coleopters which are probably scolyptes, according to Mr. D'Emmerez, cause the death of the twigs so infested which must then be cut off below the point of penetration and burnt immediately.

The *Hemileia Vastatrix* was also more abundant than last year although sprayings with *bouillie bordelaise* were applied in the same manner and as frequently as before. The ravages have been especially severe on the young plants still striking roots; adult trees also lost many leaves, but this did not prevent the berries attaining maturity. The Leroy variety, judging at least by the few plants existing at Reduit, appears less liable to *Hemileia* and seems to stand the disease better.

This pest also attacked a few Liberian plants, but the greater number were completely exempt. When these different varieties come to flower at the same time, we shall endeavour to obtain a cross variety which would possess the qualities of the Arabian coffee and resist the attacks of *Hemileia* as the Liberian.

THE ENGLISH IMPORT DUTY ON TEA.

The attempt to bring about a reduction of the British Tea duty has been made and has failed. The result of the attempt affords us pleasure, for we cannot but feel that a 6d. duty would be more favourable to Indian and Ceylon teas than a 4d., and therefore a 4d. is more favourable than a 2d. impost. We have been surprised, however, at a letter addressed by the Indian Tea Association to the Planters' Association of Ceylon, with reference to the resolution of the Committee of the latter that they are not yet sufficiently convinced of the desirability of the reduction of the tea duty in England to induce them to take up an agitation on the matter at present. The General Committee of the Indian Association are, on the contrary, strongly in favor of a considerable reduction in the English Import duty, and the Secretary writes:—"They have consequently read the resolution I have quoted with considerable regret. In their opinion the abolition of the duty would lead to a considerable increase in the consumption of tea in the United Kingdom, as was evidenced by the increase in consumption of 7 per cent. which followed the reduction of 2d. per lb. in 1890. They have in fact no doubt that the removal of the tax would lead to a greater demand for cheap tea than at present exists among the artisan and labouring classes in England. The General Committee are further of opinion that the abolition of the duty would probably tend not only to the removal of the abuses now existing in the London warehouses in connection with the opening and weighment of tea, but also to the reduction of the present heavy charges with which tea is mulcted there, which constitute a matter of importance to the welfare of the industry. Holding these views, the

General Committee have found some difficulty in determining the reasons which have led your Committee to pass the resolution referred to, and I have been instructed to ask if you would be good enough to favor them with a statement of such reasons in order to enable them more completely to understand the attitude taken up in Ceylon." To say the least of it, this inquiry seems disingenuous. We presume the members of the General Committee of the I. T A. read the newspapers occasionally. In various newspapers that must have come under their notice opinions of London brokers and others, for and against a reduction of the British Tea duty. have been expressed at length. Ceylon planters have also written to the press on the same subject. Under these circumstances, the I T A. should have no occasion to ask the C. P. A. for a statement of its reasons for hesitating to declare itself on one side or the other For our own part, we think no stronger reason need be cited than that, the higher the duty the greater the disadvantage at which it places the low class imports from China in competition with the better sorts imported for Ceylon and India. Were the duty abolished altogether, one result would probably be a revival of the China tea trade with the United Kingdom—a revival that all Indian and Ceylon tea-planters should guard against by any means in their power.

THE OVER-PRODUCTION OF BRAZILIAN COFFEE.

Many writers have commented on the over production of Brazilian coffee, and the consequent fall in values. Still, the following table showing the production of coffee in Brazil and in the world since 1874, and the average price taken at Havre, may be interesting:

PRODUCTION OF COFFEE.

Crop.	Bags of 60 Kilos.			Price of "Good Average" per 50 Kilos.
	Brazil.	Other Countries.	Total.	
				Francs.
1874-75	3,843,600	4,295,400	8,139,000	103
1875-76	3,505,800	3,679,200	7,185,000	106
1876-77	3.294,000	4,520,000	7,814,000	101
1877-78	3.498 200	4,017.800	7,516,000	96
1878-79	4,718.000	4,200,000	8 918,000	76
1879-80	3,172.000	5,413,000	8,585,000	84
1880-81	5,553,000	4.205,000	9,758,000	75
1881-82	5,562.000	4,829.000	10,391,000	57
1882-83	6,711,000	5,369,600	11,080,000	50
1883-84	5,056,000	4,711,000	9,767,000	62
1884-85	6.211 000	5.229.000	11,440,000	52
1885-86	5,532.000	3,956,000	9.488.000	48
1886-87	6,129,000	4,183,000	10,312,000	81
1887-88	3,006.000	4.071,000	7.077,000	94
1888-89	6,735.000	3,863,200	10,598,300	97
1889-90	4,220,000	4,438,200	8,658,200	103
1890-91	5,308,000	3,989,000	9,297,000	109
1891-92	7.376.000	4,482,000	11,858,000	91
1892-93	6,193,000	5.090,000	11,283,000	97
1893-94	4.307,000	4,895,000	9,202,000	103
1894-95	6,689.000	4.947,000	11.636.000	94
1895-96	6,250,000	3,944,000	10.194,000	90
1896-97	8,680,000	3,928,000	12.608 000	61
1897-98	11,110,000	4,600.000	15,710,000	39

The average price in April, 1898, was 35 fr. 50 c.; in May, 36 fr. 25 c.; in June, 36 fr.

As regards the 1899 crops estimates are, as usual, very varied and conflicting. A correspondent in Taubaté, in the Northern district of S. Paulo, writes as follows: "Coffee is expected to flower generally in this district in September and October, but sometimes it is prolonged, as last year, as late as December. Some plantations had flowers on them last month, March, but that is an exception. It seems to be the opinion of planters in this district that the coming coffee crop, 1899-1900, will prove very much smaller even than the current one. Picking in this district commences usually in April and continues until November." A crop of at least 10,000,000 bags for Rio and Santos was looked on as a certainty; now reports from many districts seem to point to a partial failure. From Rio especially reports are discouraging, the belief that the crop will not exceed the current one being pretty general. In the north of S. Paulo, as this correspondent's letter shows, the probabilities are regarded as similar. Vice-Consul Hauguitz also puts the estimate lower, and he is regarded as a man who has had, as American Vice-Consul at Santos, specially favorable opportunities for studying the subject The information recorded on another page under the title "The World's Coffe Trade" is worth noting.

We may here appropriately quote the following remarks of the *Brazilian Review*:—"It is much to be regretted that no effort has yet been made to organise a regular and systematic estimate of crops, such as are usual for wheat in other countries. Until it be undertaken, estimates, however conscientious, will be liable to errors, which in Europe are interpreted as deliberate intentions to deceive. We believe there is no such intention, although here as everywhere the wish may be often parent, to a large degree, to the thought. Over so vast an area with the conditions varying so immensely, any accurate estimate is impossible with the insufficient elements at present available."

TEA IN THE UNITED STATES AND CANADA.

In the course of some very interesting remarks on "The Future Outlook on Tea," the *Canadian Grocer* comments on the speculation that is rife as to the effect on the tea markets of the new United States standards which were to come in force on the 1st instant. The new standards, according to leading authorities in the trade, will admit a grade of tea into the United States that was barred out by the old standards. For this reason holders of teas running from 15c. down have expectations that there will be a demand for stock of this description now held in first hands in Canada. The Canadian reserve is said to consist chiefly of teas from 16c. to 13c. and to be comparatively limited, so that a special demand from the States would certainly cause prices to advance. Accordingly many holders have manifested a desire to wait until the exact effect of the change in American standards can be gauged before urging business. The tone, therefore is quite firm in Montreal. Pingsueys are scarce. Recent shipments to New York from Montreal have comprised some 2,000 odd packages of Congous About 1,000 packages of Gunpowders have been taken for the same market, and, finally, Ceylon reports of late have been bullish. The *Grocer* concludes by remarking:—"With a shortage in China and India, this reduction in the

Ceylon possible supply becomes a serious consideration, and is expected to have an important bearing on prices. Possibly this condition has something to do with the inquiry experienced in Montreal and New York lately from London for Ceylon teas."

Since writing the above, we have read the following in the *Ceylon Observer*:—"From a leading wholesale merchant in Montreal we have received a communication in which he says:—'Ceylon Tea is selling well here and becoming more popular every day: prices are also up several cents lately: incidentally I may say I have had a good season and feel bright.'"

NOTES.

Brazilian Coffee. One exporter in Brazil recently bought from 50,000 to 60,000 bags in 8 or 10 days. No wonder the market kept steady!

Mr. Pineo's Opinion. Elsewhere we give some interesting remarks of Mr. R. E. Pineo on the manner of conducting the Tea Campaign in the United States. "Doctors disagree" considerably in regard to this subject, but Mr. Pineo's suggestions are at least practical.

Advertising Teas by Photographs. The Thirty Committee (Ceylon) lately resolved that the permission of Government be asked to place selected photographs depicting the Ceylon Tea industry inside the first-class carriages on the Ceylon Government Railway.

Coffee in Queensland. Apparently the question of an increase of the duty on Coffee in Queensland has been mooted. This does not point to any great belief on the part of Queensland coffee-planters in their power to hold the local market "against the world."

The London Tea Market. Cabling to Colombo on the 18th instant, Messrs. Gow, Wilson and Stanton reported that the market generally was weak, but fair liquoring teas were steady. The average was 8*d*.—a fall of 9¼*d*. According to Reuter, 27,000 packages Ceylons were sold out of 30,000 offered, and 8,000 Indians out of 9,000 offered. The average of Indian Teas was 8¼*d*.—a fall of 9¾*d*.!

Colombo Tea Sales. On 17th instant about 13,366 pkgs. = 1,078,325 lbs. were offered, of which about 9,504 pkgs. = 769,431 lbs. were sold. The quality of tea offering showed a great falling off, and broken pekoes were very irregular in price, and in many instances showed a decline. There was not much change in teas for prices. Among the best teas in the sale were, says the *Times of Ceylon*, Mt. Everest, Monkswood and Middleton.

"The Agricultural Ledger." The first three numbers for 1899 are just out and are as follows:—I. *Cyanotis axillaris* (spider-wort), richka weed as a famine food in the Bombay Presidency, by Prof. A. H. Church, M. A., F. R. S.; II. *Calotropis gigantea* (swallow-wort)—Madar Bark Fibre, by Prof. Wyndham R. Dunstan; III. *Villebrunea integrifolia* (Ban riha), Bon or Ban Riha: Wild Rhea, by Prof. Wyndham R. Dunstan

Ceylon Tea Commissioner for Europe. The *Times of Ceylon* appears to think that Mr. J. H. Renton, of Messrs. Bosanquet & Co., Colombo, will accept the offer of the Thirty Committee, to follow up his appointment as one of the Commissioners at the Paris Exhibition by becoming the Committee's permanent representative for the whole of the Continent. The proposed remuneration is £1,000 a year—to cover all expenses, including travelling, which item alone will consume a quarter of the sum.

Natives as Tea Drinkers. In a "note on the effect of the increasing imports of foreign sugar on the market for, and price of, Indian sugar" (in the Bombay Presidency), Mr. Morison states:—"Large classes of people, such as ordinary mill-hands and other operatives in Bombay, who, a few years ago, seldom indulged in sugar, except as a luxury on rare occasions, now use it in tea and coffee daily, and doubtless the same is the case in towns up-country." So the development of a taste for tea has at least made a start in India.

New Blood. Some time ago, referring to Mr. John Cameron's recommendations, we urged planters to develop a system of exchange of seeds, &c. The following from the *Gardeners' Chronicle* has a direct bearing upon our suggestion:—Gardeners might take a hint from the market-growers who occasionally infuse new blood into their stock by purchasing from their neighbours; and also, say, every second or third year, introduce a lesser or greater number of plants from a source reputedly healthy, and, as far as possible, propagate only from these.

Coffee and Cocoa in San Domingo. The mountain regions of San Domingo, says Robert S. Hill, in "Cuba and Porto Rico," like those of Haiti, Cuba, and Jamaica, are especially suited to the culture of coffee. The annual yield is about a million and a half pounds. The area of uncultivated lands suitable for coffee in this island probably exceeds that of all of the rest of the Antilles. Cocoa is extensively cultivated, much foreign capital having been invested in it within recent years, and the production having multiplied fivefold within the past decade.

No Indian Coolies for Ceylon. The *Times of Ceylon* remarked on 17th instant:—The arrival of the B. I. steamer *Aska* from Tuticorin this morning is noteworthy in that she did not bring a single estate cooly from South India. The Immigrant Officer, Mr. Anderson, thinks it very unusual, such an occurrence not having been heard of before. The B. I. boats, which arrive every day from South India, have never failed to bring a certain number of estate labourers; but the cause of none arriving by the *Aska* is at present not to be ascertained.

Imports of Tea into the United States.

The imports of tea for the first eight months of the present fiscal year, ending February, were as follows :—

From—	1898. Lbs.	1899. Lbs.
China	32,145,071	26,647,600
Japan	19.731,223	27,469,665
United Kingdom	1,491,014	943,533
East Indies	1,469,126	1,069,657
British North America	439 125	596,152
Other Asia and Oceanica	257 778	1,187,253
Other countries...	1,911	9,392
Total...	55,535,248	57,923,252

The Break of the Monsoon in Ceylon.

The *Times of Ceylon* of 17th inst. says :—The expected burst of the south-west monsoon took place to-day, according to Captain Donnan, the Master-Attendant. It was ushered in by a heavy rain squall, with thunder and lightning, about 4 o'clock this morning, while the waves are now beating over the breakwater. The weather to-day is decidedly monsoonish—that usually in evidence when the south-west sets in prevailing. The burst of the monsoon last year occurred on the 25th of May. It is very early this year. There has been very little rain at most of the outstations, though Nuwara Eliya yesterday registered 2·52 inches. The wind is marked as S.-W. at most of them ; but at Badulla it is N.-E., at Batticaloa S.-E., and at Hambantota N.-E.

Tea in New York.

The *American Grocer of* 19th ultimo says :—The sale by the Montgomery Auction and Commission Company, on Wednesday last, of 24,913 packages of tea, was a very severe test of the market. Taken as a whole, the result indicates a very strong market. The prices obtained were better than were estimated. The Pingsueys brought full prices. The Formosas were irregular, the better grades selling off, while the lower qualities were well supported ; the lowest price was 13 cents ; good, 13 to 13½ cents ; superior, 15 cents ; fine, 20 cents ; finest, 24 cents. Moyune Greens were firm and the average of the lot good, notwithstanding extra Gunpowders and extra Young Hysons, sold off. The offerings of Japans, Congous, Indias, and Amoys were light. Further details will be found in the regular report of the tea market.

Metals and Tea.

Mr. Boyd, a "Gold expert" in Ceylon, lately said that what helped the growth of tea was the metallic constituents in the ground, and in other tea countries such as China and Japan they found iron. Ferric oxide was a very important factor in the growth of tea. "You have it there," said Mr. Boyd, pointing to the red road outside the hotel "and it is in the tea districts in larger quantities." In Ceylon they had limonite (iron) which ran up to 52 to 60 per cent. of metallic iron and he had found 71·62 per cent. of oxide of iron deposited in the ground. Mr. Boyd reported satisfactorily of the plumbago in the Matara district. That place was on the centre of the mineral belt of Ceylon, a great belt which ran north 20 degrees east. He says there is gold in Ceylon, so "golden tips" may yet become more plentiful.

Coffee in Brazil.

We give elsewhere a report by Mr. Julian Hauguitz, for many years American Vice-Consul at Santos. Mr Hauguitz is of opinion that the height of the coffee production of Brazil has not been reached. There is near Preto a plantation with 6,000,000 trees, and there are at least twelve other plantations with 1,000,000 trees each. The amount of land adaptable to coffee growing is several times larger than the present area under cultivation. In the older territory which extends from the 20th to a little below the 23rd degree of latitude, and for which Rio de Janeiro is the port of export, the plantations are declining, but there is a large area now at its full productive capacity adjoining which, and also in other scattered sections, is a new district where the coffee trees have not yet come into bearing. Mr. Hauguitz thinks it probable that it will be several years before the full productive limit is reached.

Canada's Imports from U. K. and U. S.

The following figures show Canada's imports of coffee and tea from the United Kingdom and the United States during the years 1897 and 1898 :—

	1898.		1897.	
Coffee, green	202	30,098	328	20,88
Coffee, extract or substitutes ...	1,375	3,130	1,378	1,62
Coffee, roasted or ground, when not imported direct from country of production ...	444	42,025	413	39,4
Coffee, roasted or ground, and imitations, and substitutes for	114	4.419	67	2.6
Coffee, condensed, with milk ...	226	227	178	
Tea	2.576	63,308	2,129	20,07
FREE IMPORTS.				
Coffee, green, imported direct...	82,556	...	136,499	...
Tea, imported direct or purchased in bond in the U. K...	665,649	...	1,047,761	...
Total free goods...	$1,001,456	$54,568	$1,475,816	$76,22

China Tea in the United States.

Messrs. A. Campbell & Co., state in their Tea Report, dated Shanghai May 1st :—*Green Teas*—The imposition of *ten cents* per lb. duty on tea, which took place in the United States on the 14th June last year, acted as a drag on the new season's business owing to the large supplies which had been accumulating in America for a series of years, teas of such inferior quality as to be quite unsaleable till brought to light by the new tariff. When these surplus stocks were disposed of a general improvement set in, and led to an active demand here late in the season, when prices recovered materially from the lowest point. Export figures, in pounds, for the past four seasons are as follows :—

	1898-99	1897-98	1896-97	1895-96
United States and Canada.	13,436.000	15,634,000	16,157,000	21,560,00
United Kingdom ...	4,205,000	4,929,000	5,783,000	6,721,00
Continent of Europe ...	499,000	593,000	256,000	82,00
Batoum (mainly) Hyson...	5,234,000	3,750,000	807,000	196,00
Bombay (mainly) Hyson	1,203,000	922,000	5,272,000	4,453,00
Totals...	24,577,000	25,828,000	28.275,000	33.012,00

The American Tea Trade.

Mr. Wm. Mackenzie, the Ceylon Commissioner in the United States writes that he has now heard from the Indian Committee that they are *willing to pay their share* of the advertising in the States till the end of the year (August and September excepted, as we ease off during those hot months) provided he carried it on jointly as hitherto. Mr. Mackenzie says :—"I have told them I would do so till the end o

lay, but after that it would depend upon whether the Ceylon Committee approved or otherwise. What do you ay? I might give reasons for and against. Perhaps on he whole we should accept their offer. Ceylon or Indian eas are imported indifferently by the large houses according o which is the cheaper at the moment, and that Ceylon generally is. To the consumers, the teas go as Ceylons—ndians being seldom advertised by the trade." *We* should ay that this last remark clearly shows that India ought *ot* to work through the Ceylon Commissioner. Indian teas hould make a name for themselves, not go into consumption as "Ceylons." Mr. Mackenzie's remarks lend force to vhat we recently wrote about the withdrawal of Mr. Blechynden.

The Klanang Produce Co., Ld.

The prospectus (lately issued in London) of this Company puts the share capital at £20,000, divided into 0,000 one-pound shares. The present issue is £13,500, of vhich 7,500 fully paid-up shares will be issued to the endor in satisfaction of the purchase price, and 7,800 hares at par are now offered for subscription payable 2/6 n application, 2/6 on allotment and the balance as required. Mr. F. H. Wiggin, of Ceylon and Woolstone, Cheltenham, s Chairman and Messrs. Ed. Walker, Jas. M. Caine and David K. Michie, of Ceylon, are directors. The Company s formed to take over, carry on and develop the Klanang nd Beaumont estates in the Federated Malay States of elangor. Klanang is planted with 206 acres of cocoanuts nd Liberian coffee, five acres of cacao, 14 months old; our of cocoanuts alone, half being in bearing; and 4½ acres re to be planted with tea, for tea seed; while from 1,705 o 1,924½ acres remain at present, jungle reserve. On Beaumont there are 90 acres of Liberian coffee, two years ld; 148 cleared and drained, but not yet planted, and 156½ o 394½ still in jungle. Cocoanuts grow well and are extremely productive in the Klanang district, and it is intended to pay special attention to that product, but coffee, ubber, ramie, etc., will all probably be included in the ultivation and development of the Company's estates. The wo estates have been valued by Mr. E. V. Carey, who put he Klanang estate at 47,645 dollars, and the Beaumont roperty at 11,008·50 dollars.

The proposed Canadian Tea Duty.

Mr. Nosse, Consul-General for Japan at Chicago, was in Canada ately and stated:—I have every reason to believe that the gitation in favour of a duty on tea is fostered by firms andling Indian and Ceylon teas, as, with a duty placed pon tea, they would get the British and Colonial preference of 25 per cent. They are shrewed enough to see this, nd it looks very much as if the inspiration of these gentlemen has led to the newspapers taking hold of the matter. n referring to the subject, the alleged excuse is put forth hat the teas of China and Japan are impure. So far as he China teas are concerned, I have nothing to say; the Chinese can attend to their own affairs, but, as regards apan tea, I give a most emphatic denial to any report hat impure teas leave Japan. The Government of Japan as, after consultation with the great tea associations of ty country, instituted a system of inspection before any ea is allowed to be exported. So that if any person ttempts to adulterate the product he is immediately caught. This policy was adopted for the purpose of maintaining the high reputation of Japan tea and it has been most successful. "I think, however, that this fact is not generally known, and it may, therefore, interest your readers. I may mention that last year in the city of Chicago, which is a large importer of Japan teas, not one single chest of tea was condemned as being impure, thus bearing out what I have just said. Reverting for a moment to the suggestion of a duty upon tea by Canada, let me call your attention to this peculiar fact, I understand the principle of taxation in any country is to apply it equitably; it is hardly possible to do this in Canada as regards tea. The Provinces of Ontario and Quebec are large consumers of Japan tea. Indeed, these two Provinces take 90 per cent. of the total amount imported into Canada. If, therefore, your Government should unfortunately decide to impose a duty upon tea, it will have the effect of making these two Provinces pay 25 per cent. more than the other Provinces, which consume black tea chiefly coming from India and Ceylon. That is a point which is well worthy of consideration by your Parliament."

GENERAL ARTICLES.

EXPORTS OF TEA AND COFFEE.

In the course of an article on the Export Trade of India the *Times of India* remarks:—

Our export trade in tea forms another interesting field for enquiry. It has increased during the three years under consideration from an annual total of 148 million pounds to 157 million pounds. The consumption of Indian tea in the United Kingdom continues to expand. Moreover, our tea is finding its way in larger quantities into other countries. The United States is showing a greater appreciation of its good qualities; Persia, as has recently been pointed out by the British Consul-General at Meshed, is rapidly increasing its orders; while the quantity sent to Turkey-in-Asia shows a gratifying enhancement. The growth of the tea export trade is best illustrated by the following table:—

	1896-97.	1897-98.	1898-99.
	Lbs.	Lbs.	Lbs.
To United Kingdom ...	135,456,884	137,655,857	139,245,995
„ Russia	457,634	689,271	500,899
„ United States	784,962	929,704	1,413,624
„ Persia	1,993,823	1,464,394	3,456,791
„ Turkey in Asia ...	1,981,197	1,336,970	2,598,281
„ Australia	6,155,895	6,792,654	6,306,135
„ Other Countries ...	2,078,066	2,582,967	3,948,957
Total...	148,908,461	151,451,817	157,470,672

But there is another side to the shield. While our exports of tea have been growing in bulk, they have been diminishing in value. The market price of tea has fallen. Therefore it is that while our tea exports were valued at 812 lakhs in 1896-97, their estimated value was placed at only 804 lakhs last year. Another branch of the tea trade seems to be in need of greater elucidation—that dealt with in the returns of re-exports of foreign merchandise. We received last year 3½ million pounds of tea from other countries, principally from Ceylon and China. Of this quantity 2⅓ million pounds was re-exported, almost entirely to Persia. Presumably the bulk of these re-exports found their way into Russia. But the re-export trade in tea is in a very different position from that which it occupied in 1896-97, when we received for re-exportation over 6 million pounds from China alone. Our coffee trade continues to flourish. Exports of coffee have risen from 210,000 cwt. in 1896-97 to 270,000 cwt. last year. Great Britain is far and away our best customer for coffee, though France took 42 lakhs worth from us last year. The trade is entirely in the hands of Madras

TEA, &c., COMPANIES.

Baradighi Tea Co., Ld.—Deficit Rs 31,010-11-7. Favorable weather was experienced in 1898 and the garden made 626 maunds of tea as against an estimate of 600 maunds. The average price realised was 0-5-8 per lb., which compares favourably with that of the majority of gardens in the district.

Scottish Ceylon Tea Co., Ld.—Net profits £4,234-11-8. Interim dividend 3½% paid in September Final dividend 6½%. making 10% per year. The average prices realized in the London and Colombo markets respectively were 7·869d and 32 cents. against 7·956d and 35½ cents for the previous year.

The total crops secured from the company's properties amounted to 758,999lbs.

Kallinugger and Khoreel Tea Co., Ld.—Loss Rs. 4,894-8-11, crop 263,465 lbs., average price As. 4-9.

The Carron Tea Co., Ld — Profit Rs. 40,603-12-8. The season was on the whole favourable and a crop of 4,275 maunds tea was obtained, being 725 maunds in excess of the estimate and 800 maunds more than the outturn of the previous year. The average price realised was 8¼d per lb. (6 annas 9 pies) against 8d per lb. (6 annas 11 pies) in 1897.

The Kousanie Tea Co., (Kumaon) Profit Rs. 5,973-11-9, outturn 72,321 lbs., average price As. 9 8p.

Ceylon Proprietary Tea Estates Co., Ld.—Balance of profit and loss £5,244-10-4; interim dividend of 2% paid 31st October 1898; final dividend 2% making 4% for the year.

Rangalla Tea Co. of Ceylon, Ld.—Profit £518-1-3. The tea crop amounted to 206,620 lbs. and the cardamoms to 4,026 lbs., as against the original estimates of 240,000 lbs. and 5,000 lbs. respectively.

The sales of tea show a net average price per lb. of 6 31 pence, being equal to, say, 39 cents per lb. Exchange for the Company's drafts during the year has averaged 1s 4 7-16d as against the exchange for 1897 of 1s 3 35-64d.

Ragalla Tea Estates, Ld.— Profit £2,153-19-8. The report shows that the estates have been maintained in the highest state of cultivation, and that the future prospects of the Company are most favourable. During the year the crops realized in London were:— Tea, 367,715 lbs, at a gross average of 9·96d per lb. Coffee, 95 cwt. 2 qrs. 23 lbs., at a gross average of 91s 8d per cwt.

THEY DON'T LIKE TEA.

FRENCH GIRLS IN LONDON WHO DECLINE TO JOIN THE FIVE O'CLOCK TABLE.

Britain's greatness has received a bad check. The Empire's progress depends upon its capacity of absorption. Not the sort of absorption, let it be said at once, that will suggest itself to certain ill-fashioned minds and acquired tastes, but that other absorption —the swallowing up of native races which generally ends in the territories that once belonged to them becoming British.

The map of the world shows that we have gulped a good deal. But we have met more than our match in the Parisian modistes brought across from France by Messrs. Paquin & Company. They won't be absorbed, and they won't absorb our tea. They don't mind trying to learn English, they pretend to enjoy our fogs, they let the workrooms resound with their pretty prattle, but they won't renounce their nationality to the point of taking afternoon tea!

With all our proselytising agencies this is a sad set-back.

DEJEUNER AND EIGHT O'CLOCK DINNER.

Paquin & Company, respectful of the young ladies' Gaelic susceptibilities, gave them midday déjeuner as in Paris, and eight o'clock dinner as in high life on this side. They excused their attendance at the five o'clock tea served to the English girls in their employment and to the score or so of French girls who have abjured their nationality to the point of absorbing tea in the middle of the afternoon.

The girls who were permitted to stay away from the tea room they did not appreciate were found in a workroom by a Factory Acts inspector, and magisterial proceedings resulted in a fine being imposed on the firm for not giving them half an hour's rest between lunch and dinner.

Eight young ladies were in court anxious to tell the magistrate that they didn't like tea, and preferred remaining in the workroom to watching the English girls (and their weak fellow-count women) drink tea as if they liked it. Seventy-two or 73 delici Parisiennes (that is about the number of tea haters out of the French girls employed) were even more anxious to tell the *Le* representative the same story yesterday afternoon. But when got to the threshold of the workrooms and gazed over the hea the girls away out of the windows into the grounds of Devonsh House his heart failed him, and he took it for read that these li modistes didn't like tea.

GREAT NATION BEATEN.

Still, it is a sad confession to make on the part of an absorb nation, that these French girls cannot be brought into line absorb our tea Paquin & Company say they will have to dev some means of getting them out of their work-rooms for half hour every afternoon, but apparently they don't feel called upon order them to the tea-room and pinch their noses till they swall the tea just in the same way that babies' noses are held till t teething powders are comfortably out of sight.

To think that while we are raking in territory by the contine and natives by the tribe this bevy of pretty French girls lives the heart of London so utterly un-English as not to like tea *Morning Leader*, April 15.

TEA.

CEYLON TEAS IN AUSTRALIA AND NEW ZEALAND.

The *Times of Ceylon* says:—Mr. G. Grahame Cripps, representi the well-known Dunedin firm of Messrs. Wm. Scoular & Co., is present spending a holiday in Ceylon and has something intere ing to say with regard to the progress of Ceylon teas in Austra and New Zealand. For many years Mr. Cripps has been associat with the tea trade in Australia and New Zealand, and latterly has acted as tea buyer in Dunedin to the above-mentioned fir Owing to the limited time at his disposal. Mr. Cripps is unable carry out his original intention of proceeding to Calcutta.

BADLY MATCHED TEA FROM COLOMBO.

In the course of a chat with a representative of the *Times Ceylon*, Mr. Cripps was asked if he could give any reason for t falling off in the exports of tea direct from Colombo to N Zealand, the figures for 1897 being 2,228,137 lbs, as again 2,133,584 lbs. in 1898.

"A large amount of tea," said Mr. Cripps, "is at present pu chased in the Melbourne and Sydney markets, and shipped dire to New Zealand; the advantage to the buyer being that he can s beforehand what he is going to buy and avoids running the risk receiving badly matched tea from the Colombo dealer, who is son times more anxious to carry out an order than to properly mat the tea"

"But are not the prices in Melbourne and Sydney a little dearer

"That depends on the market. Of course, when the market weak, we take advantage of it."

"With regard to China teas, they are clean out of our marke or next door to it. Whilst formerly we used to bring down fi shipments of Chinas, now fifty half chests last us two years."

KEEPING QUALITIES OF CEYLON AND INDIAN TEAS.

Mr. Cripps pointed out that it was extremely unfortunate th Ceylon teas keep so badly as compared with Indian

"We are anxious to push Ceylon teas; he remarked, "but ou experience is that Indian teas keep so very much better We mig have stuff in our stores for some time, and then we send it out to t country storekeeper, who keeps it in his stores for another two three months, with the result that the tea is flat before it reach the consumer. We have to correct this by using much mo Indian teas than we should otherwise. It is generally fou however, that the consumer prefers Ceylon to Indian teas. S you will see that the dealer runs a considerable amount of ris in stocking Ceylon teas very largely, owing to the fact that the go off, whereas Indians do not, and thus the business is far mo hand to mouth in character than it would be.

RETAIL PRICES.

"How do the retail prices of Australia and New Zealand co pare?"

"The retail prices in New Zealand are much better than those Australia. If the latter it is 1s., 1s. 3d., and occasionally 1s. 6 but with us the prices are 1s. 9d, 2s., and 2s. 4d., though the bu is sold at 2s., the duty being 4d."

CONSUMPTION OF CEYLON TEA LIKELY TO INCREASE.

"Do you think the consumption of Ceylon tea is likely to increase?"

"Yes, I believe the consumption of Ceylon tea will increase. There is not a big population to work upon, but the consumption is something over 5 lbs., per head."

"Are New Zealanders as big tea drinkers as the Australians?"

"Not quite. You see Australia has a hotter climate, and they drink much more tea there."

"What do you think, roughly, is the relative difference in consumption between Ceylon and Indian teas?"

"The proportion, I think, is Ceylon 3 lbs. and Indian 2 lbs."

"What kind of tea is in most demand?"

"I think the people prefer a full-flavoured and heavy tea, especially in the South."

A HINT.

In concluding the interview, Mr Cripps expressed the opinion that Colombo tea firms were a bit behind in regard to the attractiveness of the labels placed upon the tea packages sent down to Australia and New Zealand. Very often, he said, smartly packed tea with attractive labels, something indicative of the place from whence it comes, induces the public to purchase.

Mr. Cripps has taken a trip to Kandy and Nuwara Eliya, and is delighted with the lovely scenery of the hill country.

AMAZING LIFTING POWER OF PLANTS.

Experiments have demonstrated that one of the most amazing things in nature is the lifting power possessed by a growing plant. Science has proved that such an insignificant, commonplace vegetable as a squash is capable of elevating a 5,000-pound weight by the mere force of its resistless living power of expansion. Given the requisite number of these products of nature and the squash could elevate a modern sky-scraper or rend a rock.

Experiments to show the marvellous force latent in the vegetable world have been conducted by Charles H. Ames at the Massachusetts Agricultural College, Amherst. The attention of the president of the College, W. S. Clark, was directed to the matter, and he, together with other gentlemen interested in opening up new pathways to knowledge, made further experiments. A squash was procured and a harness constructed on such principles as would enable the plant to exert to the utmost its lifting powers. In describing the preliminary experiments and the theories on which they based their plans, Mr. Clark says:

"The following considerations suggested the idea:

"*First.*—It is a well-known fact that beans, acorns and other seeds often lift comparatively heavy masses of earth in forcing their way up to the light in the process of germination.

"*Second.*—We have all heard how common mushrooms have displaced flagging stones many years since in Basingstoke, and more recently in Worcester, England. In the latter case, only a few weeks ago, a gentleman, noticing that a stone in a walk near his residence had been disturbed, went for the police, under the impression that burglars were preparing some plot against him. Upon turning up the stone, which weighed eighty pounds, the rogues were discovered in the shape of three giant mushrooms.

"*Third.*—Bricks and stones are often displaced by the growth of the roots of shade trees in streets. Cellar and other walls are also frequently injured in a similar way.

"*Fourth.*—There is a common belief that the growing roots of trees frequently rend asunder rocks, on which they stand, by penetrating and expanding within their crevices.

"Having never heard of any attempt to measure the expansive force of a growing plant, we determined to experiment in this direction. At first we thought of trying the expansive force of some small hard, green fruit, such as a hickory nut or a pear, but the expansion was so slow and the attachment of the fruit to the tree so fragile that the idea was abandoned. The squash, growing in the ground, with great rapidity and to an enormous size, seemed, on the whole, the best fruit for the experiment.

"Accordingly, seeds of the mammoth yellow Chili having been obtained, they were planted in the propagating pits of a plant-house, where the temperature and moisture could be easily controlled. A rich bed of compost from a spent hotbed was prepared, which was four feet wide, fifty feet long, and about six inches in depth. Here, under the fostering care of Professor Maynard, the seeds germinated, the vine grew vigorously, and the squash lifted in a most satisfactory manner. The experiment was watched day and night by relays of the scientists interested. An ingeniously constructed apparatus for testing the lifting power of the plant consisted of a frame of seven-inch boards. In this framework the harnessed squash was deposited, the harness consisting of iron straps completely encircling the squash. To the harness was attached a lever on which were placed the weights to measure the lifting capacity of the vegetable. As the growing squash elevated the weights, others were added.

"A careful record kept shows that the lifting done was as follows:

	Pounds
Twenty-first of the month	60
Twenty-second of the month	69
Twenty-third of the month	91
Twenty-fourth of the month	162
Twenty-fifth of the month	225
Twenty-sixth of the month	277
Twenty-seventh of the month	356
Thirty-first of the month	500
Eleventh of next month	1,100
Thirteenth of next month	1,200
Fourteenth of next month	1,300
Fifteenth of next month	1,400
Twenty-seventh of next month	1,600
Thirtieth of next month	2,015
Third of third month	2,1 5
Twelfth of third month	2,500
Eighteenth of third month	3,120
Twenty-fourth of third month	4,120
Thirty-first of third month	5,000

"When the squash has lifted this amazing weight the harness gave way under the great pressure, and it had to be removed. The result, however, proved that what have been regarded as fairy tales were actual facts; that a growing plant can lift a tree, split asunder the solid granite, move masses in a manner that prior to these experiments may well have been deemed incredible."
—*Philadelphia Press.*

A BENEFICENT INSECT.

Mr. James Mitchell, Overseer of the Queensland Acclimatisation Society, in his report presented at the last meeting of the Council, states: "While at the garden of Mr. W. H. Parker, Glen Retreat, on 28th February, I made what I consider a very important discovery. A magnificent specimen mango is growing in his garden, and some twelve months since, or less, the tree was very bad with the common wax scale and American or woolly blight. For sometime it had been noticed that the tree was getting cleaner, the scale and blight falling off. On examining the remaining scale, a true gardener's friend, in the shape of a natural scale enemy, was found. The insect is almost too small for the naked eye to discover unless attention is drawn to it, or by the aid of a miscroscope. From a letter received from Mr. Tryon, the insect resembles a small beetle, described by that gentleman in 1889 as being common in and around Brisbane, and that it fed on red spiders. If Mr. Tryon can identify the red spider-eating beetle and the scale and woolly blight enemy as one, then we have found a Coccinellids, or ladybird, that deserves protection of all interested in plant life, and especially orchard men. On closely examining a tree that was cleaning itself in the society's gardens, Mr. Mitchell found the same little ladybirds at work, which attacks the scale in a most active and fierce manner, working unceasingly until it forces an entrance at one side of the scale, where it enjoys itself in devouring the young scale. The larva is found killing and devouring the young scale in the same manner. As in the adult stages the larva finds its way between the leaf and the woolly blight and when a large number of these little gnats or larva gets on the smutty or scale-infested leaf, the transformation is soon made manifest. The insects may be seen now on a dozen trees in the society's gardens, and their presence is showing for itself. Fruit-growers would do well to inspect their trees, and see if they can find the abovementioned small black, shiny ladybird, about the size of an ordinary dot of ink from the pen, also the larva, at first yellow, changing to blackish brown colour, about one-eighth inch to one-fourth inch in length, usually under the scale American or woolly blight."

THE WORLD'S COFFEE TRADE.

Vice-Consul Julian Hauguitz, of Santos, Brazil, in a report to the State Department, says:

"The history of coffee export from Brazil begins at Rio in the year 1817, when 63,986 bags were shipped. In 1832 the figures stood at 478.950 bags: in 1840, 1,000,000 bags was reached; in 1851, the figures exceeded 2,000,000 bags, and kept at that average until 1857, when exports amounted to over 3,000.000 bags. In 1881 the highest mark was attained, at 4,377.418 bags. In later years the number began to decline, owing to the exhaustion of the productive power of the trees in the old districts. At Santos the records go back to 1850, when nearly 10,000 bags left this port. In 1871 the exports had grown to 500,000 bags; in 1877 to 1,000 0 0 bags; they increased in 1884 to 2,000 000 bags; in 1890 to 3,000,000 bags; in 1894 to 4,000, 00 bags; in 1896 to 5.000 000 bags; in 1897-98 to 6, 00,000 bags; near which figure production in this district is likely to maintain itself as long as the present economic conditions prevail, although the area available for coffee planting in this State is practically inexhaustible, and no soil more appropriate for the purpose exists in the world.

"For 1898-99 the Rio and Santos crops are estimated at 8,500,000 bags, and the visible supply, meaning the stocks in Rio, Santos, afloat, and in the public warehouses in Europe and the United States, had increased to 6,576,000 bags on January 1, 1899. The enormously heavy deliveries of the last year are, no doubt, to be accounted for by reason of the present low price of coffee, which latter is again a consequence of the extended Brazilian production. In the United States the deliveries of Brazilian coffee were in the following proportions:

Year.	Brazil. Bags.	Other kinds. Bags.	Total. Bags
1892-93	8,392,492	1,006,057	4,398,549
1893-94	3,160,717	1,138,128	4,29-,845
1894-95	3.167,840	1,228,106	4,395 946
1895 96	3,142,140	1,196,988	4,339,128
1896-97	3,989,057	1 099,537	5,088,594
1897 98	5,085,705	1,251.631	6,337,336
1898-99 (6 mo.)...	2 002,757	430,357	2,433,114

"The leading position of the United States as a coffee-using country—consuming now over 40 per cent. of all the coffee disposed of in the world—should make its commercial friendship a valuable desideratum to all sellers of this product and entitle it to corresponding trade concessions from the latter. This proposition applies with particular force at the present time of overproduction, when the buyer holds the balance of power, and any additional onus in the shape of taxes would have to be borne by the producer."

DRAFT ALLOWANCES ON TEA IN LONDON.

The following circular has been issued by the Secretaries of the Indian Tea Association (London), and the Ceylon Association in London:—

We are instructed to forward to you the enclosed memorandum on the proposal to abolish the draft allowance on teas sold at public auction in London, and to invite your support. We are desired to point out that it is greatly to the interest of producers and importers that the proposal should be carried into effect, and to add that it has the unanimous approval of the Committees of the Indian Tea Association (London), and the Ceylon Association in London. If you see your way to support the proposal, we shall feel obliged by your returning to either of us, as soon as possible, the enclosed form duly filled up.

Ernest Tye, Secretary,
The Indian Tea Association, London.
Wm. Martin Leake, Secretary.
The Ceylon Association in London.

I/We, the undersigned grower or importer of Indian, Ceylon, Java, or China teas, hereby agree that any teas I/we may put up for auction at public sale, in London, on and after a date to be hereafter determined by the Joint Committee of the Indian and Ceylon Associations in London, but not before July 1 next, shall be sold on the express condition that no allowance for draft be made to the buyer.

This I/we agree to carry out, provided the Joint Committee of the two Associations receive in their opinion sufficient support to ensure the adoption of the proposal.

[Here follows name of firm, proprietor, or company, and quantity represented of Indian, Ceylon, China, and Java teas.]

Memo. as to Allowance of 1 lb. Draft on Tea Sales.

1. The profit on tea cultivation having reached such a narrow margin it became imperative on the grower to cur tail every item of expenditure in India and Ceylon to the very lowest limit, and in consequence many forms of allowances which were common in better times have of necessity been abolished.

2. It has now unfortunately become necessary for the grower to extend this pruning down to unnecessary charges and allowances on his teas in London, and the most obvious of these is the allowance of one pound draft per chest or half chest.

3. This allowance has long been looked upon by the grower as an unwarrantable tax upon his teas, and it is held that the time has come for it to be abolished.

4. During last year there was imported into London:

	Chests	Half-chests.
From India	1,286,998	285,664
„ Ceylon	831,406	316,090
	2,118,404	601.754

and the allowance on these from draft alone amounted to 2,720,000 lb.

5. And this is not all; for, by the present system of weighing by H. M. Customs, a turn of the scale is given in the buyer's favour on the gross weight and another on the tare weight. Each of these may give the buyer a maximum advantage of 15·9 oz., so that the two together average close on 1 lb. of tea per package, exclusive of draft.

6. Taking then the two forms of allowance (namely, draft and weighing) together, the buyers on these figures received 5,000,000 lb. of tea more than they paid for.

7. Without raising the question of an alteration in the system of weighment there is no reason why the draft allowance should not be abolished. It is a survival from times and conditions which no longer prevail, and it is not exacted in countries other than Great Britain, to which India and Ceylon supplied last year 560,000 chests.

8. In 1890 all draft allowance was abolished on cured provisions and cheese, the same has been done in the case of bark and other articles, and the same should be done now in the case of tea.

FINE TEAS.

The *American Grocer* says:—To some persons any hot, discolored decoction of withered leaves is "Tea." They protess to be satisfied with "anything that is warm," probably because it is natural to human beings to love warm drinks. This class is indifferent to flavor, and we tender them our sympathy and compassion for the loss of a discriminating palate which God gave every human being in order that its gratification might make eating and drinking a pleasurable duty and a promoter of health.

There is as much delight to the palate of a lover of tea in distinguishing between delicate flavors as there is to the *connoisseur* of wines. In this country Formosa Oolongs are in high favor with a large class, and probably no finer teas are grown on this earth than are cultivated in the Chap Goa Hane district in the island of Formosa, which section is owned by fifteen Japanese merchants. It is from this district that Francis H. Leggett & Co. obtain their justly celebrated "Gold Fish" brand, which for the past two years we have used with the greatest satisfaction. It is of good body, has some color in the cup, and deliciously fragrant. To lovers of straight Formosa this "Gold Fish" chop will prove a source of delight.

And now a word to another class: Many good judges of tea are not entirely satisfied with the qualities possessed by one brand of tea, and therefore, they seek to supply deficiencies by a mixture of different teas, technically termed a "blend." A professional tea taster can blend teas better than an amateur, consumer, or trade as his trained palate and large knowledge of teas guide him with comparative certainty to a proper balancing of different sorts and the production of fine flavor where the mere amateur blunders.

THE THIRTY COMMITTEE IN CEYLON.

The following are extracts from minutes of proceedings of a meeting of the Thirty Committee held at Candy on Saturday, the 13th May:—

PARIS EXHIBITION

The crop of tea from the Company's Estates was 857,351 lbs. 94,370 lbs were manufactured for others, and 38,530 lbs. from bought leaf; the total output amounting to 990.251 lbs

The yield of tea was 407 lbs. per acre, the gross price realised in London was 7·1·d. per lb., and including that sold in Ceylon 6 94d per lb. against 6·90d. last year, and the average rate of Exchange 1/4 15-64ths against 1/3 15·32nds.

Read resolution passed by the Committee of the Planters' Association, nominating Mr. J. H Renton as representative at the Paris Exhibition.

Resolved:—"That the recommendation be approved, and that Mr. J. H. Renton be appointed representative of the "Thirty Committee" also at the Exhibition at a fee of £500 sterling (2) That the Secretary be empowered to communicate to the Consuls at Colombo the appointment of Mr. J H Renton as representative of the Planters' Association of Ceylon at the Paris Exhibition with request that they will notify the same to the various Consuls abroad."

APPOINTMENT OF COMMISSIONER FOR THE CONTINENT OF EUROPE.

Discussed the question of the appointment of a Commissioner for the Continent of Europe. Resolved:—"That the post of Commissioner for the Continent of Europe be offered to Mr J. H. Renton, for three years, at a salary of £1,000 sterling per annum, to cover all expenses; (2) that the sanction of the Governor in Executive Council be obtained to a further appropriation of £500 for the Paris Exhibition, and also for an appropriation of £3,000 sterling to be expended on the salary of the Commissioner for the Continent of Europe during the next three years; (3) that Mr. J. H. Renton be requested to interview Messrs. Lipton, Limited, in order to arrive at an understanding regarding the assistance asked for; (4 that Mr. Renton be instructed to bear in mind the limited funds at the disposal of the Committee and to explain this to Messrs. Lipton, Limited, at the same time pointing out the already large contribution by the 'Thirty Committee' in connection with the Exhibition

Submitted letter from Messrs. Ames and Burrell.

CEYLON TEA IN FRANCE.

Read correspondence with Messrs. Cochery and Perignon.

CEYLON GREEN TEAS.

Read letters from the Agents and Secretaries, Upper Maskeliya Estate Company, Limited, claiming grants on 12,965 lbs. Brunswick estate green tea; and from the Superintendent of Dewalananda estate, claiming grant on 5,154 lbs. of the said estate green tea. Intimated that the payments had been made.

Submitted memorandum showing the appropriations under the grant, and the balance still available, as follows:—

Balance avilable as per previous statement	...	R26,906·40
Paid grants as above	...	1,811·90
	Balance	R25,094 50

CEYLON TEA IN AMERICA.

Submitted and considered letters from Mr. Wm. Mackenzie.

Resolved:—"That the Committee confirms the Chairman's letter of the 9th May. 1899. to Mr. Mackenzie, and that he be informed that the Committee will recommend a vote of £6,000 for the year 1900."

CEYLON TEA IN GERMANY.

Submitted report by Mr. J. P. Ryan on his interview with His Majesty the Emperor of Germany. Resolved:—"That a hearty vote of thanks be conveyed to Mr Ryan for the able way in which he carried out his mission in connection with the presentation of Ceylon tea to His Majesty the Emperor of Germany, and for the use of German Army; (2) that the thanks of the Committee be transmitted to the Secretary of State for Foreign Affairs for courteous attention extended to Mr. Ryan by all the officials on his mission to Berlin; (3) that the sanction of the Governor in Executive Council be obtained to an appropriation of £2, 00 for advertising Ceylon tea in Germany; (4) that one-third of the sum of £1,134 7s. 5d. be paid to Messrs J. Hagenbeck & Co., on their letter of the 2nd May, with connected vouchers; (5) that the sum of £50 be paid to Messrs. C. & A. Böringer, as claimed by their letter of the 19th instant, with connected vouchers.

Read letter from Messrs. John Hagenbeck & Co., on the subject of their using the phrase—"Under the Patronage of the Ceylon Government"—in advertising pure Ceylon tea in Germany. Resolved: "That the action taken by the Chairman and Secretary in informing them that they could not be allowed to use the phrase —"Under the Patronage of the Ceylon Government"—be confirmed.

THE AMERICAN AND FOREIGN MARKET FUND.

The following letter, dated Calcutta, 12th May 1899, has been addressed by the Secretary, Indian Tea Association, to all proprietors and agents of tea gardens:—

Dear Sir,—The last Interim Report of the American and Foreign Tea Committee of the London Branch of the Association has recently been issued by the General Committee here to all members of the Association; to the Assam, Cachar, and Sylhet Branches, and also to the various Planters' Associations with whom the Committee are in correspondence. In this Report the American and Foreign Tea Committee quoted the following figures, which show concisely the progress made in the use of Ceylon teas in North America:—

Indian and Ceylon Tea taken by the United States and Canada during each of the last seven years.

	1898	1897.	1896.	1895.	1894.	1893.	1892.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Indian —	5,972,000	5,663,000	5,259,000	4.072,000	2,428,000	2,111,000	1,586,000
Ceylon	7,637,000	5,699 000	4,365,000	3,745,000	2,295,000	1,871,0 0	1,490,000
Totals	13,609,000	11,362,000	9,624,000	7,817,000	4,723,000	3,982,000	3,076,000

They added:

"The above figures show that a trade has now been established, which may be expected to continue to increase Your Committee are of opinion that the work Mr Blechynden has been engaged in during the last five years, since his return to America in May 1894, has been productive of much benefit to the industry, and has been well performed, but there are now so many well-established and powerful agencies at work in the United States and Canada, whose interest it is to push British-grown tea, both by means of travellers and by the distribution of samples through the post and otherwise, that the Committee consider the further expansion of the trade may safely be left in their hands, and that it is not necessary for the Association to continue a special agency for the purpose. Any further assistance that may be required should, your Committee think, take the form of subsidies."

They then went on to recommend that more attention should, in future, be given to other markets, besides the American, where the trade in Indian tea may be developed. and that a levy should be raised in Calcutta on the same lines as before, but on the understanding that the funds should be employed to push Indian teas in any part of the world, and not only in the United States.

These recommendations of the American and Foreign Tea Committee were adopted by the General Committee of the London Association; Mr. Blechynden was immediately informed of their decision, and his special mission in the United States was accordingly brought to a close on the last day of April. As will be inferred from the paragraph from the Report just quoted, work in America is not to be completely discontinued. Arrangements have been made with Mr. Mackenzie, the representative of the Ceylon Association, for the joint advertisements of Indian and Ceylon teas, which have been a feature of the operations for some time past, to be continued until the end of the present year, and the recommendation with regard to subsidies will also probably be acted upon

In furtherance of these objects, I am instructed by the General Committee to invite subscriptions to a fund which will be devoted, as has been indicated, to pushing the sale of Indian teas in foreign markets generally, and not in the United States alone. It is proposed to make a strong effort in the course of the next few years to extend the trade on the continent of Europe. An excellent basis

on which to found a campaign will, it is believed, be provided by the Universal Exhibition to be held at Paris next year. The American operations, which have admittedly been successful, were inaugurated by the work in connection with the Chicago Exhibition of 1892, and it is hoped that an equally successful scheme for France and Germany may be initiated at the Paris Exhibition of 1900. The General Committee regret they are not in a position to place subscribers in possession of detailed information as to the arrangements which are being made for the representation of Indian tea at this exhibition. Delay in completing these arrangements has been unavoidable owing to the necessity for frequent references to the London Association in consequence of the endeavours which have been made to obtain a grant-in-aid from the Government of India. The amount of this grant, if made, will, the Committee have reason to believe, depend very largely upon the support accorded to the movement by the trade generally.

In addition to France and Germany, Russia is also regarded as a promising outlet for Indian teas; Turkey and South Africa are likewise included in the programme of the London Committee, and are believed to be markets capable of great extension.

The above is, in outline, the scheme on which it is intended to work during the ensuing year, and I am to ask for contributions from the gardens owned by you, or in your agency, on the same basis as in previous years, *viz.*, at the rate of 4 annas per acre under cultivation, and half an anna per maund on production.

The General Committee trust that the measure of support which has hitherto been extended to the efforts which have been made to develop the trade in America will be increased in the attempt now to be made to open out other markets They would once more repeat that the enterprize of exploiting foreign markets is one which is undertaken for the common benefit, and which should be universally supported on the ground of a common advantage.

TEA AND COFFEE CONSUMPTION IN THE UNITED STATES.

The New York correspondent of the *Grocer* writes under date 7th April 1899:—The *per capita* consumption of distilled spirits is much less than formerly, as is the use of wines, while the use of beer is less than it was. The consumption of coffee has greatly increased, while that of tea does not grow. I have compiled the following table, comparing the *per capita* consumption of different beverages in 1893 with 1898, as follows:—

		1893.		1898.
Spirits	Gals.	1·51	...	1·10
Wines	„	0·48	...	0·28
Beer	„	16·08	...	15·64
Coffee	„	14·00	...	19·46
Tea	„	8·00	...	5·46

Probably the coffee returns are too high, as all deliveries from licensed warehouses are counted as consumption, whereas the quantity held in unlicensed warehouses is much larger than was customary in 1893, when the import cost was 7d., against 3¾d. in 1898. The tea figures are also misleading, as the withdrawals were unusually heavy in 1897 owing to heavy imports to escape the tax Making allowance for these facts it appears, unmistakably, that the use of alcoholic beverages has decreased, and the use of coffee largely increased The reason is not hard to find, as coffee is retailed at 5d. per lb. up to 1s. 6d. A pound of coffee at 5d. makes two gallons of beverage, while one pound of tea paying 5d. duty, and selling at 2s per lb. at retail, makes 6 gallons of beverage costing about 4d. per gallon, or 1½d. more than coffee. It is claimed that one pound of Ceylon and Indian tea will make sixteen gallons of beverage, which statement we will not dispute; but Americans will not learn to properly brew British-grown tea, insisting on using as large a quantity as they have been accustomed to of China or Japan sorts, and hence they do not take kindly to the heavier body and sweetish flavour of Ceylon and India. The preference is decidedly for a blend, and in this way there is a constantly enlarging demand for Ceylon and Indian tea But the Americans are particularly fond of coffee, and last year imported 851,691,054 pounds or nearly double the imports in 1880, '81, '82. The imports of tea average about 95,000,000 pounds for the last five years, while in 1880, '81, '82 they averaged 75,000,000 pounds.

THE AMERICAN TEA REGULATION ACT.

The U. S. Treasury Department has issued Circular No. 2 contained in No. 14, vol. 1, "Treasury Decisions," containing t act to prevent the importation of impure and unwholesome t and the regulations and standards which take effect on May 1-99, excepting in the case of teas shipped from abroad prior April 1, 1899, which will be governed by the old standards

Section 2 provides that the examination of teas shall be made means of samples to be drawn from packages designated by t collector and to be furnished by the importer, and of addition samples to be obtained by the examiner. The importer sh furnish a sworn statement that any samples submitted by him the examiner are drawn from packages designated by the c lector and covered by his entry (naming the vessel), and that th represent the true qualities of each and every part of the invo (including the proportion of dust), and accord with the specific tions therein contained. The importer shall submit with t entry a chop list or specification of the several lines included in t invoice, and the collector shall select for examination packag representing the different lines. The examination and repo upon such samples shall be made in accordance with the provisio of sections 7 of the Tea Act.

The following are the standards selected by the board of t experts, which are hereby fixed and established as standards und this Act:—

No. 1.—Formosa Oolong.
No. 2.—Foochow Oolong.
No. 2*a*.—Foochow Oolong (Suey Kut).
No. 3.—Amoy Oolong (to be adopted).
No. 4.—North China Congou.
No. 5.—South China Congou.
No 6.—India tea.
No. 7. Ceylon tea.
No. 8.—Pingsuey Green tea.
No. 9.—Country Green tea (Young Hyson).
No. 10 Country Green tea (Hyson).
No 11 —Japan tea—pan-fired.
No 12. Japan tea—sun-dried (Use No. 11.)
No. 13.—Japan tea—basket-fired.
No 14.—Japan tea dust or fannings.
No. 15.—Scented Orange Pekoe.
No 16.—Capers.
No. 17.—Canton Oolong. (Standard of last season to be continued force.)
No 18.—Scented Canton. (Standard of last season to be continu in force.)

COMPARISON WITH STANDARDS.

In comparing with standards, examiners are to test all the te on these points, namely: for quality, for any foreign matter on t surface of the infusion, sometimes called scum, and for quality leaf after infusion. Quality shall be ascertained by drawing accor ing to the custom of the tea trade with the weight of a half-din to the cup. In Country Green teas, Imperials, Hysons, coar leaf Gunpowders, and extra Young Hysons are to be compar with Hyson standards, and all other Young Hysons and sm leaf Gunpowders with the Young Hyson standard. The quali must be equal to standard, but the flavor may be that of a differe district as long as it is equal in sweetness. As an illustration, Teenkai may be equal to a Moyune, but a distinctly smoky rank Foochow, or Wenchow of sour character, must not be con dered as equal to the two first mentioned.

In order to test for floating coloring matter or scum, and al for the quality of infused leaf, a second drawing should be ma for any floating substance, and after pouring off the water f infused leaf should be taken out so as to exhibit the lower si which rested against the cup. Should the mass show a larg quantity of exhausted or decayed leaf, or foreign substance th the standard, it shall be considered inferior in quality, and t tea must be rejected In Greens and Japans particularly, t brightness of the leaf should be considered as an evidence of qualit

Should a tea prove, on examination, to be plainly inferior to t standard in any one of the requisites—*viz.*, quality, scum, or qual of infused leaf, it shall be rejected, notwithstanding that it superior to the standard in some qualifications. All considerat of the appearance or so-called style of the dry leaf shall be omit

Macao or Canton Congous should be compared with the stan for South China Congou and Brick tea, compared with the stan

for the district whence it comes. The mustiness or damaged flavor exhibited in certain Canton teas imported for Chinese consumption shall be considered as sufficient cause for rejection. Until the establishment of a new standard for Amoy Oolongs, they will be tested by the Foochow standard.

TESTING FOR DUST.

The dust and fannings in all Formosa, Foochow, and Amoy Oolongs, Canton teas, Congous, Indias, and Ceylons must be restricted to 10 per cent. when sifted through a sieve of No. 16 mesh made of brass wire. In order that the needle leaf and Pekoe tips may not be confounded with dust, they must be returned with the dust to the sieve for a second and third sifting until separated.

In the case of Ceylon and India teas, the needle leaf and Pekoe tips shall be separated by passing them together with the dust through a No. 26 sieve of No. 30 brass wire, after the tea has been first sifted through a No. 16 sieve.

Dust and fannings in Japan teas must not exceed 4 per cent. when tested by a No. 30 sieve of No. 31 brass wire. Before condemning any tea for dust, examiners shall sieve at least two packages.

Examiners should preserve in tin, for one year, samples of all teas examined for future reference in case of complaints, and the Board of General Appraisers should also retain a portion of all samples sent them on appeal for the same object. To this end, examiners should always send the Board samples of at least half a pound, and never otherwise than in tin cans securely labelled.

Statistics showing the quantities of various kinds of teas admitted and rejected should be kept at the custom houses for future reference.

In all cases of rejections by examiners, the importer should be notified of the reason for rejection—that is, whether it be on the ground of quality, character of infused leaf, dust, scum, or admixture with foreign substance.

Whenever Japan teas shall be imported hereafter, so made up as to imitate the green teas of China, examiners will compare such teas with the pan-fired standards for Japan teas. Should such teas be made up so as to imitate Congous, they will be compared with the North China standards for Congous.

In cases of importations of tea containing an excessive amount of dust, the dust can be exported after sifting and tea admitted to entry if found up to tea standards.

CEYLON TEA IN AMERICA.

REPORT FROM MR. R. E. PINEO.

It was neither my purpose nor intention, in a previous communication, to point out, or even suggest, improvements on past methods. My object was to awaken and concentrate interest in the arduous undertaking of making our tea better and more widely known to the general public of the United States.

The "Thirty Committee" has announced its purpose to continue the campaign in America, and has voted six thousand pounds for 1900, to further exploit and endeavour to gain greater recognition for our staple in the United States of America. It should be the study and aim of the "Thirty Committee" to solve this one knotty question, i.e. *how can the consumer be most quickly and effectually reached, and, when captured, permanently retained?* This query covers the whole ground, and embraces every feature connected with the crusade.

It now remains for me to make known how, in my opinion, the consumer is to be secured, and, of equal moment, thereafter *held!* This can only be accomplished by working *through* and *with* the *retailer*, who should be assisted, in every reasonable way, by the Commissioner. Help the retailer by advertising in the local papers and by demonstrations The retailer will then have an incentive to doing good work, as he is the only proper medium between the wholesale dealer and the consumer, whose aid should be invoked.

Once you have succeeded with, and gained the energetic assistance of, the retailer, the result is certain to be satisfactory; the consumer will be secured, and the wholesale dealer will be forced to keep and provide the retailer with everything he wants.

The representative in America of the "Thirty Committee" should be constantly on the move and work systematically. For example, let him visit Boston and every town having a population of 10,000 and upwards in the New England States; then take up the Central, Western, Pacific, and Southern States in the order named.

In each city or town let him seek out a few of the most prominent, progressive retailers, obtain their co-operation, assist them in locally advertising, and show them how best they can make attractive, popular demonstrations.

SPECIAL, LOCAL ADVERTISING.—The representative should seek and act upon the advice of the retailer, and select such mediums as he—the retailer—may recommend. In some localities, more especially where the town may be the centre of a large agricultural district, the local weekly should be availed of, as every agriculturist uses tea, and reads everything—including advertisements—that appears in his weekly newspaper.

GENERAL ADVERTISING.—Monthly magazines that are read by the masses like "Muncey's" and the "Cosmopolitan," can be occasionally used to great advantage, and there are also a few of the weekly papers that could be profitably utilised.

DEMONSTRATIONS.—One of the most successful and permanently profitable entertainments given by me was in connection with a bazaar held in aid of a large hospital, by the society ladies of Brooklyn, and what made it attractive and *remembered*, was the fact that about a dozen of the handsomest young women, daughters of society leaders, appeared in Tamil costume and served tea. The bazaar was a huge financial success, and the costumes and tea formed the subject of many a chat long after the whole thing was closed.

Now the representative should be furnished with at least a dozen washable, rich Tamil costumes, including a goodly show of native jewellery—and when making demonstrations in a shop, should engage a couple of handsome coloured women to appear in this costume and serve visitors with tea. This would prove a drawing card, and, in the smaller cities, a powerful attraction. Where it was found a Church festival or a bazaar was in progress, the feature that made the Brooklyn affair so telling, might be introduced. It may be thought that anything done, as herein mentioned, would be a slow, tedious operation, and take too long a time; but I maintain that it is the only method that will give lasting results at a minimum cost, seeing that the wholesale dealer cannot be relied upon to create a demand for an article that is not called for by the retailers, hence the latter's support must, in the first instance, be secured and his efforts assisted and fostered. The retailer is, therefore, the *one* person whose goodwill and aid should be sought, husbanded and promoted. Let the retailer work energetically, hopefully and successfully, and you have made a friend and co-adjutor of the wholesale dealer or jobber. The method herein outlined may appear to some silly, childish and imperfect, and unworthy of consideration, but—frequently—simple, direct methods lead to the greatest successes.

Later on I may, perhaps, refer to Canada and Russia.

R. E. PINEO.

SYLVIA AT THE TEA URN.

There's a trim little house at the bend of the street,
Where the lace at the window is snowy and sweet;
And it's thither I wend, to that magnet-like door,
When the silvery chimes in St. Mary's ring four;
For four is the hour that sounds gay as a song
When Sylvia pours the Formosa Oolong!

'Tis a picture to see her bend over the urn—
Her slender white wrist with its delicate turn,
The violet depths of her eyes, and the glint
Of the gold in her hair that is matched by no mint;
And then her rare smile! Oh, what rapture dreams throng
When Sylvia pours the Formosa Oolong!

The light in the room is so soft and subdued,
Just suited, I ween, to a bachelor's mood;
And the voice, ah, the voice of the tea-making maid
Has the low laughing lilt of a brook in the glade;
Sooth, life is all joy, and the world holds no wrong
When Sylvia pours the Formosa Oolong!

—*Clinton Scollard.*

CHICORY: ITS MANUFACTURE AND ADULTERATION, By A. RUFFIN.

The substance known in commerce as chicory is produced by roasting the roots of *cichorium intybus*, a plant belonging to the natural order of *Compositæ*. The plant is generally sown between the middle of April and the middle of May. and the roots are harvested in the autumn.

MANUFACTURE.

The manufacture of chicory requires several very distinct operations: (1) Washing, followed by drying by heat (2) The division of the cossettes according to their size. (3) The roasting and breaking up, the sifting, the coloring, and the packing. The washing was formerly carried out in a very summary manner, either in great vats or in running water in the neighbourhood of the drying places. Now, however, numerous plans of drying apparatus are in existence, and they are identical with those employed in sugar refineries. They are provided with arrangements for separating the roots from stones and other foreign bodies. After washing, the roots are cut up by hand, in the case of the finest qualities, but by machines in other cases. The pieces thus produced are about an inch and a half long. and are placed in the kiln on a large surface of perforated sheet iron. Here the

CHOPPED-UP ROOTS

are spread out in layers eight or nine inches thick, or thinner if the product is to be of extra fine quality. The kiln is then heated, usually by means of coke, and the removal of dried roots and substitution of fresh ones is constantly going on. After this first preparation, the roots are known as cossettes. They are sorted out according to their size by means of a bolting arrangement armed with a ventilator which acts upon the cossettes as they are projected on to the iron network of the apparatus. This process is indispensable for obtaining cossettes which are suitable in all respects for roasting, and while awaiting that operation they should be kept in a dry place and as sheltered as possible from light and currents of air. If the drying has not been properly done, the cossettes lose their colour, and change rapidly at the end of a few months. It is a sign that they have been properly prepared if they produce a clear, sonorous noise when stirred. The roasting of the cossettes is done in large coffee roasters, placed under chimneys with a strong draught and moved mechanically, except in some of the oldest fashioned works, where they are still worked by hand.

NUMEROUS TYPES OF ROASTERS

are employed. They are made of sheet iron and are about a yard in diameter. They turn over a fire of coal or coke, usually the latter. As soon as the cossettes are sufficiently roasted, two per cent. of their weight of butter is added, in order to make them shiny and to make them look like roast coffee. Then after a few turns of the roaster they are shot out, either on to the ground or into large iron vessels, to get cold. They are sometimes allowed to cool in the roaster, after its removal from the fire, another roaster full of cossettes fresh from the kiln taking its place. It is essential in order that the product may be of good quality and easily broken up that the roasting should be stopped at the proper moment, and

AN EXPERIENCED WORKMAN

recognizes the exact point by certain indications, such as the color of the smoke and nature of the smell proceeding from the cossettes. After roasting the cossettes are put into cylinders armed inside with teeth, which break them up. The stuff from the cylinders is bolted, and thereby separated into powder and grains of different sizes. Everything which does not pass through the sifters is returned to the cylinders to be broken up smaller. After this, for certain qualities of chicory, the coloring or blondissage is effected by mixing the grains with an impalpable powder obtained by the use of very heavy mills. The final process of packing is done either mechanically or by hand.

HITORY.

The Dutch were the first, more than a century ago, to use roasted chicory in preparing an imitation of coffee, of which they retained the monopoly up to 1801, in which year the process was introduced into Liege by M d'Orban, and into Onnaing by M. Giraud. After this it spread over France, and at the present time there are about two hundred chicory works in that country. The introduction of chicory was furthered in France especially by the wars at the beginning of the century, when attempts were made to replace coffee entirely or partially by indigenous or acclimatized plants.

ALTERATIONS AND ADULTERATIONS.

Properly roasted chicory is of a fine blackish brown color. When badly made or badly stored it changes rapidly It swells up by absorbing moisture from the air, thereby bursting the packet in which it is contained, and soon becomes covered with mould, consisting principally of *Peicillium glaucum* and *Aspergillus glaucus*. In this state it is evidently unfit for food. In spite of its cheapness, chicory has been extensively adulterated ever since it first came into use. In 1818, a sample was found to be largely composed of sand and powdered red brick, and these frauds became so prevalent that, in 1853, and again in 1854, Ministerial intervention took place, and the maximum ash allowable was fixed first at 6 and then at 12 per cent. To facilitate the study of the falsification of roasted chicory, the most rational method is probably to begin by seeing what are the analytical determinations to be made and what variations can be admitted in those analytical results, as shown by analyses of specimens known to be pure. It is, of course, necessary that these variations should be known, inasmuch as the composition of genuine chicory is by no means invariable, depending, as it does, on the nature of the soil in which it is grown and on the way in which the root has been prepared. In testing a sample of chicory, five determinations should be made:

1. Of the substances soluble in hot distilled water.
2. Of the loss of volatile constituents in a current of air at 100° C.
3. Of the ash or mineral ingredients.
4. Of the proportion of ash soluble in water.
5. Of the proportion of ash insoluble in hydrochloric acid.

The chemical examination should be followed by a microscopical one. To determine what percentage of the.

CHICORY IS SOLUBLE.

in water 15 grammes of it are dried at 100° C., and then ground up in a mortar with water, adding the solvent a little at a time. The whole contents of the mortar are then transferred to a flask fitted with a condenser, and boiled in it for half an hour. The contents of the flask are then allowed to cool, and transferred to a weighed filter. The insoluble matters retained by the filter are washed thereon with boiling water until the filtrate ceases to give any residue on evaporation. The filter and its contents are then dried and weighed; the difference between the weight obtained and tare of the filter gives, of course, the weight of insoluble matter in the 15 grammes of chicory.

The second determination is done by keeping twenty grammes of chicory in an air current of the indicated temperature until the substance ceases to lose weight. To determine the ash, ten grammes of dried chicory are.

BURNT IN A MUFFLE FURNACE.

at a dull red heat. In addition to weighing the ash its color should be noted. This may vary from white to red, according to the quality of the cossettes. The ash is then exhausted with boiling distilled water, and the insoluble portion is dried, ignited and weighed. The proportion of ash soluble in water is then readily obtained by difference. Lastly, the insoluble ash is made into a thick paste with pure hydrochloric acid, and dried at 100° C. The dried mass is then treated with 10 per cent. hydrochloric acid. What remains insoluble is washed, dried, and weighed. The following results have been obtained by these means with pure chicory.

1. Percentage of soluble matter: Maximum, 69.9; minimum, 62.25; mean, 6.54.

2. Percentage of matters volatile at 100° C.: Maximum, 13; minimum, 5.1; mean, 11.4.

3. Percentage of total ash: Maximum, 13.76; minimum, 4; mean, 11.4.

4 Percentage of ash insoluble in water: Maximum, 11.25; minimum, 1.92; mean, 5.8.

5. Percentage of ash insoluble in hydrochloric acid: Maximum, 10.12; minimum, 0.83; mean, 4.93.

All these figures are percentages of the weight of the chicory dried at 100° C.

The author has not succeeded in meeting with several of the adulterations mentioned in most of the special treatises on the subject, such as old coffee grounds, roasted bread, animal charcoal, colored vermicelli, semolina powder, earth, fragments of beetroot.

urf, sifted coal ashes, etc., and his results have led him to doubt hat commercial chicory is ever sophisticated with inert substances. The presence of silica and earth simply point to insufficient washing of the roots. This operation is made difficult by the more or less rregular and furrowed surface of the roots, especially when the plant has grown in a clay soil.

THE REAL ADULTERATIONS

of chicory are with leguminous seeds or roasted acorns, and such falsifications are by no means uncommon, especially as they are things which are sold by themselves as substitutes for chicory. In 33 samples bought at hazard for were found to be mouldy. Of the remainder, 47 gave a mean total ash of 9.45, the minimum being 5.8 and the maximum 10.9. Of the remaining 82, 45 gave more than 12 per cent. of total ash, the maximum being 43.2 and the minimum 20·5. In all these cases the total ash indicated that the roots had been badly washed. Seven samples were shown by microscopical examination to be slightly adulterated with coffee grounds, 18 were found by the same means to have been mixed with roasted leguminous seeds, nine were seen under the microscope to contain both coffee grounds and leguminous seeds, while three had been adulterated with roast acorns, which revealed themselves to the microscope and also by causing the infusion of the chicoryto contain tannin.—*Bulletin de la Société Industrielle du Nord de la France.*

STRAY NOTES ON MANURE.

Decomposing Bones.—H. B: The commonest plan seems to be to pack the bones with wood ashes in an old fashioned hogshead or other wooden vessel and keep the mass well moistened for several months. Or caustic lime could be used in the same way. Where there are large quantities to be treated trenches in the field may be used instead of wooden vessels. Much heat is developed and the bones are decomposed completely. Some farmers report best success from the use of crude caustic potash. Make a strong solution of this, heat until hot in a kettle, then pour over the bones in proportion of one part potash to four parts bone. Turn over occasionally for several weeks, when it is fit for use. Care must be exercised in handling the caustics, for they are liable to cause bad sores and injure clothing.

The Use of Phosphate of Lime.—Mr. D. P. Farney, Pennsylvania, writes:—The "plain phosphate" now mostly used is fine ground South Carolina phosphate rock, treated with sulphuric acid to dissolve some of the phosphate of lime which it so largely contains, because composed mainly of the bones of extinct animals. It retailed in eastern Pennsylvania last year at $11 to 14 per ton, according to the amount of actual phosphoric acid present, which is from 10 to 16 per cent. according to official analysis.

The amount applied is usually 200 to 400 lbs. per acre to ordinary farm crops, although some men think it profitable to use more. My own application last year was 10 tons to 57 acres of wheat. It is best sown by a drill with the wheat. No fertililizer in my experience has been so useful in the production of wheat and clover as this and I have no doubt M. L. Jones will get what he wants if he uses it with discretion.

Its use in eastern Pennsylvania is quite phenomenal. York county is the second county in the United States in the use of purchased fertilizers and it is probable that it now uses more dissolved rock than any county in the United States. The German farmers of this country, and there are no better anywhere in the country, have always been strong advocates of lime and have used it in large quantities on their land, but now find it won't do for wheat. This crop must have a manure rich in phosphoric acid and dissolved rock best supplies it at the lowest cost. Probably the lime left over in its dissolved condition after the wheat is made, some of it possibly in the shape of sulphate of lime, is the best possible food for clover. When Sir William Crooks said "nitrogen was the dominant manure for wheat," Pennsylvania farmers held their breath in astonishment. It is not their experience.

I look for some important lessons from our experience. First we may learn that a few bushels of the ordinary lime rock of Pennsylvania properly ground and dissolved with acid may be as effective a fertilizer, where lime alone is needed, as the large applications of burned lime now are. Next we may learn that the real problem of future agriculture will be how best to dissolve and render available the large quantities of plant food still in the soil, but unused, instead of supplying them from outside sources at great expense.

Rotted *versus* Fresh Manure.—Weight for weight, rotted manure is more valuable than fresh manure. The losses during fermentation are principally in the destruction of organic matter and nitrogen and do not under the best farm conditions lead to much loss of phosphoric acid and potash.

How to secure Humus.—Green manuring increases the store of humus (partially decayed vegetable matter) in the soil, and humus is necessary to the best conditions of fertility and productiveness, for it increases the capacity of the soil to retain and conduct water. It promotes beneficial chemical changes among the different soil constituents, changes which result in making originally inert soil materials available as food for plants. A suitable amount of humus contributes largely to the production of that physical condition of the soil which makes it possible to bring it into good tilth and to maintain it in that condition.

ARTIFICIAL MANURES IN THE GARDEN.

The Journal of the Royal Horticultural Society gives the following paper by Mr. A. D. Hall, which is applicable, *mutatis mutandis*, to the estate as well as the garden:—

The use of artificial manures in gardens is rapidly increasing, if one may judge from the number of advertisements, and the new firms that are taking to the business; and the object of the present paper is to discuss the principles that should regulate their effective and economical employment. It may of course be argued that of all places artificial manures are least wanted in a garden, inasmuch as practically perfect fruit and vegetables are grown by good cultivation with dung alone. The only question is whether the same results cannot be obtained more economically by the assistance of artificial manures, which, again, can be used to meet certain special difficulties of soil and situation in a manner that would otherwise be impossible. It must not be forgotten that artificial manures are powerful tools by which the development of the plant may be shaped by the gardener along certain directions; but, like all powerful tools, they require to be used with knowledge and discretion, or they will do as much harm as they can be made to do good.

VALUATION OF MANURES.

To learn the composition of the simple manures the gardener should refer to some book, as, for example, to Mr. Cousins' little book on the "Chemistry of the Garden," where also he will find an explanation of the proper method of arriving at the value of a manure. As to the latter an approximate way of arriving at the value of a ton of a given manure is to allow 10s. or 11s. for each per cent. of nitrogen, 1s. 3d. or 1s. 6d. for each per cent. of phosphate, or 2s. if the phosphate is soluble, and 4s. for each per cent. of potash. As an example, a manure containing 6·5 per cent. of nitrogen, 22 per cent. of phosphate, and 4 per cent. of potash is worth about £6 a ton, made up as follows: 6·5 at 11s. = 71s. 6d., 22 at 1s. 6d. = 33s., 4 at 4s. = 16s., total 120s. 6d., to which must be added a certain percentage if the manure is bought in small lots. With this preliminary knowledge of the nature and price of artificial manures, it remains to consider the specific effect of the three constituents—nitrogen, phosphoric acid, and potash—which singly, or in combination, are the essence of every manure.

EFFECTS OF MANURES.

Speaking generally, the nitrogenous manures promote growth and the vegetative development of the plant, leaf, and shoot, rather than flowers and fruit. For example, a fruit tree overdressed with nitrogen will run to wood, the leafage will be extensive and very green, the shoots will be long-jointed and soft, the buds will be wood and not fruit buds, the development of fruit will be displaced in favour of continued growth.

Of course for some vegetables it may be an advantage to promote this excessive vegetative development by the use of nitrogen particularly in early spring, when the plant naturally finds a difficulty in obtaining supplies of nitrogen from the soil. For early crops of cabbages, lettuces, peas, etc., top-dressings of nitrate of soda are a great help to rapid growth and its natural accompaniment of tenderness. Nitrogenous manures differ much in their rapidity of action; two of them, sulphate of ammonia, and especially nitrate of soda, are both extremely concentrated and immediately active; they should only be applied when the plant is growing, and several times in small quantities rather than in one application. Of course

they are only partial manures, supplying but one element of plant food, and must not be used unless the land is well stocked from other sources with phosphates and potash, or else their continued application will result in the impoverishment of the soil. But in their place, and used with discretion, they are among the most powerful agents the gardener possesses.

It is, however, among the phosphates that the gardener will find his most useful manures. Speaking generally, a garden receives lavish supplies of dung, on the whole a nitrogenous manure, and is somewhat over-rich on this side, if we may judge at least from the prevalence of wood and unfruitful growth among the fruit trees of so many gardens. It is in such places, the ordinary garden which has long been receiving dung, that phosphates and little artificial manure besides, are wanted to promote a better development of flower and fruit.

Phosphates are intimately connected with the various phenomena of reproduction, which we may sum up as the maturity of the plant. Above all they are required to balance and bring to a term the growth induced by free supplies of nitrogen.

Of these bodies nothing is better for general garden use than one of the bone phosphates, bonemeal (or, better still, steamed boneflour, as being a finer and more soluble powder), or again one of the cheap phosphatic guanos.

Basic slag is a most excellent phosphatic manure for stiff soils. It is best dug in at the rate of 6 lbs. or 8 lbs. per square rod when the land is trenched. Superphosphate is the most active of the manures of this type, but should only be used when the soil contains naturally a fair supply of lime, on the loams and chalky soils rather than on sands or gravels or the cold clays. One or other of the manures is all but indispensable in a garden. With a supply of steamed boneflour or phosphatic guano and dung a gardener need trouble himself but little about other fertilisers.

About the effect of potash, the third of our elements of fertility, little positive is known; but in a general way it may be said that where dung is at all regularly used little is required in the way of specific potash dressings. But where dung is not employed, or where the soil is of a light sandy nature and likely to be deficient in potash, it will be necessary to apply kainit at the rate of 4 lbs. or 5 lbs. per square rod every second or third year, preferably putting it on in the winter or late autumn.

In some orchards and gardens dung cannot be obtained. In such cases it is necessary to obtain as a basis for the manuring some slowly acting nitrogenous body of on organic origin, such as meat-meal, fish guano or rape dust, digging this into the ground at the rate of 8 lbs. to 12 lbs. per square rod in the winter. With it should go 4 lbs. to 6 lbs. per square rod of a phosphatic manure like steamed boneflour or phosphatic guano, and kainite every other year or so. Finally, as the plants are beginning to grow a little active, nitrogen in the shape of sulphate of ammonia or nitrate of soda may be used along with superphosphate. The gardener working without dung should lose no opportunity of taking catch crops of mustard of vetches, and digging them into the soil. The land may be brought into splendid condition by heavily manuring with artificials for a crop of this sort, and turning it in a month or two before the ground is wanted again.

THE USE OF ARTIFICIAL MANURES.

A few general directions may be given for the use of artificial manures. The best returns are obtained by applying them to growing, rather than established plants. I have seen recently planted strawberries enormously benefited by a dressing of artificial manures that produced no sensible effect on two or three year old plants alongside. As to quantities, 1 oz. per square yard, or 2 lbs. per square rod, is equal to about 3 cwts. per acre. This may be taken as an outside quantity to use of the rich and active nitrogenous manures like sulphate of ammonia or nitrate soda; of more slowly acting manures like the guanos, two or three times the quantity may be used.

For plants in pots it is better to use manures in solution—for example, nitrate of soda and superphosphate, or 1 oz. of sulphate of ammonia and 3 ozs. of superphosphate dissolved in 10 gallons of water makes an excellent liquid manure for finishing, when buds are opening or fruit is swelling. If a compost is to be enriched, let the slowly acting forms of nitrogen, like the guanos of meat-meal, used with phosphates to correspond, and let the manure be mixed with the soil some time before the compost is wanted, for the early stages of the decomposition in the soil of these manures are injurious to tender rootlets.

PLANT ASH FALLACIES.

As to the nature of the manure required for this or that cr little can be said; the gardener has not at his service the kno ledge that the farmer possesses of the specific requirements of crops; it is only for the farm crops that systematic trials have b carried out, like the fifty-year-old experiments at Rothamsted, a the many other stations that have grown up in England and e where. From these experiments and their extension by the pr tical experience of many years we now know with a reasonal degree of accuracy the specific requirements of each crop on t farm, whether its manure should be mainly nitrogenous or mai phosphatic, whether potash is wanted or no; whereas we ha nothing but general grounds upon which to distinguish betwe the requirements of a cabbage or an apple tree, an onion or rose. It is little use analysing the plant to get this inform tion: the proportions of nitrogen, phosphoric acid, and pota in a plant are not the proportions in which these substanc should be supplied in order to best feed the plant. Wh is present in the smallest proportions is often the particul substance the plant most wants; it is only present in small p portions because the plant finds a special difficulty in getting from the soil. As an instance of this common fallacy of suppos the composition of a plant's ash gives any guide to its manurin Swedes may be taken: 1 acre of average Swedes remove fr the soil 98 lbs. of nitrogen, 33 lbs. of phosphoric acid, and 149 l of potash. This material would be contained in 5½ cwts. of nitra of soda, 2½ cwts. of superphosphate, and 11 cwts of kainite; yet t ordinary manure for Swedes, one tested by many years of e perience and scores of experiments, is something like 4 cwts. superphosphate and 1 cwt. of nitrate of soda per acre.

EXPERIMENTS.

Only actual experiments can teach us the requirements of o garden crops, and experiments of a systematic sort are few number. We shall have in time results from the Experimen Fruit Farm the Duke of Bedford has started at Woburn; in commercial way we have the trials conducted by Dr. Berna Dyer at Hadlow for the Permanent Nitrate Committee, but yet these and other trials are young, and have not reached p manent conclusions. Meanwhile every gardener should have little experimental plot in his own garden; he will learn mu about his crops, and he will learn what no one else can tea him, *i.e.*, the special characteristics of the soil he is working Such a plot costs but little trouble and becomes more valual every year. An arrangement like the following gives perhaps t readiest information—seven plots side by side, each 1 square rod extent:—

Plot 1, gets no manure.

Plot 2, gets an all-round manure. A pound of sulphate of a monia as a top-dressing, 4 lbs. superphosphate or basic slag, accor ing to the soil, and 2 lbs. kainite.

Plot 3, gets an excess of nitrogen, using 3 lbs. of sulphate ammonia instead of 1 lb., as in the previous dressing.

Plot 4, gets no phosphate—the dressing of plot 2 without th phosphate.

Plot 5, gets an excess of phosphate, the dressing of plot 2, wi 12 lbs. of phosphate instead of 4 lbs.

Plot 6, gets no potash, the dressing of plot 2 without the potas

Plot 7, gets excess of potash—the dressing of plot 2, with 6 l of kainite instead of 2 lbs.

On some soils it may be well to try an eighth plot with ¼ lb. sulphate of iron added to the dressing of plot 2.

If only a number of gardeners would put down a little tri ground of this kind, growing various crops upon it from year year, and reporting their results to the Royal Horticultural Societ we should not long remain in our present ignorance of the specif needs of our garden plants. This paper has been confined to ji particular subject—the use of artificial manures in a garden—nothing has been said about cultivation, the foundation of a gardening; nothing about dung, which may be regarded as th basis of all manuring; nothing about the use of lime: these ar all points that cannot be neglected. No artificial manure will mak up for slovenly cultivation, rather they demand greater care in th direction; but the object of the paper has been to indicate and ex plain the fact that artificial manures give additional scope to th gardener's art, and that in the hands of a skilful man they may used to still further combat the difficulties that arise from soil climate.

PEPPER.

The *London Commercial Record* of 5th May says:—Our Pepper market, which for a considerable time had sorely tried the patience of its supporters by the prolonged inactivity, has at last displayed distinct signs of returning vitality, and although this has only taken the form of additional firmness, the upward move has nevertheless greatly pleased "bulls" and has inspired them with fresh hope and energy The amount of actual business, small as it has been, would probably have been even less had not the failure of a London speculator forced a number of operators to buy in the market to protect themselves against default of their contracts. Their purchasing immediately lent a tone to the market, and on the smallness of supplies from the Straits during the second half of April becoming known, the improvement already prevailing experienced a further impetus, so that at one time a boom seemed imminent. It appears that no Singapore Pepper has been shipped to London at all from the 15th until the 30th April, the total supply of this description during the whole month of April amounting thus to 20 tons only, whereas Penang provided 80 tons, making a total of 100 tons from the Straits as against 660 tons in April last year. The Continent received 100 tons in all, against *nil* in April, 1898, and America took 120 tons more during the month than last April, *viz.*, 230 tons, against 130 tons. These shipments must be considered as very small indeed and are calculated to frighten any bear of pepper, the astonishing part is that our market should not have been more seriously affected by them than it actually has been. Havre showed at once considerable nervousness, and the East also became immediately strong and advancing, but the large quantity of Tellicherry Pepper here, we presume, did not allow of any boom gaining ground in our market, although no doubt it would have received the support of all Some holders of Tellicherry Black embraced the opportunity and sold some of their spot lots at 5½d landed. Further parcels, we understand, are still obtainable at this figure, there is therefore at present no dearth of cheap pepper. For arrival, on the other hand, prices advanced from 5 $\frac{3}{6}$d. to 5½d. c.i.f. delivered weights in a single day, and we doubt very much if even at this figure first hand would be a ready seller. The following figures showing the exports of Tellicherry Pepper during the month of March may prove of interest to our readers:—

	To India.	To Europe & U. S. *via* Europe.
1899 ...	... 135 tons.	630 tons.
1898 ...	... 655 „	240 „
1897 ...	... 235 „	1,740 „

During the first three months of the year the following quantities have been exported:—

	To India.	To Europe & U. S. *via* Europe.
1899 ...	... 780 tons.	1,655 tons.
1898 ...	... 1,260 „	535 „
1897 ...	... 705 „	2,450 „

The quantity remaining unsold in the pepper-growing districts of India may be considered small, and as there exists a strong demand for it in India itself, we may take it that the shipments have reached the highest point and that April and May will show a market falling off in supplies.

THEN IT WENT ON ALL RIGHT.

The writer of the letter, which I am going to copy for you in a moment, has a complaint to make. Rather, perhaps, a complaint to place on record, as the reason for it is passed away for the present and she hopes—and we hope with her—that it may not return. The complaint does not refer to any relative, friend, or foe, but to her own heart. It did not work well It was weak, and for a long time she was unable to find means to make it do better; which was a serious matter, inasmuch as the vigor of the circulation of the blood always depends upon the force wherewith the heart drives it.

Still, it seems to me we ought to be a bit indulgent towards the heart in view of the labour it has to perform. Remember that it never takes a full minute's rest at one time, night or day, from the instant it begins at your birth until, like a muffled drum, it stops for good and all—life's funeral march to the grave being over. During all this while, ten years or a hundred, the heart has got to keep on pumping blood through your body at the rate of from 130 strokes a minute in childhood to 50 or 60 in old age. If you happen to have a mechanical turn of mind it may interest you to figure out how much this stands for in units of horse-power for a given case and time. If not, you can take my word for it that, merely as a machine, the heart deserves your respect. So long as it goes ahead steadily, up hill and down dale, hammering away softly but strongly, you haven't a word to say for or against it; but when it begins to get weak, may be skipping a stitch now and then, you call in the doctor, who puts the tip of his finger just below the base of your left thumb, looks wise and solemn (as befits the occasion), and says, "Ah, yes, yes: I see, I see" But *what* does he see? He doesn't tell you *that;* he leaves medicine, and mentions when he will look in again.

But as to the letter I spoke of. "For many years," the lady says, "I suffered from indigestion and weak heart. Very little exertion made me feel weary and tired. Cold, clammy sweats broke over me. I had a poor appetite, and after meals an aching pain at the chest and a miserable sinking feeling at the stomach. I had also much pain at the left side, and my heart would flutter so as to frighten me. At length I became so weak I was barely able to get about, being no longer able to do my housework.

"Owing to the trouble at my heart I obtained no proper rest at night, and often walked about my bedroom at night. Many times these attacks were so bad *I thought I was dying.* During the day a sense of suffocation sometimes came upon me and I was obliged to go to the door for fresh air.

"Year after year I suffered like this; now a little better, now as bad as I could be. In November, 1887, while on a visit to Croydon, my son-in-law persuaded me to try Mother Seigel's Syrup. He got me a bottle, and after taking it I experienced great relief The pain at my heart was easier, and I felt better as a whole. I could eat well and the food agreed with me.

"I now felt encouraged to continue using this remedy. Soon I was in better health than for years, the heart trouble having disappeared altogether. Since that time when I feel anything ailing me a few doses of Mother Seigel's Syrup never fail to give the desired relief. I have told many persons of the benefit I have derived from it, and hereby consent to your publishing this statement should you wish to do so." (Signed) (Mrs.) William Harrington, near Wickford Hill, Clare, Suffolk. November 12th, 1897.

Now what ailed Mrs. Harrington's heart? Why, precisely the same things that ailed her lungs, her nerves and her muscles—*weakness.* Therein she is right. It *was* a weak heart, but not a *diseased* heart. The heart is a muscle, and (seeing the prodigious lot of work it has to do) necessarily a strong, active muscle. But it will not work without pay any more than you or I will. With all the rest of the body it has got to be sustained and strengthened by food. Here we have the point, then. The lady was afflicted with chronic indigestion. For this reason her whole body grew weak—the heart, of course, with other parts of the engine Hence all the symptoms she names. Her immense all-round weakness and puller-down is that same old dyspepsia. When Mother Seigel's Syrup made the digestion of plenty of food possible, the heart went on all right, like a newly wound clock.

MARKET REPORT.

By Mail advices of 5th May, 1899.

COFFEE.

The *London Commercial Record* says:—The market continues to be abundantly supplied, and the arrears have not yet been overtaken. There has been a good demand generally. Colory Ceylon realised firm prices, but common was easier. Home trade qualities of East India sold at fully valuations, but it was almost as difficult as formerly to attract the attention of buyers to undesirable samples. Jamaica in more demand and firm prices were obtained. Fine Costa Rica elicited considerable competition and comparatively high prices paid, but middling and common declined 6d to 1s per cwt. Other sorts fairly steady. A much stronger feeling has prevailed in "futures," owing to more moderate receipts, and,

though there has been a slight reaction, the closing prices shew a decided improvement for the week, viz :—

London	... Santos	... July delivery	...	29s 3d
New York	... No. 7 Rio...	„ „	...	5.25 cents.
Hamburg	... Santos	... „ „	..	29½ pf.
Havre	... Santos	... „ „	...	35½ francs
Holland	... Good ordinary Java	..	...	27¼ cents.

Imports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
Tons ...	19,321	14,380	18,212	17,875
	Home Consumption.		Export.	
	1899.	1898.	1899.	1898.
Tons ...	5,542	5,176	7,590	7,862

The preceding figures exhibit—

In the Imports an increase this year of	337	tons.
Home Consumption an increase of	366	„
Export a decrease of	272	„
Stock an increase of	4,141	„

Auctions this week have passed off as under:—

Ceylon.—*Plantation.*—17 casks 9 tierces 20 barrels 2 bags sold—smalls 38s to 60s, low middling to middling 80s 6d to 98s 6d, bold 90s to 104s, extra bold 111s, pea-berry 75s to 112s.

East India.—6,284 bags mostly sold as follows:—*Naidoobatum*, smalls 47s to 58s 6d. middling to good middling 63s 6d to 73s, bold 96s to 103s, extra bold 101s to 113s, pea-berry 89s 6d to 95s. *Mysore*, smalls 39s to 55s 6d, low middling 49s to 56s 6d, middling to good middling blue 60s 6d to 73s 6d, fine middling 82s 6d, greenish to blue bold 78s to 86s 6d, fine blue 95s to 101s 6d, pea-berry 75s to 104s. *Neilgherry*, smalls 40s to 47s 6d, low middling to middling 49s 6d to 66s, bold 74s to 92s 6d, pea-berry 53s to 85s 6d. *Coorg*, smalls 38s to 43s 6d, low middling 52s to 57s, bold 73s to 85s 6d, pea-berry 81s 6d to 88s. *Wynaad*, smalls 41s 6d to 44s 6d, low middling 52s to 55s, bold 73s 6d to 82s, pea-berry 85s. *Nelliampathy*, smalls 42s to 44s, low middling 55s, good bold 83s, pea-berry 71s 6d to 85s. *Pulneys*, smalls 43s. *Peermade*, ordinary greenish 36s.

Nyassaland.—116 bags mostly sold, ordinary pale at 26s 6d to 30s.

Jamaica.—Of 4 casks 517 barrels 79s partly sold:—ordinary to good ordinary 30s to 35s 6d, fine to fine fine ordinary 37s to 43s, low middling to middling greenish and gray 46s to 54s 6d, pea-berry 56s to 59s.

Costa Rica.—6,147 bags mostly sold, small 31s to 43s 6d, good to fine colory 42s to 65s 6d, ordinary to good ordinary brownish 33s to 37s 6d, fine to fine fine ordinary pale greenish 40s 6d to 46s 6d, low middling 48s 6d to 58s, middling colory 61s 6d to 67s 6d. good to fine middling blue 70s to 87s 6d, fine middling 83s to 86s 6d., bold 80s to 95s 6d, very fine blue 97s 6d to 101s, pea-berry 53s to 98s

Guatemala.—893 bags mostly sold, smalls 29s to 39s, fine fine ordinary 43s, good middling blue 61s to 62s 6d, fine bold ditto 85s 6d to 86s, pea-berry 85s to 90s 6d.

Salvador.—591 bags partly sold, smalls 34s to 35s 6d, fine ordinary foxy green 42s 6d. middling colory 50s to 55s, good middling 60s to 61s, good bold 67s 6d, fine bold 81s 6d. pea-berry 63s 6d to 79s.

Nicaragua.—457 bags sold, smalls 31s to 37s 6d, fine ordinary greenish 39s, low middling to middling 46s 6d to 55s, good bold 60s to 62s, pea-berry 50s to 70s.

Mexican.—415 bags sold, ordinary to good ordinary pale 30s to 37s, middling greenish colory 57s, good to fine bold blue 80s 6d to 87s, pea-berry 85s.

Colombian.—1,593 bags about half sold. smalls 28s 6d to 38s, good to fine fine ordinary greenish 38s to 43s 6d, low middling 45s 6d to 47s, bold bright gray 49s, good middling green 53s to 60s, bold faded colory 55s to 58s, good bold colory 61s 6d to 75s, pea-berry 45s to 64s.

Porto Rico.—19 bags sold, smalls 32s 6d, bold grayish 40s 6d.

Peruvian.—153 bags mostly sold—smalls 30s, fine ordinary greenish 41s, middling 49s, pea-berry 52s 6d.

Venezuelan.—Of 514 bags a small part sold. low middling greenish 46s.

Eucador.—259 bags partly sold, damaged bulked yellowish foxy 30s.

To-day's auctions consisted of 5,119 bags East India. 65 pkgs. Mocha, 99 barrels 47 bags Jamaica. 193 bags Guatemala, 1,885 bags Costa Rica, 398 bags Colombian, 177 bags Mexican, and 451 bags Salvador. The sales went off very quietly with prices about unchanged all round.

Receipts in Rio and Santos.

Since July 1	1898-9.	1897-8.	1896-7.	1895-6.
Rio	2,791,000	3,906,000	3,182,000	2,069,000
Santos ...	5,091,000	5,803,000	4,768,000	2,806,000
Total ...	7,882,000	9,709,000	7,950,000	4,875,000
Crop	—	10,461,000	8,680,000	5,489,000

Rio Exchange—d, previous day 7 7/16d.

Havre, May 4.—Santos good average May opened steady at 35¼f. and closed steady at 35¼f., July opened at 36f. and closed at 36f.

Hamburg, May 3.—Good average Santos May opened steady at 29pf. and closed steady at 29pf., September opened at 30pf. and closed at 30pf.

New York, May 3.—Closing prices of No. 7 Rio were as follow:—

	May.	June.	July.	Aug.	Sept.
May 3 ...	5.05	5.15	5.25	5.35	5.45
May 2 ...	5.10	5.20	5.30	5.40	5.50

Prices realized at auctions for some of the principal marks of East India:—

MYSORE.

	0	A	B	C	PB	T
PH & Co ◇ Santawerry Mysore ..	111-6 112-6	99-0	79-0	—	106-6	56-6
Do. J ◇ Santawerry Mysore...	110-0	99-0	79-0	—	109-0	64-0
Do. do. do. ◇ ..	110-6	99-6	79-6	—	106-0	60-0
Ubban Mockett ◇ Mysore ...	90-6	64-0	49-0	—	93-0	34-0
Utollalu Mockett ◇ Mysore ...	91-0	70-0	no bid	—	93-0	36-6
Chetenhulli Mysore	90-0	64-0	51-6	—	89-0	35-6
Sanderson K Mysore ...		86-0 85-6	62-0	50-6	85-0	42-0
Mockett G ◇ Mysore ...		98-0	73-0	56-6	98-0	52-0
C N Callaly B ◇ G Mysore ...		90-0	60-0	47-6	87-6	39-0
JPH Hoolkoondah Mysore ...		100-6	82-6	55-6	93-6	53-0
HC K Mysore		97-0	68-0	45-0	94-0	34-0
HC S Mysore		101-6	72-0 73-6	46-0	104-0	37-0
HC SS Mysore		101-0	73-0	48-0	101-0	40-0
DH Sidderkhan Mysore ...		88-0	64-0	46-6	92-6	33-0
HFL Mavinkere Mysore ...		78-0	53-6	44-0	83-0	31-0
MB Merthikhan Mysore ...		81-0	56-6	40-0	84-6	33-0
BAB Mysore		91-0	64-6 64-0	55-0	85-6	37-0
Clifford's Mysore Kerkie Coondah.		66-0 bid	48-6	39-0	72-0	32-0
Do. Balehonnur ...		65-6 bid	49-0	—	75-0	33-0
Rungiahs Mysore	86-6	60-6	49-6	—	87-0	36-0
	0	1	2	3	PB	T
Cannon B ⟨C⟩	104-0 bid	80-0 bid	55-6	—	109-6	42-0
Do. M do. Mysore ...	110-0	88-0	57 0	—	109-6	42-0
Do. do. do. ...	105-0	80-0 bid	54-0	—	109-6	42-0
Do. do. do. ...	104-6 bid	81-0 bid	57-6	—	109-0	41-0
Do. B do. do. ...	102-0 bid	87-0	61-0	—	108-0	48-0
PH & Co. ◇ Umbidy Mysore ...	no bid	no bid	40-0	—	74-0	34-0
Yellikodigi Mysore		90-0	67-6	50-0	no bid	43-0
Hardiguay Mysore	94-6	90-0	62-0	—	101-0	41-0
Edwin Hunt's Caugnoor Mysore...		95-0 96-0	63-6	51-0	92-0	41-0
S & H Mysore		78-6	56-0	43-0	—	37-0
R R B ◇ Mysore		95-0	69-0	51-6	85-0 bid	43-0

COORG.

	A	B	C	PB	
Binny's Coorg Bunjagherry ...	72-0	48-6	37-0	75-0	32-0
Irwin Jumboor	97-6	66-0	49-6	96-6	—
Do. do.	102-0	80-0	63-0	99-6	—
Koorghully	86-0	62-6	43-0	93-0	41-0
Nadikari Betta Coorg	82-0	53-6	39-0	81-6	37-0
Gerrard's Coorg Mylatpur	80-6	54-0	39-0	86-6	37-0
Matadacadoo Coorg	81-0	61-0	47-0	83-6	40-0
DBC Coorg	95-0	69-6 69-0	48-0	97-0	38-0
Koppal Coorg	75-6	56-0	36-0	77-6	37-0

	A	B	C	PB	T
Coorg Cota Kadoo	75-0	54-0	42-0	84-6	36-6
Chisholm's Coorg Corringabetta ...	80-0	54-6	39-6	87-0	38-0
Do. do. ...	73-0	52-0	38-0	81-6	38-6
Muskelbora	79-0	55-0	39-0	82-6 bid	35-6
Gl Modur Coorg	85-6	57-0	40-6	85-0	35-6
Binny's Coorg Purchie Cadoo ...	75-0	53-0	42-6	80-0	34-0
	1	2	3	PB	T
Arbuthnots Coorg Polli Betta Avoca Estate	73-0 bid	52-0 bid	—	80-0	37-0
Do. do. Mocha Estate.	73-6 bid	53-6 bid	43-0	80-0 bid	36-6

NEILGHERRY.

	A	B	C	PB	T
Nilgiris Nellakotta	74-0	54-0	40-0	75-6	37-6
Leighwood	68-0 bid	50-0 bid	43-0	76-0 bid	34-6
Kengary	85-0	56-6	46-0	80-0	34-0
Hathikadoo	74-6	54-6	45-0	60-0 bid	31-6
Boothecary Kotagiri	65-6 bid	49-6 bid	40-0	70-0 bid	33-6
Kotacul Nilgiris	71-6	54-6	49-0	65-6	34-6
Nilgiris Clouds Rest	83-6	61-0	45-0	85-0	37-6
Adderley	90-0 bid	66-0	45-6	85-6	36-6
S & Co. ◇ Neilgherry	73-6	53-6	no bid	—	35-6
Do. do.	68-0 bid	51-6 bid	—	no bid	32-6

WYNAAD.

	A	B	C	PB	T
Tulla Mulla Peak	79-0	55-0	44-6	82-0	37-0
Moopanaad Peak	73-6	53-6	—	71-6	36-0
Pootha Coolie	77-6	51-6	43-0	70-0	36-6
Nedikarna	73-0 bid	52-0	—	74-0	35-6
Walker's Estates Nellakotta ...	82-0	55-0	41-6	85-0	36-0

PULNEYS.

	A	B	C	PB	T
A & Co. Peryoor	55-0 bid	49-0 bid	43-0	no bid	35-0
Iyencovil do.	—	46-0 bid	43-6 bid	55-0 bid	33-6

NAIDOOBATUM.

	A	AA	B	C	T
Guynd WPC	104-6	97-0	67-6	48-6	92-6
Do. do.	104-6	98-6 99-0	65-6	47-0	89-6
Tulloes do.	105-0	96-0	63-6	45-6	89-0 bid
Kelly do.	113-0	101-6	70-6	51-0	99-0
Suffolk do.	109-6	101-0	70-0	56-6	94-0
Hope do.	113-0	103-0	73-0	50-6	95-0
Goodaloor Mullay WPC	101-0	100-0	66-6 67-6	58-6	92-0
Naiduvatum T	—	52-6 60-6	—	—	—

NELLIAMPATHY.

	A	B	C	PB	T
Lily Nelliampathies	83-0	55-6	44-0	80-0	36-6
Valavachen	78-0	51-0 bid	42-0	78-0 bid	31-6 bid
Pullala	80-6	54-0	43-0	85-0	32-6

TEA.

China slow of sale at rather easier prices, except for green teas, which were rather dearer. Auctions this week offered 4,142 pkgs.

Indian.—Only a small quantity was submitted at auction, comprising 9,600 packages, opposed to 14,100 packages in the week before, and 29,400 packages a year ago.

Notwithstanding the very moderate supplies there was not much recovery in quotations, though buyers were willing to operate at the reduction lately established for common and ordinary descriptions. Really good stand-out teas are becoming scarce, and desirable invoices were freely taken up at fully prior rates to a slight advance.

The catalogues included 1,200 packages from South India mainly of useful quality, which met with attention from the trade.

For 6,500 packages on Estate Account 8⅞d per lb. was obtained, contrasted with 7¾d per lb. for 16,900 packages, and 7¼d per lb. for 10,500 packages in the two preceding seasons.

The statistical position is satisfactory, deliveries from the London Bonded Warehouses for the past month being 12,793,000 lbs., whereas in the former year they were 11,155,000 lbs. The stock on 30th ult. was 17,653,000 lbs., against with 18,761,000 lbs.

Ceylon.—Nearly 21,000 packages were brought to public sale on the 25th ult. 17,500 packages were offered and 23,900 packages for this period of 1898.

Although considerable irregularity in prices was noticeable there was more competition for common to fair leafy kinds at the recent decline. Medium Pekoes and Broken Pekoes were, however, hardly so much in request and often sold fractionally lower. In spite of their relative cheapness the better grades remained somewhat neglected, and in most cases some concession had to be made in order to effect sales. The supply of finest was limited.

The average has fallen to 8¼d per lb. from 8½d, at which it stood on the 27th ult., while in 1898 it was 7⅝d per lb.

Java.—Rather over 500 packages, of direct import, passed the hammer, values being about maintained. For the 8th inst. 860 packages are declared.

Deliveries.—The clearances of all tea (on which duty has been paid) from the London Warehouses, as per official returns, were:—

From 1st to 30th April, 1899 ... ... 21,442,025 lbs.
„ „ 1898 ... ... 21,139,880 „

During the week the following have been printed for sale by public auction:—

	Sold. Pkgs.	Withdrawn Pkgs.	Total offered. Pkgs.
India	8,217	1,414	9,631
Ceylon	18,859	2,109	20,968
Java	448	64	512
Total ...	27,524	3,587	31,111

Also 138 packages from second hands.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated May 5th, 1899, says:—

QUANTITY BROUGHT TO AUCTION IN LONDON
From 1st June to Date.

	Indian.	Ceylon.	Java.
1898-1899 ...	1,530,223 pkgs.	1,038,584 pkgs.	43,823 pkgs.
1897-1898 ...	1,525,579 „	1,107,577 „	40,811 „

9,803 pkgs. Indian
21,065 „ Ceylon
512 „ Java
} Total 31,380 packages were offered in public auction this week.

Last month's deliveries of Indian Tea from London warehouses were again very heavy and increased the total Indian deliveries from the commencement of the season to the end of April to nearly fifteen million pounds above the corresponding period of last season, the stock of Indian Tea in London being now almost nine million pounds less than a year ago.

Indian. The small quantity brought to auction sold steadily at last week's rates. Latest enquiries indicate that very little Tea now remains in importer's hands, against sales of 115,000 pkgs., of old season Tea during May and June last year. The Official Telegram gives exports to U.K. for the second half of April as 699,000 lbs., against 354,000 lbs. last year, and from 1st April to 30th April 772,000 lbs., against 410,000 lbs. same period 1898.

Total Tea sold on Garden Account 1st June to date 1899, 1,133,668 pkgs., av. 8 78d. 1898, 1,113,726 pkgs., av., 8 67d.

Ceylon. A further slight fall was noticeable in prices, but competition was strong and bidding very general. Although Teas for price are twopence per lb. above quotations of twelve months ago, the decline in the value of better grades has been so severe that the week's average is only a halfpenny over the corresponding week last year. The Official Wire gives exports to U.K for April as lbs. 8,000,000, against lbs. 6,700,000. Exports from 1st January to end of April, lbs. against 31,000,000 same quantity last year. Estimate for current month 9½ to 10 million, against lbs. 9,500,000 shipped last May. Average for week 8·15d., against 7·62d. same period 1898.

Ceylon Tea sold on Garden Account, 1st Jan. to date 1899, 350,320 pkgs., av., 8·45d. 1898, 395,075 pkgs., av., 7·63d.

Java. The small sale passed at last week's rates.

Bank rate 3 per cent. Exchange on London three months' sight:—Calcutta 1/4 5/32. Colombo 1/4 5/32.

COCOA.

Owing to the very quiet state into which the market had fallen no auctions were held on Tuesday last. The private transactions during the week include 50 bags Trinidad at 70s to 71s for middling red, 100 bags Grenada at 69s to 70s, 100 bags Guayaquil at 75s to 76s for summer Arriba and 73s for fine Caraquez, and some Ceylon at 70s to 73s per cwt. for medium and bold.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

		1899.	1898.	1897.	1896.
Imports, B.P.	bags	72036	79706	62397	67031
Foreign	...	24997	46421	25276	25834
Home Con., B.P.	...	33237	41855	33616	29870
Foreign	...	20554	22248	25184	23007
Exports, B.P.	...	20042	11888	18497	14540
Foreign	...	12459	10627	15173	8684

PEPPER.

Black.—The market has presented a firm appearance this week on the continuance of small shipments (reported below), and value of Singapore has advanced $\frac{3}{16}$d per lb.—at 5$\frac{3}{8}$d for fair on the spot, with full prompt, at 5$\frac{1}{2}$d near at hand, at 5$\frac{9}{16}$d March-May, at 5$\frac{5}{8}$d May-July, at 5$\frac{11}{16}$d June-Aug., and at same price July-September shipment. The sales probably amount to 200 tons.

Auctions on the 3rd inst. presented 200 bags Penang, 4 lbs. weight, 3·03 per cent. dust per gallon, which were bought in at 5$\frac{1}{4}$d per lb.

Closing Report.—Firm but quiet.

Some Tellicherry sold on the spot at 5$\frac{3}{8}$d.

White is also firm, but business is small owing to the scarcity of sellers. About 100 bags Penang have been sold on the spot at 7$\frac{13}{16}$d to 7$\frac{7}{8}$d for fair. For arrival, no sales reported; Singapore, June-Aug. shipment, has buyers at 8$\frac{11}{16}$d, and Penang same despatch at 8$\frac{3}{16}$d per lb.

At public sale on Wednesday 71 bags good Singapore retired at 9$\frac{1}{2}$d to 10d per lb.

GINGER.

Cochin.—If possible demand in this market gets smaller and smaller; interest seems to have entirely died out. 340 bags 10 cases offered and 55 bags sold—common shrivelled D's, much dark, 16s 6d per cwt.

Jamaica a little steadier. 361 barrels catalogued and 72 barrels sold—good medium washed 70s to 72s 6d, medium ditto rather dark, 69s, dark and part lean 60s 6d to 64s per cwt.

INDIA RUBBER.

Market stagnant, but about 50 tons Bolivian sold—fine at 4s 3d, entrefine at 4s 1d to 4s 2d per lb. Para quiet, 10 tons hard sold at 4s 3d, entrefine 4s 1½d. 7 tons scrappy negroheads at 3s 5d, 15 tons Island at 2s 10¾d to 2s 10½d, 17 cases Island fine sold at 4s 3¼d.

The supply of other kinds of Rubber is rather large and demand slow at 1d lower prices generally, but not much sold.

Stocks in Havre, Antwerp, &c., are much above those of last year, so that our visible supply shows a good increase.

CINCHONA.

The Ceylon shipments from January 1 to April 11 were 1[illegible]7 lbs., as compared with 201,273 for the corresponding period of [illegible]. Since the auctions last week sales of 400 to 500 bales are repo[illegible] at an advance of $\frac{5}{8}$d. on the unit then paid. There have been nib[illegible] for the soft Colombian bark, but no business has transpired. T[illegible] exports of bark from Java for April were 996,000 Amst lbs., again[illegible] 8 0,0 0 last year, making a total for the four months of 3,021,8[illegible] against 3,225,000 Amst. lbs. last year. The shipments this ye[illegible] have been:—January, 509,800; February, 539,000; and Marc[illegible] 977,000 Amst. lbs.

The sales held at Amsterdam on 4th instant were as previous[illegible] reported, below the average, and they passed off quietly. b[illegible] although the unit declined, it was better than the value obtain[illegible] at last week's auction in London. Of the 4,439 packages offer[illegible] for sale, 3,762 sold at an average unit of 850c per ½ kilo. again[illegible] 1090c. in March. The following were the approximate quantiti[illegible] purchased:—American and English factories who published t[illegible] equivalent of 2,821 kilos; the Brunswick factory, 5,158 kilos; t[illegible] Mannheim and Amsterdam factories, 2,757 kilos.; the Frankfo[illegible] on-Main and Stuttgart factories, 2,317 kilos., and various buye[illegible] 2,274 kilos. The prices paid for the manufacturing bark rang[illegible] from 8¼c. to 76¼c per ½ kilo.; and for druggists,' from 12¾c. to 9[illegible] per ½ kilo.

QUININE.

Quinine has slightly improved its position since last Thursda[illegible] when the quotation for August delivery was 1*s* 4*d*. per oz., wi[illegible] sales in that position, and before the close of the week a go[illegible] business was done on the spot at 1*s*. 5¼*d*.; May, 1*s*. 5¼*d*. to 1*s*. 5½[illegible] and August delivery at 1*s* 6*d*. to 1*s* 6½*d*. and finally 1*s* 5¾*d*. Th[illegible] week opened at the latter figure, with a moderate business, but Tuesday sellers held out for 1*s*. 6*d*. with buyers at 1*s* 5¾*d*. but befo[illegible] the day closed some 20,000 oz changed hands at 1*s*. 5½*d*. per oz. [illegible] August delivery, the business being done by bear speculato[illegible] who anticipate a reduction of the unit at Amsterdam. On Wedn[illegible] day the market fluctuated between 1*s*. 5¼*d*. and 1*s* 5½*d*. closing at t[illegible] latter figure for August delivery. To-day no business has been don[illegible] waiting the result of the bark-sales. A record shipment of Ja[illegible] quinine has come to hand this week—viz., 175 cases, each case co[illegible] taining four 100-oz. tins, or 70,000 oz. altogether. To-day's qu[illegible] ation for this make is 1*s* 4½*d*. for 1,000-oz. lots, or 1*s*. 4*d*. for quanti[illegible] Imperial is quoted 1*s*. 5*d*.

The shipments from Java during February were 103 cases to Lond[illegible] and 25 to Amsterdam. From July 1, 1898, to February 28, 1899, 8[illegible] cases were shipped, as compared with 119 cases for the same period 1897-8. We hear that another 250 cases of quinine have been delivered [illegible] the Pandam Aroom factory of Batavia to the Dutch-Indian Government. The quinine is reported to be of good quality, and every consignment carefully examined. We simply mention this to show what Java is doi[illegible] and how the Government encourages the native manufacture; in fact, have reason to believe they have bought the bulk of this factory's outp[illegible] from the beginning.

(Average for all India 8·91d.) *May 5th.*

Garden.	Total.		Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust and Various.	
	Quantity		Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price
Neilgherry															
Curzon ...	52 p		7½	...	...	13	7½	12½c	8	12	7¼	15	7¾	...	...
Travancore ...	1012 p		7·81												
Arienkow ...	27		7¼	..	...	18	7¼	...	...	6	7¼	...	...	3	6
Ashley ...	60		7¼	...	...	34	7¼	26	7½	...	...	...	...	...	...
Atchencoil ...	38½c		7⅜	...	...	18½c	7½	10½c	9	10c	7¼	..	...	...	...
,, ...	40 p		7¼	8½c	8½	14 p	7½ 7½	7	8¼	5 p	7½	...	...	c	6 6
Balamore ...	180½c		7⅜	...	...	103½c	7½	68½c	8	...	...	8½c	6¾	1 c	5
Bison Valley ...	60		7¼	...	...	38	7¼	22	7½	...	...	..	...	...	...
Corrimony ...	170½c		8½	...	...	101½c	7⅜	65½c	9½	...	...	2½c	6½	2½c	5
Horeford ...	104		7¼	...	...	56	7¼	27	7½	18	7			3	5½
Kanan Dev Hill A ...	203½c		8⅜			52½c	8½	85½c	9¾	38½c	8¾			28½c	7½
Seafield ...	130½c		7⅜		...	85½c	7½	43½c	8¼			1½c	7	1½c	6

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

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N.B.—Remittance, should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 9th instant. Season reports should be sent direct to the Printers, Messrs. HIGGINBOTHAM & Co.

Coorg.

POLLI BETTA, *30th May—Weather.*—More like monsoon since Saturday, 27th. Rain daily at intervals. Amount yesterday ·45 inch. *Crops.*—Berries of the last set fairly forward, and will stand the monsoon all right if it is light at first as it promises to be. Ploughing operations begun on paddy fields. *Plant diseases.*—Borer trees being removed and burnt.

BRAZILIAN FINANCE.

EVERY coffee-planter in India should note with interest the course of any influence that affects the cost of placing Brazilian coffee on the market. Among these influences exchange is certainly not the least important, nor is the abstract question of finance in Brazil without an immediate bearing on the point under notice. We purpose, therefore, giving a few particulars regarding Brazilian finance. Not very long ago Mr. A. SCOTT BLACKLAW furnished certain information which duly appeared in these columns, but there is more to be said before the new funding scheme of the Government of Brazil can be rightly understood. This scheme came into force on 1st July 1898, and effects a considerable saving which will probably nearly effect a balance between the receipts and expenditure of the year. The following are brief details of the scheme:—The Government having decided to fund for three years, namely, from July 1, 1898, to June 30, 1901, both inclusive, the interest on the external debt and the interest on the 4½ per cent. Internal Gold loan of 1879, and also certain amounts payable annually for railway guarantees, authorised Messrs. N M. ROTHSCHILD & SONS to issue an amount, not exceeding £10,000,000 nominal capital, of 5 per cent. funding bonds, specially secured by the customs revenues, as hereinafter mentioned. The loans included

in the funding scheme are various Government and Railway loans, the amount of interest affected annually is £1,773,950, and the amount of guarantees to railways milreis 9,774,844, or, say, £1,099,670. The Carangola, receiving an annual guarantee of £27,558, appears to be the only railway company excepted from the scheme The sinking funds and redemption of the loans will be suspended for thirteen years from July 1, 1898. The funding bonds will be specially secured by the Rio de Janeiro customs revenues, and by the customs revenues of the other ports of the union, should the Rio de Janeiro customs at any time prove sufficient. On and after January 1, 1899, and *pari passu* with the issue of funding bonds, the Government will deposit in Rio de Janeiro in trust with the London and River Plate Bank, the London and Brazilian Bank, and the Brazilianische Bank für Deutschland the equivalent of the said bonds in current paper money at the exchange of 18*d*., and the paper money equivalent to the bonds issued from July 1 to December 31 ,1898, will be deposited in the same manner during a period of three years, commencing January 1, 1899. The paper money deposited will be either withdrawn from circulation and destroyed, or, if and when exchange is favourable, will be applied in purchase of bills on London in favour of Messrs. N. M. Rothschild and Sons, to be placed to the credit of a fund towards the future payment in gold of the interest on the loans and the railway guarantees. The bonds will be redeemed by an accumulative sinking fund of half per cent. per annum, to be applied half-yearly by purchase of bonds when the price is under par, and when at or above par by drawings. The redemption of the bonds by means of the sinking fund will commence at the end of ten years from June 30, 1901, but the Government reserves the right to pay off the loan at par at any time.

The most important feature of the scheme is the engagement to deposit paper money in proportion as the funding loan is issued. By this means an opportunity is given of reducing by 130.000 contos, the excessive paper currency at present in circulation, amounting to more than 750,000 contos, or with exchange at par equal to £85,000,000 (sterling), for a population of between 17,000.000 and 18,000,000 including Indians. The annual expenditure affected by the scheme, exclusive of the sinking fund and commissions, is, it appears from the figures given above, £2,873,620. The sum required for redemption may be put down roughly at between £300,000 and £400,000, in consequence of the depreciation of Brazilian bonds. From the above figures the total annual expenditure, exclusive of the sinking funds and commissions, affected by the funding scheme and conversion appears to be £3,434,567, which is met for the next three years by the deposit each year of 38,314,933 milreis, and by an expenditure of 7,790,937 milreis, which the service of the converted loan requires; total 46,105,870 milreis, against 137,382,680 milreis, which the same sum in sterling was costing the country at 6*d*. Until the end of 1899 the advantages of the arrangement are unfortunately counteracted to a certain extent by the new obligations contracted at the end of 1897, *viz.*, the internal loan of 60,000,000 milreis requiring an additional annual expenditure of 9,600,000 milreis (£320,000), and the £2,000,000 gold loan, the last instalment of which is due on January 1, 1900. It is in 1900, therefore, that the full benefits of the funding scheme will be realised

Meanwhile, let us note whether progress has been ma According to the *Brazilian Review* of the 11th April 18 besides having already burned 8,000 contos of reis in co pliance with the conditions of the Funding agreement t present Government has repaid to the Bank of the Re 11·000:000$ borrowed in those hard-up times, has redeem 20·250:000$ of Treasury bills and at the same time attend religiously to its obligations abroad without issuing a sin Treasury bill of any kind, and yet has to its credit at t Bank of the Republic, instead of the usual debit, the han sum of nearly 2·600:000$ All this has been done out revenue by the exercise of economy in expenditure a better methods in collection. Opinions are somewhat div ed as to the burning of paper money. The following rema by a writer in Brazil represent one view of the matter: "The paper money, therefore, that is being destroyed is, the first place, an advance made to Government out of t Capital of Commerce, whether foreign or native does n matter, seeing that this advance has finally to be made go through the squeezing of agriculture. In this way it com about that agriculture has to work for nothing, so as to enab the Government to tear up a lot of its, the Government broken promises to pay. The question then becom what advantage can accrue to agriculture from this? Ag culture has, from now and for ever afterwards, freed its from any possibility of these same notes ever being presen ed at the counter of any Bank with a demand for any mittance draft, with a demand for a share of the agric tural gold mined by the Nation. Agriculture has tak the distribution and destination of its future wealth m fully into its own hands.

The foregoing, moreover, is only one aspect of t question, one only of the advantages to accrue. The ot advantage is that the Government being out of the exchan market it follows that what the direct creditors of Government fail to receive during the *moratorium* must to the commercial creditors of the Nation. At the end the *moratorium* the direct creditors of the Government w be out of pocket some, say, 10 million sterling, but Commercial creditors of the Nation will be in pocket j that same amount. In other words the Nation has s ceeded in arranging for creditors who in future will co affect the distribution of the yearly charge; and will h got rid of another set of creditors whose payment entai meddling with the distribution and destination of yearly wealth of the Nation to the full capital amou the indebtedness." We shall have something to say i future article on this view of the action taken by Brazilian Government.

OUR PRIZE ESSAY COMPETITION.

Only *one* competitor has entered the field! We nothing to be gained by extending the time for submiss of essays unless there is a certainty of more enthusia rivalry. If, therefore, we do not receive by the l instant "entries" to the extent of at least five or si in other words, declarations from 5 or 6 planters t they are willing to compete—we shall let the ma drop. If the names are sent in, we will extend the t to 15th July making that the last date on which es will be received.

NATURAL RENOVATORS OF SOILS.

Under this head, Dr. Wm. C. Stubbs makes some interesting remarks in the *Hawaiian Planters' Monthly*. The leguminous family of plants is, he points out, a very large one, and every civilized country has adopted one or more of them for food and fertilizing purposes. They all have nodules on their roots, filled with microbes, which, while they draw much of their support from the plants upon which they live, yet supply themselves in a manner not yet clearly understood, with nitrogen drawn directly from the air. Having only an ephemeral existence they are rapidly absorbed after death by the host plant, which, so to speak, gets back what the microbe has taken from itself with the addition of the nitrogen appropriated from the air. The microbes in fact "board" with the plant and eventually pay for their "keep," partly in nitrogen. Dr. Stubbs considers that "only by the practice of planting leguminuous crops can we hope to economically and profitably restore the nitrogenous matter to our soils, and that only by the study of the composition, individuality and adaptability to our surroundings of the various leguminous crops can we select one or more which will accomplish the above results in the shortest time" He reminds us, however, that in the cultivation of these crops only nitrogen is gathered from sources exterior to the soil. Whatever of phosphoric acid, potash, or lime is needed by these plants must be obtained from the soil; so, if the latter be deficient in any of these ingredients, they must be supplied before large crops can be produced. He specially mentions Alfalfa, Crimson and Red Clover, Lespedeza, Hairy vetch, Spanish peanuts, Cowpeas and Velvet beans as useful plants, and remarks that, other things being equal, that crop which will produce the largest amount of nitrogen, obtained from the air in a given time, is the best crop to grow for fertilizing purposes. Which plant, in Southern India, answers to this description?

TEA AND THE AMERICAN CLIMATE.

Mr. MacCombie Murray lately sent the *Ceylon Observer* a letter from Philadelphia, with long inclosures showing the opinions of leading dealers with respect to Ceylon teas, and the prospects of their converting American taste. Commenting on this, our contemporary remarks that the curious fact is that neither Mr. Martindale (one of the American dealers referred to), Mr. Murray, nor any of the other writers in this tea discussion stumbled on the proper answer to the objection raised, that while Ceylon and Indian teas might do very well for the rainy, damp climate of England, they were unsuitable for the dry, electrical climate of the American States. The *Observer* proceeds:—"The objection is that our teas have too much tannin for the latter condition. Now, apart from the fact that the proportion of tannin drawn off into cups of tea can be regulated by the time given to the infusion—what do Messrs. Martindale, Robertson, and others of our American cousins say to the case of Australia, with its far drier and more electrical climate than any to be found in the States? Here are the Australians—a nation of athletes, beating the English at their favourite game of cricket—drinking tea (mainly Ceylon and Indian) at the rate of 7 lbs. per head per annum! Where are the bad effects? Does their experience not prove that tea is just the beverage for the people of the United States from New York to San Francisco, New Orleans to Chicago and Philadelphia to Denver? If our American cousins only took to tea, up to 2 lbs. per head per annum, they would benefit themselves and tea growers everywhere!" No doubt, but we can scarcely regard our contemporary's remarks as *practical*. There is no occasion to bring Australia into the discussion, unless it is asserted that the climate of that continent is similar to that of the United States! As for the supposed "electrical" climatic effects, it is pretty clear that there is something more than differences of electricity between the English, the American and the Australian climates. There is also a very great difference between the peoples of those lands, and the fact that Ceylon teas suits Australians is no indication that it would also suit Americans. At any rate, neither Ceylon nor India teas can be forced down unwilling throats. Either the Americans must be "educated" up to the level of India and Ceylon teas, or these must be so changed in character as to adapt themselves to American taste; the alternative is—a want of success in the attempt to secure the lion's share of the Tea trade of the United States.

CHINA *v.* INDIAN TEA.

In a short paper, which we reprint on another page, the *Grocer* utters a timely warning as to the preference entertained for Ceylon and Indian teas. Our contemporary plainly states that planters should not rely too much upon this preference, as there are times when none is shown. In certain conditions of the market, China leaf will be bought just as readily as other sorts, and the mere name "Indian" or "Ceylon" will have no influence. It is unwise to allow fixed ideas to dominate one's anticipations. Not long ago we heard a good deal about an imaginary ring of buyers in England who were in league to hold tea prices down. More recently there were some imaginary wholesale dealers who would not buy China teas at any price—perhaps would not accept them as a gift! This is the sort of thing that planters should not heed. In the long run, the mutual relations of supply to demand are what planters have to consider, and that is all. Give the qualities that are in demand, and not an excessive quantity of any of them: then prices must be maintained. Whenever one sort or more is offered too freely, then prices fall. When one is not offered in sufficient quantity, either prices rise or buyers take something else. The fall, consequent on an excess of supply, may be anticipated with certainty, the rise that should follow a short supply is highly uncertain. In most instances, buyers have a prejudice against paying beyond a certain level of price for any given quality, and, if they cannot get this quality at their price, they are apt to content themselves with anything they *can* get at the figure. We entirely agree with the *Grocer* that, under certain conditions, London buyers would take China teas just as readily as Indian or Ceylons. Still, if the quality of the latter sorts is well maintained, they need fear nothing from the competition that is inevitable. They have won in the past, and there is no reason why they should not pile victory upon victory in the future.

COFFEE IN DISTANT LANDS.

Trinidad.—The Annual Report of the Royal Botanic Gardens, Trinidad, for the year 1898, contains the following interesting notes :—

The trees of the new coffee (*Coffea stenophylla*) have again borne excellent crops for the second season. The seed has been much in demand; but I am sorry to say our local planters have not as yet taken any general interest, and most of our crop has gone abroad. The tree bears a small purple berry of the Mocha type, and the flavour of the coffee is excellent. A small area has been planted at St. Clair. Our seedling plants, when about six inches high, met very wet weather and were badly attacked by *Cerospora coffeicola*, a leaf disease which is generally present among seedlings. Curiously enough, this fungus was mistaken by a French buyer for the deadly *Hemileia* of Ceylon, and considerable scare was caused in consequence. *Hemileia*, however, has not yet been seen in Trinidad.

Maragogipe Coffee, or Brazilian coffee, a variety of *Coffea arabica* has produced a large crop of beans for the first time, a fine coffee, of vigorous habit and has a much larger leaf than ordinary *C. arabica* with beans of nearly double the size. Vilmorin, of Paris, calls it *Café géant du Brasil*, and it is certainly deserving of the name.

Abbeokuta Coffee.—This coffee is of the Liberian type and resembles it in vegetative characters It was found in the district of Abbeokuta, on the way to the interior from Lagos, west coast of Africa. A small patch has been planted for trial at St. Clair.

Congo Coffee.—This is a coffee similar in appearance to the last, and was received from Kew under this name. It it said to be a valuable kind; but the plants are yet too small to indicate what type or character they will finally assume. They are growing well.

Minerva Coffee.—For some years we have had under cultivation a variety of *Coffea arabica* which has hitherto been called "narrow leaved." This has now proved itself to be a very early fruiting and prolific variety, and has been named 'Minerva Coffee" for convenience of nomenclature. The beans are of large size and possess a very fine flavour.

Mexican Coffee.—This is another of the interesting introductions which are always being received through the Royal Gardens, Kew. It is a variety of *Coffea arabica* and has proved itself to be a prolific variety, and possessing a strong constitution.

Golden Drop Coffee.—This is a variety in exchange, but about which we have received no definite information. It is a variety of *Coffea arabica*. It will be tried on the new grounds at St. Clair.

The culture of coffee in Trinidad is certainly extending, somewhat slowly it is true, but still extending. The Botanical Department has sold large numbers of plants at four for a penny, which should be cheap enough to encourage planting. There is, however, a general disinclination to cultivate coffee for itself, and it is usually looked upon as a plant for the edges, and odd corners. Some few are now commencing on different lines, and it is to be hoped that others will soon follow their example.

Ecuador.—The coffee crop of 1898 did not reach the expectation of the planters, the production of this article being but little in excess of the past year, although a much larger area is under cultivation. The decrease in t market price of this staple has been the cause of plant turning their attention again to the cultivation of co which in a few cases was abandoned for that of coffee w the price of the latter rose considerably. and the gen impression was that it would retain its higher value. Th were 36,800 quintals (say, nearly 1,600 tons) available export, against 26,126 quintals (say, nearly 1,200 tons) 1897.

Java.—The British Consular Report for 1898 says :—T rainy weather, which distinguished a great part of usual dry season, proved less advantageous for coffee th it undoubtedly was for sugar, as it interfered greatly w the blossoming of the trees, and consequently the ye crop instead of being heavy, as hoped for after the su majority of estates. Of course the trees have grea benefited, both by the rain and the rest from fruit-beari and only require favourable weather during next blosso ing season to produce plenty of coffee. Owing to a sev drop in prices, especially for the Liberian variety, ma estates are finding the culture unprofitable, and, should improvement take place, it is to be anticipated that no few will ultimately be abandoned. Meanwhile, one or t of the less favourably situated lands are being closed realised by public sale. The actual figures were—

	QUANTITY.	
	1897.	1898.
	Tons.	Tons.
Government	28,880	5.042
Private	26,400	22,100
Total	55,280	27,142

A CO-OPERATIVE SHIPMENT OF COFFEE.

A letter was recently issued to members of the Monteag and Pedro Agricultural Society, in the West Indies, st ing that the Council had decided to make a co-operat shipment of coffee to London and the conditions un which the shipment would be made. The shipments wo be open only to members of the Society. Any mem desirous of taking part had to deliver the coffee prope securely and cleanly packed by a certain date. All coffee received at the wharf on the day named would shipped to a firm in London. No quantity less than barrel or bag would be received. Each parcel (bag barrel) had to be sound and clean and clearly marked w a distinctive mark, which the sender must see shown his voucher. Should any parcel from any cause in special expenses, these would be charged against the par in question. All wharfage, freight, and all charges London (except brokerage and commission) would divided over the shipment and charged to each parcel proportion to the shipping weight, not to the val Brokerage and commission would be charged as a perce age on the total proceeds. When account sales arri out, notice would be sent to each shipper. and he wo receive the gross sum for which his parcel was sold, l the proportion of expenses charged to his parcel.

It will be interesting to learn how this experim turns out.

TELEGRAPHIC QUOTATIONS.

	May	27	29	30	31
LONDON—					
Bar Silver	...	28 1/16	28 1/16	28 1/16	28 1/16
Bank Rate	...	3%	3%	3%	3%
Coffee, Mid. Ceylon	...	105s.	...	...	...
Mysore, Av. (B) size	...	66s.	...	...	...
NEW YORK.—					
Coffee—Fair Rio	...	6 3/8	6 3/8	...	6 1/4
„ Futures, Aug.	...	5·88	5·91	...	5 91
Silver—Comml. Bars	...	61 1/4	61 1/4	...	61 3/8

NOTES.

Tea in Palestine. According to the *Planter*, experiments in Tea planting are being made in Palestine.

Coffee Sales in Amsterdam. In Holland the clearances of Java Coffee by the Dutch Trading Company during April were about 17,000 bags, against 15,150 bags last year, and 16,500 bags in 1897.

The Calcutta Tea Sales. On 26th ultimo 7,000 packages were offered and 6,000 sold. There were fewer desirable liquoring kinds offering than at last sale. For those catalogued, however, there was a good demand. Common and broken pekoes were somewhat neglected; and pekoe souchong prices were rather lower.

Cocoa in Java. Exports of cocoa in 1898 showed again an increase on those of 1897 of about 20 per cent. and prices in Europe were well maintained. The trade in this article done with the Philippines has almost ceased since the recent troubles in that quarter.

Danger of importing Insect Pests. Of the 73 species of insects most injurious in the United States, 37 have been undoubtedly introduced from foreign countries. The great majority of introduced species have come from Europe. Mr. L. O. Howard regards nursery stock as the most dangerous means of importation of insect-pests.

South Indian Estates in the Market The Glen Morgan and Mount Gordon estates, near Ootacamund, will be offered for sale by public auction by Messrs. Somerville & Co., London, at their rooms, on Friday, the 29th of September (unless previously disposed of by private treaty). The acreage of the two estates is 438, and they are planted with tea and cinchona.

European Stocks of Coffee. According to Messrs. G. Duuring & Zoon, European stocks on the 1st ultimo showed an increase of about 5,550 tons, and the visible supply a decrease of about 7,130 tons, being estimated respectively at 233,250 tons and 378,040 tons, against 227,700 tons and 385,170 tons on the 1st April.

Brazilian Coffee Crops. Aggregate entries for the crop to 14th April are 1,735,705 bags less than for the corresponding period last year of which they represent 81. 5%. On this basis a Rio estimate for the current crop is as follows:

Rio	3,078,292
Santos	5,439,249
Week ending April 14th	8,517,541

Railage on Tea in Russia. The Russian Minister of Finance has sanctioned, dating from the opening of regular traffic on the Trans-Caspian Railway in January last, the transit conveyance of green tea by that railway to the Custom House of Kokand from the ports of Batoum, Baku, and Krasnovodsk, on the same conditions as those on which such transit importation is allowed at the Askhabad and Bokhara Custom Houses.

Ceylon and China Teas in Australia. The *Times of Ceylon* states that private advices from Australia tell of a great run on China teas in the Australian market, owing to the recent rise in Ceylon prices. Stocks of China teas are said to have been almost cleared out, as the Australian consumer will not pay more than a certain amount for his tea, and if he cannot get it at one place for that price he will go elsewhere.

Imports of Fertilisers into Java. The import of sulphate of ammonia into Java, which increased during the year 1898, may be estimated at about 10,000 tons. Other fertilisers containing nitrogen, such as bean-cake, cotton-seed cake and dried blood, have not been imported to anything like such an extent in 1897, but the import of "poonac," that is, *arachis* (bean-cake) from British India, seems to have increased very considerably.

Sovereign Tea. Certain Sunderland grocers complain of a system which, they think, comes within the meaning of the Lottery Act. The system appears to be to send female canvassers from house to house, and those travellers inform the people upon whom they call that every Saturday, before the parcels of tea are sent out, several sovereigns and half-sovereigns are placed in packets at random. So buyers naturally think they have a chance of getting some gold "given away with a pound of tea."

Coffee and Cocoa in Spain. The following are the values of imports of Coffee and Cocoa into Spain during the last three years:—

	1896.	1897.	1898.
Coffee	£747,000	£645,000	£536,000
Cocoa	£400,000	£404,000	£385,000

The falling off in coffee is serious. As for tea it is grouped with "groceries," so the extent of the tea trade cannot be ascertained. Tea "groceries" fell, however, from £73,000 in 1896 to £65,000 in 1897 and £49,000 in 1898.

Steam-ploughing on Tea Gardens. A correspondent of the *Planter* holds that a consideration of the question as to whether steam-ploughing could be wholly or partially introduced as a substitute for manual labour in tea gardens, is one which might well occupy the attention of those interested in tea cultivation, especially in those districts where labour is scarce. As regards South India, at any rate, we scarcely think the subject is one that need be discussed until several others of much greater moment have been threshed out.

Tea in Canada. The *Canadian Grocer* of 28th April says:—"Retailers are still reported to be fairly good buyers of tea, but the wholesalers at the moment appear to be lying on their oars. This refers to Toronto. From Quebec it is reported:—'A much stronger feeling has developed in the market for most grades of teas, and prices are steadily advancing, especially for Ceylons, China blacks and gunpowders, which are becoming scarce, to some extent, as the demand at present and for the past two weeks or more has been chiefly for the above grades.'"

The Colombo Tea Sales. At the public sale of tea at Colombo on the 24th ultimo about 10,937 pkgs. = 846.905 lbs. were offered, of which about 9,407 pkgs. = 745,007 lbs. were sold. A decidedly better feeling was noticeable at the auction, due no doubt to the improved quality of some of the invoices offering, and all teas were well competed for. Common and medium grades were in strong demand, and fetched full prices. Among the best teas in the sale were, says the *Times of Ceylon*, Devonport, Naseby. Middleton, Glasshaugh, and Blinkbonnie.

Adulterated Coffee. An interesting point was recently raised by a grocer who has six or seven shops in Birmingham, each in charge of a manager, who was instructed to sell all goods for what they were, and in no case to supply an adulterated article. Yet recently one supplied an article as pure coffee which contained 74 per cent. of chicory, and charged 1s. 8d. per lb. for it. No doubt the fault lay with the manager, but the case surely shows that it is necessary that the responsibility of the assistant should be recognised by the Government where a trader has a number of branch establishments.

Plants and Coloured Light. The report on the work of the Station of Agricultural Climatology at Jervisy (France) shows that, as a rule, the greatest growth was made in the red light. Sensitive plants did best under a slightly diffused light; with Strobilanthus and Coleus intensities of 65 and 50 per cent. respectively, were most favourable to the growth of the vegetative organs. The behaviour in this respect differed widely with the species of plant under trial. We may add, parenthetically, that the writer, M. C. Flammarion, concludes that there is no relation between the phases of the moon and the character of the weather.

Tea. An experienced planter writes to the *Ceylon Observer* anent a remark of the *Times of Ceylon* that old tea bushes are more sensitive than young to changes of weather. The planter says:—"Well, that is quite opposed to the general opinion. When the bushes have their tap roots well down the trees are less sensitive to such changes than in the young state of growth. The Colombo market is very sensitive to adverse circumstances. Let the London market go down ⅛d, it will go down three cents. A scarcity of freight is also made an excuse of buyers slowing off. Except for Australia and direct shipments to Continent, the Colombo market is not to be relied on."

Ceylon Tea at Coolgardie. Mr. Jules Joubert, the General Manager of the West Australian Exhibition, at Coolgardie, writes:—"The Ceylon tea-room has, as I anticipated, done an immense deal of good. It has opened the eyes, not only of West Australians, but of many of our visitors, to the fact that these colonies, where tea is consumed in such enormous quantities, have been and are *poisoned*." He believes in establishing a special agency to push the trade, but remarks that the great thing is to have in Ceylon some expert to mix or blend the teas so as to ensure a constant supply of *one* sample of each grade—cheap, medium, good and superior—being four prices—the first, of course, will command a huge sale.

Tea in Java. The export of tea for 1898 was again over the previous year's figures, being 12,100,724 lbs., against 11,218,569 lbs. in 1897, 9,568,732 lbs. in 1896, and 10,146,800 lbs. in 1895. These figures sufficiently substantiate the views expressed in reports from this Consulate that exports would increase in the future. Although the increase is marked, the British Consul remarks that the limit has not yet been reached by a long way, as new estates are being continually opened whilst those working are increasing the acreage under cultivation. Prices for the article were good, and planters have no reason to complain. During the year 263,067 lbs. of Amoy Oolong, and 969,334 lbs. of Formosa Oolong were imported into Java solely for the consumption of Chinese who do not seem to care to accustom themselves to the local-grown article.

Coffee in Sylhet. On 20th ultimo the South Sylhet correspondent of the *Planter* reported:—The weather seems to be even more favourable for it than it is for tea. The "droppy" weather we are having seems to favour the development of next year's fruiting wood to an extraordinary degree. The berries on the bushes are swelling away rapidly, and the Liberian variety is ripening off last year's set of berries, selling away what the bushes set last March and preparing to open another flush of blossom. Both varieties are keeping in the pink of health, and, unlike the tea bushes I have seen lately, have not a sign of any kind of disease or insect pest whatever. From a letter to hand a few days ago from Jalpaiguri it appears that Arabian coffee has been growing there in a tea garden for many years. The bushes are over ten feet high and never have had anything done to them. But it appears now this garden is going to open out a coffee garden.

The Florida Velvet Bean. In the annual report of the Agri-Horticultural Society of India we read:—"*Mucuna pruriens*.—The Florida velvet bean, regarding which so many articles have appeared in *Indian Gardening* during the past year, has been experimented with on a fairly extensive scale; but, so far as results go, it seems in all respects to resemble our Kamach (*Mucuna nivea*). The experiment was taken up at the request of a correspondent in America, in whose opinion this "new bean" would prove of great benefit in famine-stricken tracts; the first batch of seeds cost five shillings a pound, but the produce in no way

xcelled that of our indigenous species, which can probably e obtained at five farthings a pound. This bean appears have been put on the market for sale in the same manner nat the so-called improved form of *Lathyrus silvestris* as foisted on the public five years ago, and regarding hich nothing is now heard."

Lucerne"—a favorite Fodder.

The following is from a recent number of the *Rural Californian* :—Alfalfa is better than a bank account, r it never fails or goes into the hands of a receiver. It weather-proof, for the cold does not injure and heat akes it grow all the better. A winter flood will not own it, and a fire will not kill it. As a borer it is equal an artesian well; it loves water and bores to reach it. hen growing there is no stopping it. Begin cutting a 20-re field, and when your last load of hay is handled at one d of the field it is ready to cut again at the other end. For ling a milk can, an alfalfa-fed cow is equal to a handy pump ttle love it, hogs fatten upon it, and a hungry horse wants thing else. If your land will grow alfalfa you have the op on dry weather. Once started on your land, alfalfa will y by you like Canada thistles or a first-class mortgage, t only to make you wealthier and happy. Evidence of the ofitableness of alfalfa or irrigated land in the semi-arid gions multiply from year to year.

Preservation of Eggs.

A comparatively novel method of preserving eggs, which is probably best yet tried, has been thoroughly tested at the tario Agricultural College, says the *Standard*. The pre-rvative is silicate of soda, commercially known as "water-ss." A solution of this substance in the form of syrup s tried in three strengths—10, 15, and 20 parts of water pectively to one part of water-glass. The strongest ution was found too strong, as the eggs floated in it; l the weakest was perfectly satisfactory, the eggs kept it being quite fresh, and having their yolks in proper ition (instead of clinging to one side, as in ordinary le eggs) at the end of six months. The eggs should be ked in the vessel in which they are to be kept, and the ution poured over them until it covers the top layer. e water should be boiled to kill putrefactive organisms it, and then allowed to become cool, after which the ter-glass should be well stirred into it. As the solution os up the pores of the eggs, each one should be pricked h a needle before it is boiled, otherwise the shell will ck.

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zilian Coffee.

Replying to inquiries recently made by the *Brazilian Review*, a planter the Sorocaba district writes as follows :—"Generally ering in this district, up to 1897, took place up to the of September and but rarely in October, November December. In 1898, however, the best flowerings e in the early part and middle of September and first s of October. After that only partial flowering was to oticed. Up to 1897 harvesting never commenced until end of May, June or July. This year, however, coffee ripen and be ready to be picked by the end of April, act, I intend to commence by that date myself. The nge of climate is here attributed to the devastation of the forests, which accounts for the change in the harvest-time. As regards the coming 1899-1900 crop, it is difficult to give an opinion without having visited every district; but I am able to inform you that in the Municipality of S. Manoel the crop will be good, of Botucatú and Tieté very fair, and at Avaré and Itatinga small. As regards the sertão (newly planted districts) I am informed that the crop will also not be bad. 'Café das Aguas' is not common in this district though a little is to be found with the rest."

Dry Rot.

The May part of *Building World* contains an article on "Dry Rot in Timber and its Prevention." Amongst other recipes the writer says :—Substances, such as paint or tar, that imprison moisture within wood or prevent its free evaporation, should never be used on damp or badly seasoned timber. Painting the ends of beams, joists, and all timbers touching the walls, with creosote has been found to be very effective in keeping out damp. It coagulates the cell contents, thus giving solidity to young cells; it absorbs oxygen from the cell: it resinifies within the cells, and so excludes air and moistures; and it acts as a poison to fungus. Several other preservatives against damp and dry rot have been suggested, the best being, perhaps, jodelite and carbolineum avenarius. These preparations are applied hot, with a brush in the same manner as ordinary paint, and it is claimed for them that owing to their powerful penetrating properties they drive out all moisture, and make the wood impervious to damp. Timber of large scantling is sometimes, while appearing perfectly sound, quite rotten internally, where strings of mycelium permeate the core. It is wise, therefore, to have all large timber sawn in two parts, which can then be reversed and bolted together, care being taken to insert strips of wood between the pieces so as to form an air space. As a further precaution, the inside face of each piece might be painted with creosote, jodelite, carbolineum, or corrosive sublimate dissolved in alcohol.

Coffee in Dibrugarh.

The following has been sent to a Calcutta contemporary by a correspondent at Dibrugarh :—My coffee bushes have flowered four different times ranging over as many months, and they are still throwing out occasional clusters of flower. During one of these flowering spells it rained, or rather drizzled, for four whole days without interruption or intermission. Not a single blink of sun was discernible during that time, nor for six days after, and then he only looked out for a couple of hours or so once or twice during the next six days. There was at the time, I should say, about one-fourth of the entire crop of blossom open. For nearly a fortnight after all the blossom had disappeared, I examined the bushes daily and was at first inclined to think that they had all set, but after the weather cleared up and commenced to get warmer, I very soon found out that I was mistaken, as only about half commenced to swell. The other half at first took on a whitish tinge, and after a time turned black and dropped off. The coffee bush is, however, as far as my experience has gone, a most wonderful bush, and moreover would appear to be a most determined one. Notwithstanding the fact that almost all sorts of climatic influences have been brought to bear to wreck its productiveness, it appears to be still determined

to produce a fair average crop. I find on examination that there are no less than four different sizes of berries on these bushes; varying in size from a very large pea—nearly half full size—to slightly larger than a pin head. And between these clusters of berries, as well as at the extreme ends of the branches, the bushes are still forcing out flowers.

The London Coffee Sales.

The *London Commercial Record* remarks:—It is satisfactory to be able to report some improvement in Mincing-lane trade, be it ever so slight. . . . The bear clique has proved itself too strong once more, but the believers in a rise are steadily increasing in number, and bulls may prove victorious yet Among others coffee made strenuous efforts to shake off the terrible depression from which it has been suffering so long; its endeavours, however, were seriously handicapped by the enormous supplies of actual coffees of all descriptions. Yet an advance has been gained in some descriptions. Huge catalogues have to be waded through day after day, and the sales have become so congested that brokers are unable to tell within a week when their turn to sell will come. No wonder, therefore, if buyers become independent and smile at the efforts of holders of spot coffees to increase the value of their goods buyers pick and choose and discriminate to their hearts' content, and the poor holder has no alternative but to concede to their terms or be left with his coffee, the cost price of which becomes daily enhanced by accumulating charges. Fine colory East Indian sorts are selling at ruinously low values, and the planters in the East will derive but scant remuneration for their labour. Their position is not an enviable one at the moment by any means. With heavy losses this year—at any rate, in many instances—they see little chance for a recovery in the ensuing season, for exceptionally early and heavy rains have caused serious damage to their growing crop, and short yields, it is feared, will result. Capitalists with a speculative turn of mind might do well by buying these colory coffees at the present low prices and holding them for several months.

LETTERS TO THE EDITOR.

TEA PICKING.

Sir,—I should like to know if the following record pick of tea leaf has been beaten on these Hills. The field is one planted in 1889 with plants from our own seed, off indigenous single plants. The pluckings fairly fine, *viz.*, two leaves and a bud. The field had its first low prune in July last only. The individual figures for fifteen pluckers are as follows:—58, 37, 50, 58, 60, 60, 60, 46, 55, 63, 64, 54, 48, 56, 59. The 68 was picked by a little Badaga girl, named Gunghee, who is about ten years old only I do not pick by contract, but give small rewards now and again for merit. I have never, in my eighteen years on these Hills, had any better picks! The total into the factory for the day was 3,350 pounds, beating the previous highest record by 350 pounds. But for a heavy downpour of over an inch, lasting over an hour, the pick would have been far larger.

Coonoor, Thos. Brown.
29th May, 1899.

GENERAL ARTICLES.

THE NEW SEASON FOR CHINA TEAS.

In the course of a day or two, says the *Grocer* of 6th ultimo, Hankow market opens for the new season's China teas, and it may be confessed, so far as appearances go, it does so under more favourable auspices than have been witnessed within the last decade. Indifferent as the London trade may seem to this event, it is nevertheless one of great importance to parties at a distance, notably Russian and other foreign buyers, who will no doubt attend at the Chinese hongs in larger numbers than usual, and thus help to impart more life to the proceedings there than has been seen for several years past. Although, as we have just remarked, operators here evince little interest in what is going on in Chinese teas, pretending that the dealers do not want them, and that the said teas are only asked for and drunk by epicures, connoisseurs, and the ladies of the aristocracy, yet it must be owned that lately a more than average share of attention has been given them by the blenders, who have been sticklers for "price" tea of common quality suitable for their special purpose, when there has been an unexpected and prolonged dearth of Indian and Ceylon descriptions of the lower class.

This is a fact which should not be lost sight of when forecasting the probable future course of the tea market in general, for in times of scarcity all nice distinctions of quality and degrees of preference are silently dropped, and fanciful pickings and choosings for favourite growths have to make room for rough and ready purchases of whatever ill assorted teas may chance to be on offer. It is very well to say, as we have often heard it said recently, that many of the leading wholesale men will not touch China tea, while there is any Ceylon or Indian leaf to be had instead, and even then it must always be 1d. per pound under the lowest grades of British-grown teas. But circumstances, fresh in the recollection of the trade, have somewhat exploded this idea, as is proved by the revival of demand that has been experienced for China tea at a certain figure, accompanied, as it has been, by a considerable advance in values during the last few weeks, whilst the whole tendency of the London market is, if anything, still towards higher rates. The severely reduced stock in London, whittled down to 71,129,450 lbs., in contrast with 83,251,100 lbs. on May 1, 1898, is sufficient proof of the poverty of the present situation in respect of not having at hand an adequate and immediate supply of suitable teas for home consumption; and it can hardly be doubted that, when the new Monings arrive about the end of June, they will come upon, what is significantly called, a "hungry market."

Not only here, but also abroad, and more especially at Hankow, the Russians and Americans will be strong competitors for the new season's gatherings, and it is expected that they will pay such high prices to secure enough tea to fulfil their orders that the merchants from other markets will be completely shut out from their barg since many English firms will be unable to enter into engagements on equal terms. The existence of so formidable a rivalry in the making of contracts on home trade account will entail upon merchants a twofold disadvantage this season, if they are not careful how they operate. First, to make sure of obtaining the requisite quantity of tea for despatch by the steamer that departs at the earliest date from Hankow for the Thames, they may be tempted to give higher rates than the case actually warrants; secondly, having gone thus far in their speculations, the representatives of London houses and their agents, when the time arrives for the same teas to be realised in this market, may find, much to their surprise and dismay, that the prices paid in Mincing-lane are not exactly equivalent to those that have been sanctioned at the port of shipment. It therefore behoves buyers in foreign markets not to rush in and commit themselves to heavy engagements at "top" prices, but to exercise due caution in their dealings, for the same reverses are not unlikely to occur in the future that have happened in the past, and it is possible that China merchants who have bought too largely of high-priced tea, may not have the good fortune of seeing all their money back again and something over.

MARKETS FOR INDIAN TEA.

PERSIA, ARABIA, TURKEY AND EGYPT.

Writing to the *I. P. G.*, Messrs. W. S. Cresswell & Co., Tea brokers, Calcutta, say:—

"In December last, we wrote to the British Consuls in Persia, Arabia, Turkey and Egypt, to enquire into the state of the tea trade there, thinking that the replies would be interesting to merchants and planters in this country. We enclose what replies we have received, which will show you that there is still room for furthering the consumption of Indian teas outside Europe. 42 per cent. of the teas sold in Calcutta are taken for ports outside Great Britain. Only 6½ per cent. of the Indian teas sold in Mincing-Lane are taken for outside markets. With another 200,000 chests sold in Calcutta, the outside markets would develop considerably more than hitherto, and instead of only 42 per cent. being taken, the consumption would be nearer 60 per cent. and the London market greatly eased by the supply being brought nearer the demand. Unless something be done to regulate these supplies, we shall soon go back to the old fancy price of 4½d. for common kinds. The position at present is a very strong one, *why not make an effort to keep it so?*"

The following are extracts from the letters referred to:—

The Acting British Consul-General, Bagdad, writes under date 23rd January 1899, that it may be said that the average quantity passing annually through the Bagdad Custom House during the past three or four years has been nearly 5,000 cases of, say, 100 lbs. each, say, 500,000. Some 80 to 90 per cent. of this tea goes to supply the markets of North-West Persia. The great bulk of the tea imported is Indian, and is known in the trade as "Calcutta" tea; only a small quantity (perhaps 5 per cent.) comes from China and Java.

Of this annual import of some 5,000 cases, about 750 cases are sufficient to supply the wants of Turkish Arabia, of which Bagdad is the emporium. The present wholesale price of the description of "Calcutta" tea most freely sold in Bagdad is about Grand Seigneur Piastres 11¼ per Constantinople oke (2·83lbs.) equal at exchange of G. S. Piastres 115 per pound sterling on London to about 8¼d. per lb.

The trade is at present worked very cheaply by native merchants having agents in India. It seems to be increasing, but there would appear to be no room for a sudden development in this particular trade. It is *possible* that, with the present low prices of Indian teas, there may be a gradual change in the habits of the people of Turkish Arabia, that is, they may, after a time, come to drink more tea and less coffee. At the same time lower prices nearly always mean larger consumption, and, if the trade in Calcutta can put a tea on the Bagdad market at a less price than that quoted, the trade will probably expand. The market here requires cheapness before quality.

On tea sold for consumption in Turkish Arabia the duty is 8 per cent. *ad valorem.* If, however, it is sold for export direct into Persia, the duty is a transit one of 1 per cent. only. In the latter case, of course, the price paid here by merchants buying from the importers for the Persian market is proportionately less, *e.g.*, as against piastres 11¼, quoted above, the quotation, if selling for Persia, would be about piastres 10½.

The British Consul at Smyrna, writes under date 14th January 1899:—

In 1897 about 168,500 lbs. of tea were imported at Smyrna, estimated value about £10,900, for local consumption. It was chiefly blended tea, *i.e.*, China and Indian teas mixed. Natives of this country do not drink much tea, coffee being the beverage consumed instead. *The demand for tea is, however, increasing every year.* Price paid is from 2s 6d. to 3s. (retail) per lb.

There is decidedly room for a further development in this trade. The import duty on tea is 8 per cent. *ad valorem.*

The British Consul-General, Tripoli, writes under date 15th January 1899:—

The import of tea averages between £4,000 and £5,000 a year the bulk of which is purchased here for export to the Soudan by the trade caravans proceeding south to Wadai, Kano, Sokoto, etc. The qualities are as follows:—

Pon Mec	...	½ chests 0 3 10 at France 2 10 per kilo.	
Ditto	...	...	1 90 „
Young Hyson	...	...	1 70 „
Ditto	...	...	2 0 „

Small quantity of Indian tea in chests of 1 0 4 at 1s. 4d. to 2s. per lb. (all sales at 4 months date).

The caravan trade being on the decline, I do not think there is room for further development. The local consumption is small; the import duty is 8 per cent. *ad valorem.*

The Consular Assistant, Salonica, under date 16th January 1899, says:—

The importation of tea, mainly of India origin, amounts to 200 or 300 original cases in the season. The greater part of this is for consumption here and some for other parts of the province.

The use of tea is not general among the population, but appears to be extending with fair rapidity.

The import duty is 8 per cent as on all goods admitted into Turkey, and the price is from 2s. 3d. to 2s. 10d. per lb. according to quality.

The Vice-Consul, Uscub, Turkey-in-Europe, writes under date 22nd January 1889:—

The annual consumption in this Vilayet (Kossova) is about 1,500 okes (an oke is 2⅘ lbs) Except for a small quantity of Russian tea, nearly all the tea consumed comes from Asia Minor. It arrives at Constantinople or Salonica in cases of 50 kilogrammes each. In those towns it is repacked in tins of 1 oke, ½ oke, ¼ oke and sent to Uscub. The price at Constantinople or Salonica of the tea in general consumption here is 30 piastres the oke (110 piastres—£1) and it is sold here at 50 piastres the oke. The Russian tea is sold in packets of 100 grammes at 5 piastres the packet. I should say that probably the tea consumed here and said to be from Asia Minor is the same as you speak of as sold to Persian Gulf or Trebizonde merchants.

The Vice-Consul, Van, Turkey-in-Asia, writes under date 22nd January 1899:—

All tea imported here comes from Constantinople merchants. It is said that these merchants import in large cases from India, but the tea is remixed and packed at Constantinople before forwarding into the interior.

It is packed in small fancy tin boxes containing from 25 dirhems to 3 okes each box. (400 dirhems—1 oke =2¾ lbs.) Inferior teas are in small canisters 4 to 6 inches high. Occasionally rectangular tin boxes 13 by 9 by 10 inches are used.

It must be remembered that all goods to this province must come by pack transport chiefly from Trebizonde, sometimes from Alexandria. It might be possible, however, to open a more direct trade with Van through Bagdad and Mosul; the caravan distance from Bagdad and Constantinople is about the same.

Since ten years ago people, both rich and poor, have begun to drink more tea, and until three years ago the trade was increasing. The disturbances three years ago have much impoverished the country and there is no money to buy much besides bread and the absolute necessaries of life. This year there are fears of a partial famine. The import last year to Van was 3,000 okes or 8,250 lbs. The import duties are all paid in Constantinople. There are none here.

There are three kinds of tea imported here—

(1)	80 piastres an oke	...	...	6 shillings a lb.
(2)	40 „	...	...	3 „ „
(3)	20 „	...	...	1s. 6d. „

Samples of each are enclosed in the sample box.

As far as I can judge, all these have but a very remote connection with the actual tea plant.

Tea is not usually sold by the oke, but in the fancy boxes such as the one I send, which, filled with the second quality, is sold for 12 paistres or 2s. 6d. A canister 2½ feet diameter and 3⅛ feet high full of the worst quality is sold for 3½ piastres or 8¾d. A canister 4 feet high and diameter of second quality is sold for 5 piastres or 1s. 0½d. If the condition of the country should improve *I should think there would be a good demand for tea here.*

The Bagdad, Mosul-Van route would be the best, as the middlemen in Constantinople would be saved. A central agency at Bagdad with sub-agents at Mosul, Bitlis-Van and Diarbekr ought to do a good trade in cheap tea of a good quality.

The Consul at Beirut, writing on 25th January 1899, said:—

6,000 okes—15,000 chests tea passes annually through Beirut. Destination—Beirut, Damascus, Jaffa, and Jerusalem receive an equal quantity. Tea is not a national beverage, foreign residents consume the most. The quantity imported is drunk. Indian teas, price 7d. to 9d. per lbs. China teas 4 to 7 per 3 lbs. packets. China

teas packed in 10 or 20 lb. chests. Indian teas in 20 to 80 lbs chests. The import duty is 8 per cent. *ad valorem*. There is little chance of developing the trade.

The Consul at Angora, Turkey, said on 27th January 1899:—

No tea passes through the province of Angora, such as is imported being used in the district itself. The tea, I am informed, is of Chinese origin and comes through Russia to Constantinople, from which town it is imported here by rail directly. The annual consumption of tea in Angora and district is estimated to amount to 2,500 okes (the oke being taken at 2¾lbs.) of a value of some £500, which would give an average price of 4s. an oke or about 1s. 5d. per lb.

As you will see by the above figures, Angora can hardly be said to contain a tea-drinking population. Nevertheless I am told that, during the last three or four years, there have been signs *that the article has been gradually gaining ground, and that the families who formerly drank nothing but coffee are now replacing it by tea.* The same, though to a less degree, may be said of the Turkish peasants, among whom the custom has been introduced by immigrant Circassians from the Caucasus. The import duty on goods entering the Ottoman Empire is 8 per cent *ad valorem*. There is no octroi at Angora.

The British Consul at Damascus writes on 30th January 1899:—

About 100 boxes of Indian tea are consumed yearly in Damascus and district, each box containing from 110 lbs. to 132 lbs. Of China tea the yearly consumption is so small that it is hardly worth mentioning, perhaps 2 or 3 boxes similar in size to those in which Indian tea is imported. The habit of tea drinking is *undoubtedly growing in this city* and the few towns, which are comprised within the limits of the province, but as the greater part of it (the province) is inhabited by Bedouins, Druses, Circassians, and other wild and semi-civilized races to the great majority of whom tea is a novelty as well as a luxury, its consumption is necessarily very restricted.

The further development of the trade is not likely, considering the rough and uncivilized character of the majority of the inhabitants, to be either rapid or extensive. On the other hand, it is undeniable that such consumption of tea as exists has made very rapid strides *in the towns* of late years. Moreover, thanks to British enterprise and capital, a Railway is now in the course of construction which will connect St. Jean d'Arc, Haifa and Damascus, and so tap a considerable tract of country which no railway has hitherto reached, so that the demand for luxuries, such as tea so considered in this country, *will undoubtedly increase in the future.* On the other hand, it should be remembered that coffee, though it is dearer than tea, is *the* beverage of the country, while the latter is not. And even those who are most accustomed to the drinking of tea only indulge in the habit during the winter or cold months: all through the summer and the early autumn they drink coffee as being, so it is held, less heating. Nevertheless the habit of tea drinking is *certainly growing*, though chiefly confined at present to the towns.

The Consul at Jerusalem, writes on 11th February 1899:—

The tea imported into Palestine is, for the most part, of an inferior quality, and is consumed by the Jewish population and Russian pilgrims. The consumption, however, of tea in this country is *on the increase*, the natives having of late years taken to tea drinking, but as a rule they are indifferent to the quality. The price generally paid for the ordinary kind is at the rate of 1s. to 1s. 3d. per pound retail, sold in ¼lb. packets and it is a blend of China and Indian tea (sample No. (1).

The Europeans and better class of the inhabitants consume generally Ceylon tea or Orange Pekoe which are retailed at 1s. 6d. to 2s. 6d. per pound and is sold in bulk and in 1 lb. packets (sample No. (2).

From Kharput comes the news that the amount of tea used in the province during the year is about 2,000 okes (the oke being nearly equal to 2¾ lbs. distributed as follows:—

Kharput and the neighbourhood ...	700	okes.
Malatia district	700	„
Arabhia	500	„
Egin	100	„

As regards the country of origin of the tea imported into this province, about 75 per cent. is Chinese tea the remaining 25 per cent. being Indian of better quality than the China tea and higher in price. The quality of the tea used is for the most part very inferior, only about 10 per cent. being fairly good. The import is obtained entirely from Constantinople, there being no direct trade with China or India.

There is but little hope of any great expansion of the tr taking place at an early date.

The British Vice-Consul at Mohammerah, Persia, writes u date 24th February 1899:—

The import of *tea is increasing and is likely to increase.* The is Indian, Ceylon, China and Japan and is shipped by Brit steamer from Bombay.

The imports for the past three years were as follows:—

Year	Landed at Mohammerah.	Re-shipped to Karun.	Transhipped India to Karun Ports.
	Cwt.	Cwt.	Cwt.
1896	191½	65	301
1897	191	133½	240
1898	388½	82⅓	797½

The second column should be deducted from first to show lo consumption.

The following varieties are sold in Mohammerah Bazar at re price given:—

[*Exchange*—Krans 35 = Rs.10.]

1. Java tea, 200 tins of about a pound, at Krans 150.
2. Calcutta tea, Krans 10 per 6 lbs.
3. Ceylon tea, Krans 11 per 6 lbs.
4. White China tea (Pekoe) Krans 14 per 5 lbs.
5. Khaldar (Java Pekoe) Krans 14 per 5 lbs. tin, or Krans per 1 lb. tin.

Indian and Ceylon is either loose or in packets, packed in ca of 100 lbs. and 200 lbs. Paper packets generally bear a label Persian giving the name of some Persian trader either in India here.

Samples are enclosed of above.

Import dues of tea, if owned by Europeans, 5 per cent. *ad valo* once and for all.

Tea imported by Persians pay no customs at Mohammerah, an octroi of Krs. 0·025 per lb. package, with other charges incl ing literage coming to about seven krans per case. If re-shippe pays customs on shipment and at other places in the interior.

Through native cargo pays customs at Shushter Krans 12·75 mule load of 2 large or 4 small cases, it is liable to further dues other places beyond Shushter.

The British India and the Bombay and the Persia Steam Navi tion Companies issue through Bombay B L from Bombay to Na and Shushter on the Karun.

A mule road from Nasri (Ahuaz) to Ispahan is now being c structed and will probably lead to further trade with the inter by the Karun route.

The British Consul at Ispahan, Persia, writes on 25th Febru 1899:—

I do not believe that there is much chance of increasing the trade of the place, it is entirely in the hands of Parsi merchan who have their agencies in Bombay, who work it, you may be su for all that it is worth. I see by referring to my report of 1 No. 1662, Circular report, that, during the year 1895-96, the impor tion was 2,800,000 lbs., whereas in 1891-92 6,000,000 (six millions) w the figure. The closing of the Russian markets in the north w the cause of this great decrease.

With regard to this market in

1892-93 ...	4,844	boxes were imported.
1894-95 ...	4,479	„ „
1896-97 ...	3,117	„ „
1897-98 ...	6,314	„ „

The major portion of this tea is Indian, about $\frac{1}{10}$ may be taken China, that is, the tea which finds most favour with the Ul Small consignments also come from Java from time to time. T supplies which come here are for the local market and the surrou ing districts. I cannot find that any goes north. There is very much tea drunk, the people are poor and cannot affor expend much on what to them is a luxury.

Indian tea costs from Krans 32 to 40 per manshah.
China tea „ „ 70 to 110 „
Krans 3·50 = one rupee, 52 krans = £1 and 12·60 lbs. = manshah.
China tea is packed in big boxes, each containing 4 small boxes eighing about 28 lbs.
Indian tea is packed in boxes in lead foil, each containing about 00 lbs. I have seen it also in 1lb. packages. This came from angra Valley. Also I have seen it in wood boxes, each box ontaining four tins of 10 lbs. of tea. These have come from alcutta.
There is an import tax of 5 per cent. on all tea brought in by uropeans. I do not think that there is room for any development the trade. European merchants here, who have connections with ndia, have tried the market and have not found it responsive.
The British Consul at Erzeroum, Turkey, writes on 4th March 899 :—
Tea can be sold here for about £5,000 to 6,000 per year in rzeroum only. But as there is ground to sell also tea for the north Persia, for this year tea will be consumed for £10,000. Either r our city or for Persia Indian teas are used; but a little quantity China white tea.
The people of our province *drink much tea*, and from year to year ie consumption is growing.
Note that all the teas for this country must be flowery (fair ppearance). Black teas are never wanted here.
As for all goods the tax on tea is 8 per cent., which I pay at rebizonde. But if in transit for Persia no tax to pay in Turkey.
In Persia the tax on tea is about 5 per cent.

MANURING OF TROPICAL PLANTS—COFFEE.

Deep loamy soils, rich in humus, are best suited for the culti- ation of coffee; alluvial soils mixed with humus, or sandy loam ils, rich in humus, might also prove suitable, but soils which are ther light and sandy, heavy clay, or deficient in lime. should rtainly be avoided. As the results of experiments made upon is plant indicate that even the most extensive application of tificial fertilisers does not compensate for a deficiency in humus, should be the constant aim of the planter to supply coffee-fields ith humus-producing substances. The very first place should, erefore, be given to fertilisation with stable manure and compost, when these methods cannot be resorted to, they might be re- aced by green manuring. The necessary quantities of nitrogen, osphoric acid, and potash (and sometimes also of lime and mag- sia) must be supplied in the form of mineral fertilisers, as anuring with humus-producing substances alone does not answer e plant-food requirements of the coffee plant. The application mineral fertilisers becomes absolutely necessary whenever a soil s been under cultivation for some time and its natural supply of ant-food has become depleted.
The plant-food requirements of the coffee plant have been oroughly investigated by Dr. F. Dafert, Director do Instituto gronomico do Estado de Sao Paulo, Campinas. As a result of his tensive studies, he compiled the following figures, giving the ant-food requirements of the average coffee-tree upon an average il :—

	Lime.	Magnesia.	Phosphoric Acid.	Potash.	Nitro.
the 1st year	0·057	0·019	0·119	0·013	0·215
„ 2nd „	0·253	0·089	0·433	0·120	0·271
„ 3rd „	3·434	1·150	6·292	0·653	6·345
„ 4th „	5·030	1·574	9·805	1·041	10·674
„ 6th „	12·425	3·910	21·673	2·390	18·106
„ 10th „	11·268	3·619	16·011	1·778	18·066
„ 40th „	4·138	1·283	6·056	0 663	5·538

The roots, stems, and branches were carefully weighed, and the lowing quantities of coffee beans used as a basis for the yields:—

4	year-old tree	... ...	3·5274 oz.
6	„ „	... ...	17·6370 „
10	„ „	... ...	35·2740 „
40	„ „	... ...	7·0548 „

When we consider, however, the fact that in tolerably-well-cared- gardens an abundant use of fertilisers results in a correspond- ly increased yield, requiring proportionately larger quantities plant-food for the formation of wood and leaf, it becomes evident at the actual plant-food requirements of this plant are considerably eater. Dr. Dafert therefore recommends the following quantities of plant-food to be applied to each tree per annum:—

	Phosphoric Acid.	Potash.	Nitrogen.
Trees 0—4 years old ...	0·040 oz.	0·378	0·158
„ 5—8 „ ...	0·313 „	1·231	0·571
„ 9—20 „ ..	0·252 „	0·734	0·462
„ over 20 „ ...	0·152 „	0·488	0·081

In this way the formation of wood and leaf necessary for the rapid development of the tree is promoted, in the first few years, by extensive nitrogen and potash fertilisation, and later on the fruit is aided in its formation and development by larger quanti- ties of phosphoric acid and potash. It is therefore apparent that the principles laid down for other fruit-bearing trees (apples, pears, oranges, lemons, &c.), apply also to coffee.
As a complete absorption of the plant-food ingredients contained in the fertiliser cannot be expected, it is absolutely essential that the quantities applied should be increased in proportion to the nature and condition of the soil.
Fertilising experiments with coffee plants are either so numerous nor satisfactory as to enable us to draw correct conclusions regard- ing the various questions involved in the proper fertilisation of the plant.
Several years ago, Dr. Dafert inaugurated some strictly scientific experiments; they are not yet far enough advanced, however, to show the effect of the various plant-food ingredients upon the yield, although striking differences in the development of the young plants can be recognised at this early date.
1. The presence of humus-forming substances (stable-manure, com- post, coffee-shells, &c.) produces a beneficial effect, although, when used in combination with artificial fertilisers, their availability becomes considerably increased, in proportion as the soil itself is deficient in humus.
2. The application of mineral plant-food ingredients produces a better effect upon soils rich in humus than upon those deficient in this substance.
3. The application of natural fertilisers gave the best results upon soils rich in humus; in this case the addition of artificial ferti- lisers had no effect. It should be mentioned, however, that potash and phosphoric acid always produce a beneficial effect upon the development of fruit.
Dr. Dafert makes the following suggestions (regarding the fer- tilisation of older, *i.e.*, bearing trees), which are based upon numer- ous observations :—
1. Caution should be exerised in fertilising coffee with pure lime or magnesia, as the presence of these substances in large quan- tities will injure the growth. The maximum application has not yet been definitely ascertained.
2. It has been shown conclusively that, in order to grow coffee to the best advantage, it is best to apply the easily soluble fertili- sers, especially the potash salts, at different times and in small doses, as the application of a large quantity at one time is not good for this plant.
3. Organic fertilisers, not thoroughly decomposed, are apt to in- jure the plant. The greatest caution in this respect should be ex- erised in the use of animal substances, though the effect produced by vegetable substances also varies in proportion to the stage of decomposition.
4. Sickly trees must be made accustomed to easily soluble, strong fertilisers gradually, *i.e.*, it is advisable to begin with very small doses which should be gradually increased. (This is recommended by Dr. P. Wagner for garden-plants and fruit-trees.)
5. One-sided fertilisation, *i.e*, the application of only one ingre- dient (a very popular method with many planters) has seldom been of practical benefit. The application of nitrate of soda, for instance, always brought about a luxurious development of the plant, but the formation of fruit suffered. It is advisable there- fore not to overlook the necessity of the simultaneous application of all the plant-food ingredients.
6. No results are at hand regarding the question as to whether it is better to apply sulphates or chlorides, nitrate of soda, or sul- phate of ammonia.
To the question what kind of fertilisers should be applied, Dr. Dafert gives the following answer :—
Natural especially organic, fertilisers produced upon the farm (the quantities of which should be systematically increased, wherever possible) and in addition artificial fertilisers, should be applied to coffee. Where diversified farming (with dairying) is absolutely impracticable, green manuring can be resorted to.

The slowly soluble artificial fertilisers, such as Thomas' slag, guano, bonemeal, &c., should be applied to rich soils, and especially where it is desired to supply the soil for several years. Easily soluble materials, such as acid phosphate, nitrate of soda, sulphate of ammonia, and all of the potash salts, should, on the other hand, be applied when

(1) it is desired to produce a rapid improvement in exhausted or weakened plantations, and to raise them to a state of the highest productiveness;
(2) coffee is to be cultivated on very poor but otherwise well situated soils;
(3) it is desirable to correct some errors, as, for instance, deficiency of nitrogen in the case of poor sprouts, or deficiency of potash in case of insufficient fertility;
(4) it is desired to counteract slight defects in climate (cool location).

Dr. Dafert, in this connection, gives the following directions for the proper fertilisation of the coffee plant, in which an annual application of from 2·2 to 8·8 lbs. of stable manure or compost to each tree is taken as a basis :—

For Trees in the first 4 Years of growth.	For Trees from 5—8 Years old.	For Trees from 9—20 Years old.	For older Trees.
A.—Easily Soluble Mixtures.			
4·5 lb. double superphosphate (40 per cent.)	11·1 lb. double superphosphate.	14·3 lb. double superphosphate.	21·5 lb. double superphosphate.
3·3 ,, muriate of potash.	34·9 ,, nitrate of potash.	33·3 ,, muriate of potash.	55·4 ,, muriate of potash.
4·8 ,, nitrate of soda.	54·0 ,, nitrate of soda.	52·4 ,, sulphate of ammonia.	23·1 ,, sulphate of ammonia.
1·3 ,, plaster.			
Each tree should receive per annum 8·8 ounces.	*28·2 ounces.*	*17·6 ounces.*	*7·1 ounces.*
B.—Slowly Available Mixtures.			
1.—Utilisation of the Coffee-shell Ashes.			
58 lb. dried blood.	56·9 lb. dried blood.	60·8 lb. dried blood.	24·4 lb. dried blood.
2 ,, Thomas' slag.	30·7 ,, coffee-shell ashes.	9·1 ,, Thomas' slag.	15·4 ,, Thomas' slag.
31 ,, coffee-shell ashes.	2·0 ,, bonemeal.	24·9 ,, coffee-shell ashes.	48·0 ,, coffee-shell ashes.
9 ,, plaster.	10·4 ,, Thomas' slag.	5·2 ,, bonemeal.	12·2 ,, bonemeal.
Each tree should receive per annum 24·7 ounces.	*15·9 ounces.*	*12·3 ounces.*	*3·5 ounces.*
2.—Utilisation of Oilcakes.			
56 lb. castor cakes.	45·9 lb. castor cakes.	51·8 lb. castor cakes.	29·1 lb. castor cakes.
30 ,, dried blood.	25·0 ,, dried blood.	23·5 ,, dried blood.	12·9 ,, dried blood.
3 ,, Thomas' slag.	10·3 ,, Thomas' slag.	10·6 ,, Thomas' slag.	26·4 ,, Thomas' slag.
5 ,, muriate of potash	18·8 ,, muriate of potash.	14·1 ,, muriate of potash.	31·6 ,, muriate of potash.
6 ,, plaster.			
Each tree should receive per annum 35·3 ounces.	*22·9 ounces.*	*17·6 ounces.*	*5·3 ounces.*

Dr. Dafert remarks :—

1. In case it is desirable to replace one or the other of these materials by some equivalent substance, the tables of composition in Part I should be referred to.

2. Where stable-manure, compost, &c., are not available, an increased artificial fertilisation must be resorted to. Either the application of the easily soluble mixtures must be doubled, or they may be used in combination with more slowly available mixtures; in the latter case, Thomas' slag especially should be taken consideration.

3. When the condition of the soil is abnormal, the above form must be altered. For instance, it is wasteful to apply plaste calcareous soils; soils rich in potash require a much smaller q tity of this ingredient than that recommended above. If the is deficient in phosphoric acid, the percentage of this ingredien the mixtures must be increased.

4. The age limits given in the table should be changed to varying conditions, the figures being mean values and inter for average trees.

SUCCESS OF PROPER COFFEE FERTILISATION.

Though the number of reliable observations regarding the e of the applications recommended above is not large, the exam given below will convey an approximate idea of what ca accomplished by means of a rational cultivation of the coffee p

In 1893 the Agricultural Institute of the State of Sao P assumed the management of an almost abandoned sixteen-yea plantation, the returns from which scarcely covered the cos harvesting. This field was of special interest to the institut many million coffee-trees in Brazil are in a similar, if not po condition. The plantation was first carefully cleared, and its y determined. They yield from 5,512 trees in 1893-94 was :—

1,426·57 gallons coffee = 1,786·8 lb. bean-coffee,
or per tree 1·04 quarts ,, = 0·33 ,, ,,

Immediately after harvesting, the poorer trees were fertil with half of the quantities given in the table, and the soil thorou cultivated. At the end of three months, the soil had impr considerably, the blossoms were especially numerous on the fe lised trees, and the development of fruit was normal.

These 5,512 trees yielded in 1894-95 :—

7,483·36 gallons coffee = 9,911·9 lb. bean-coffee,
or per tree 5·39 quarts ,, = 1·79 ,, ,,

In 1893-94 the average value of the yield from each tree wa pf. The expenses amounted to somewhat over 43 pf., and the was therefore 18 pf.

In 1894-95 the value of the yield from each tree was 134 while the total expenses did not amount to more than 44 pf., every tree produced a profit of 90 pf. The fertiliser applied to tree was worth 16 pf.

This is only the beginning, and, judging from the pre favourable condition of the plantation, the next yield will b least double that of the previous year.

Dr. James Warne, of Itapira, Brazil, inaugurated a more inten system upon his farm ten years ago, and procured 82.672 5 lb about 7·7 lb. of bean-coffee per tree, from 15,000 partly (two-thi very old trees, by means of fertilisation with stable-manure.

During the last few years, artificial fertilisers have been lar used, although not to the exclusion of other manures; the mixt were similar to those used in Campinas, but the percentag nitrogen was higher. The average yield per tree was 5·9 Some of the trees to which stable-manure had been applied, as as others which had received both stable-manure and artificial fe lisers, produced 26·5 lb., some of the latter producing even as m 33 lb.

Mr. G. J. Hockmeyer obtained very good results upon plantation, Las Mercedes, in Guatemala, with a mixture of :—

47·4 per cent. nitrate of soda,
31·6 per cent. sulphate of potash, and
21·0 per cent. double superphosphate.

No exact figures regarding the yield are given.

Mr. A. Brunner, Helyana Landen (Sumatra) reports that w coffee-seedlings had been artificially fertilised they could transplanted at the end of six months (with one or two branch as a rule, this is not possible until a year has elapsed.

As regards the manner of applying the fertiliser materials, l need be said.

In laying out new plantations, it is best to mix the fertilisers earth in the holes, which must be deepened and enlarged ac ingly. In the case of older trees, the fertilisers should be ap as far as the roots may extend, and turned under. In orde ensure the best distribution of the materials, they should firs mixed with earth; the proper quantities of this mixture inte for one tree should then be measured off in some vessel (old tin will answer the purpose).

Broadcasting over the field is injudicious, as it would neces the application of much larger quantites.—*Queensland Agric Journal.*

TEA, &c., COMPANIES.

The Lebong Tea Co., Ld.—Average price 11·51d., against 11 92d. 1897. Profit £4,803-2-2. Interim dividend of 6s. paid, final dividend 10s, making 10% for the year.

Darjeeling Consolidated Tea Co., Ld.—Gross profits £2,090-10-7. Average price 10·46d., against 10·22d. in 1897.

New Sylhet Tea Estates Co., Ld.—Outturn 372,235 lbs., average price 6·62d., against 6·90d. in 1897.

Killcott Tea Co., Ld.—Outturn 2,185 maunds, average slightly over 5 as. 6 p. Profit Rs.1,679-10-6.

Dehra Doon Tea Co.—Profit Rs.15,952-4-1. Outturn 429,275 lbs. A dividend of 3% recommended.

Garikhota Tea Co., Ld.—Crop 5,400 maunds, average 7¾d. Profit £9,003-4-8. Crop of tea 708,500 lbs. made from bought leaf 906,247 lbs. Crop of Cocoa, 185 cwt., Coffee 375 cwt., and Cinchona 7,963 lbs. Profit £3,773-19-7. Interim dividend 1½% paid in November last, a final dividend of 2% acommended, making 3½ % for the year.

PANAMA RUBBER (CASTILLOA).

CIRCULAR ISSUED FROM THE ROYAL BOTANIC GARDENS., CEYLON.

In circular No. 4 of this Series the cultivation of Para rubber is dealt with somewhat fully. It was pointed out that there is not very much suitable land in the Colony on which this cultivation was likely to prove really successful. The growth, cultivation, and yield of trees were considered, and a prospect of a moderately remunerative return in favourable places for the cultivation was shown to exist. Since the time of publication of these statements, however, the question of which rubber tree to plant with the most favourable prospects of profitable return has been considerably altered by the publication of the discovery of a machine for the preparation of rubber from the raw milk of the tree. By the aid of a machine on the principle of the centrifugal cream separator, Mr. Griffen has succeeded in preparing almost pure caoutchouc from the milk (*latex*) which contains it. This is done in a few minutes at a very small cost, and the resulting product is almost free from impurity, and does not decay or smell like the ordinarily-prepared raw rubber. The best rubber hitherto sent into the market contains at least 10 per cent. of impurity, and many kinds contain as much as 30 to 40 per cent. The importance of this discovery is manifest. The chief advantage of Para and Panama rubbers, as at present prepared, is their great freedom from impurity, due largely to the composition of the milks, and partly to the methods of preparation. Under the new conditions, however, this advantage is lost, for the machine will prepare from the poorest and most impure milk a rubber superior to the best Para now on the market. The first question, therefore before the would-be grower of rubber trees is now no longer: "Which tree gives the best result as to quantity and quality combined?" but rather: "Which tree gives the greatest yield of caoutchouc?" The former question had been practically answered for Ceylon in favour of the Para rubber (*Hevea braliensis*). The latter has still to be answered, but there is great probability, if not almost certainty, that it must ultimately be answered in favour of *Castilloa*, and hence the publication of this circular in which it is proposed to deal with the whole question so far as present existing data allow of conclusions. The tree has been so little cultivated in the East that reliable data in sufficient numbers are not to be had, and it is hoped that the publication of this paper will induce those who may have experimented with this tree to communicate the results of their work.

MACHINE METHODS.

Another important bearing of the discovery abovementioned must also be pointed out. At present the best natural rubbers obtain about 4s. per lb. in the London market. When the machine-prepared article first comes upon the market it will doubtless obtain a higher price than this, but this will not long be the case. Inevitably the price of the best machine rubber will fall to about that of the best natural of to-day, while the latter will only fetch perhaps 3s. per lb. and the poorer grades will also fall in price correspondingly. For profitable cultivation, that is, the machine methods must be used. Now, for this purpose it is necessary that the milk be collected in vessels and not allowed to dry on the tree. We have seen in dealing with Para rubber that in Ceylon, at any rate, the milk is very thick, almost like syrup. It quickly coagulates, and in all cases a lot of it dries on the tree. Before the recent discovery this mattered less, for this scrap rubber would sell for 1s. 6d. to 2s. 6d. per lb. Now, however, as we have just seen, this price is likely to fall by 1s. or more. This will materially alter the figures of return given in the last paragraph of the circular referred to. Instead of the average price being 2s. per lb. it is more likely to be 1s. 6d. and this will reduce the yield per acre to Rs.112 say. This reduces the margin of Rs.100 there given to Rs.62, leaving considerable uncertainty as to whether the cultivation is likely to pay at all well enough to be worth attention from European planters, who would probably find the trees yield much better in the Straits or America. *Castilloa* milk flows very much more freely, and does not soon coagulate, so that the same objection does not apply to it. Practically the whole of the milk from a tree can be collected without any difficulty from coagulation beginning in it.

ADVICE TO PLANTERS.

The practical corollary of these remarks, so far as Ceylon is concerned, is this. Para rubber will do fairly well at low elevations in certain districts, though probably at the best it will never do so well as in the Straits Settlements or America. Owing to the introduction of the machine methods, it will in future be necessary to collect the milk in vessels. Now, the Para rubber tree when tapped at a girth of 21 feet, as recommended in the previous circular, does not lend itself to this condition, as much of the rubber dries on the tree. It will thus be necessary for planters either to content themselves with the old process, thus getting a lower average price for their product, or to wait till the trees get to a larger size, say, in fifteen years on the average. It follows from this that private planters here will hardly find it worth while to establish plantations of Para rubber only. Probably the best thing to do will be to plant out the tree among tea or other products at considerable distances apart. The trees will then grow to a larger size in less time than if kept in plantations of rubber only, and their rubber will form a useful minor product. The tree is a handsome tree when well grown apart from others, and might well be used as shade for roads or as an ornamental tree.

Those who intend to make plantations of rubber only would do better to use *Castilloa*, which yields much more fluid and easily-collected milk, but even here no return can be got in much less than eight years. This tree may also be planted out as a bye-product on estates, and will probably be found in the end the more profitable of the two. Ceylon seems an unfavourable country for yield, though highly favourable for growth, of rubber trees. Consequently, only the very best localities should be chosen for planting.

BOTANY.

Castilloa is a genus of the family *Moracæ* (often included in *Urticaceæ*), and belongs to that section of the family which includes the jak and bread fruit (*Artocarpus*), the upas (*Antiaris*), the milk tree (*Brosimum*), and the many plants of the genus *Ficus*, which include among others the Bo and the Assam rubber (*F. elastica*). The genus has two or three species. Of these the most important is *C. elastica*, Cervantes, the Ulè of the Spaniards, which is found wild in Mexico from lat. 21o southwards, in Guatemala, Honduras, San Salvador, Costa Rica, and Nicaragua; it also appears to occur in north-western South America. It grows to a large tree having been measured of 180 feet in height and 15 feet in girth. The growth is rapid. When young the tree grows rapidly upwards, and forms a number of short lateral branches, which after a time drop off, being detached from the trunk by a peculiar joint, whose surface resembles a piece of coral. The bark is rather soft and thick. The leaves are large and oblong. The flowers are borne when the tree has reached some considerable size and has begun to form permanent branches. They are monœcious, male and female on the same branch, enclosed or embedded in a top-like common receptacle, which is covered externally with small leaves This subsequently forms a somewhat fleshy fruit, containing numerous small seeds about ¼ inch in diameter, with white papery seed-coats. Besides this species there is a second, the Caucho of the Spaniards, found near Darien (Panama) and elsewhere. This is the tree which we

have in Ceylon, and it appears probable that it is a different species, *C. Markhamiana*, Markham (not Collins), but the point requires further study. In its native country this forms an important source of rubber It appears to be a smaller tree than the tree *C. elastica*. The details of the description of these species may be found in the paper by Hooker mentioned in the list of literature below.

HISTORY IN CEYLON.

The *Castilloa* rubber was introduced into the colony about the same time as the Para, and through the same agency. A Wardian case of plants arrived in 1876 from the Royal Gardens, Kew, and the plants were put out at Henaratgoda and Peradeniya. They grew well at both places, but especially at Henaratgoda, and were increased by cuttings. They began to flower in 1881, and in the following year a few seeds were ripened. About 1886 the growth became less rapid, and since then has been very slight, the soil in the gardens being shallow, and at Henaratgoda not well drained at a little depth. A large number of young plants were sent to India and many were planted in Ceylon, but, compared with Ceara and Para rubbers. *Castilloa* is very rare in the Colony, and very few estates possess any appreciable number of trees. Samples of rubber prepared here have been sent home for valuation, and have received very favourable reports.

CLIMATE AND SOIL.

The tree ranges, as we have seen over a large tract of country but the conditions for its successful growth seem much the same everywhere It inhabits a warm, steamy climate, like that of the low-country of south-west Ceylon, and is very rarely found above 1,500 feet. The most common situations are in alluvial soil at the sides of valleys or on low ridges. It needs deep soil, with plenty of water but does not thrive where the soil is swampy, nor in places where there is not good drainage at the roots. It is probably partly for this reason that the growth at Henaratgoda, so soon became slow, for the land there is flat and only twenty feet above the level of the sea At Peradeniya it is on better drained land, but the soil is very shallow.

The tree prefers a steamy climate, but will do where this is interrupted by a dry season of two or three months, as in south-west Ceylon. It grows best where the temperature never falls below sixty degrees at any time.

The most promising localities for the cultivation of this tree would probably be found in the neighbourhood of Rambukkana, Kitulgala, Balangoda, and other districts in the foot-hills of the south west, and perhaps also in similar districts of the Bintenne country to the east of the mountain range, and in Lower Madulsima, Passara, Monaragalla, &c. It should be planted in sheltered places near streams, but with good drainage at the foot. To plant above 2,000 feet is not advisable, and it would be better to plant below 1,000 feet. The rainfall should not be below seventy inches, and should be well distributed The tree affects drier localities on the whole than para rubber, and so the two cultivations need not interfere with one another, as the para tree will grow in the wetter places

The tree grows best in a deep, warm, loamy soil. In its native country it is said to send its roots very deeply into the soil, and not to be a surface feeder. In the gardens at Henaratgoda, however, it sends out great roots at the base like the Assam rubber (*Ficus elastica*), growing out to considerable distances along the surface and projecting above it. One root was measured running along the surface for 30 yards, and where it finally became invisible it was three inches in thickness. This phenomenon at Henaratgoda may be largely due to the quality or lack of drainage of the lower soil; but it seems common in other places where the tree is grown in the colony, and will limit its use as a shade tree, for which purpose it has often been recommended in other countries. If used as shade. it would perhaps do better with tea than with most of our other cultivated crops. In better soil and position than what has hitherto been tried, however, it may very likely strike deep roots, in which case other crops could be more easily cultivated between the rubber trees, *e.g.*, plantains or even cacao

CULTIVATION.

The seed should be sown as soon as obtained, in a well-prepared nursery They should be sown an inch deep, and about 8 inches apart, and lightly covered with a little vegetable mould. They must be kept lightly shaded, and watered when the surface of the ground is dry. In ten or twelve months the young plants will be 2 feet high and ready for planting out.

Cuttings may also be taken; those from lateral branches d grow well, and have a tendency to grow more or less horizont so that main shoots must be used. When cut back the main produces buds from the axils of the leaves, and these may in be used as cuttings, and so on. Cuttings should be at least 3 in long, with a basal portion of old wood, and perhaps 12 inch better, as described for the case of para rubber.

The young plants should be planted out during rainy weath prepared places. Holes should be dug and filled with well-pre sandy, loamy soil. If the plantation is to consist of trees of C *loa* only, they may be put at about 12 feet apart, or perhaps b a little closer. If other products are to be cultivated betwee rubber trees the distance must be much greater. The young must be shaded for a time, and probably it would be best if were lightly shaded for two or three years till they reach height of 20 feet or so. This might be effected by planting t for instance, on land already bearing such light shade trees a used for cacao. On parts of estates where the canker has renc it needful to cut out the cacao it might be well worth while t the *Castilloa*. The ground should be kept clear of weeds and trees watered in dry weather of long duration, until they r sufficient size to take care of themselves.

RATE OF GROWTH.

The tree grows fairly rapidly at first, and soon reaches a h of 10 or more feet. From the annual Administration Report this Department the following extracts have been made reference to this subject: In 1878 the original trees were two old, from time of planting out as cuttings; some were 16 feet h and 16 inches round the base of the trunk. In 1880 the lar tree at Henaratgoda was 17 inches in girth at a yard above the In 1882 the largest tree there was 46 feet high, and 26 inches r at a yard above the soil. In 1884 its girth was 32½ inches; in 38 inches; and it began to show signs of less rapid growth, so it only reached 40½ inches in 1888, 42½ in 1890, and 43¼ in Up to about the tenth year, therefore, at any rate, the tree apparently be counted upon to grow well; and even though subsequent growth is slow, the yield of rubber seems to inc considerably. After reaching a girth of about 2 feet or 2 f inches, the trees may probably be tapped for milk. Comparing above measurements with those given in the circular on para ru it will be seen that *Castilloa* is distinctly slower in growth of two and probably a plantation of para rubber would reach girth of 2 feet (average) in two years' less time than one of *Cast*

TAPPING.

The tree should not be tapped till it reaches a girth of at le feet. This should be attained in a period of perhaps nine yea the average, and it would be better to wait for two years mo possible till a girth of perhaps 2 ft. 6 in. is reached. After eighth year there would probably be a fair number of trees in plantation ready for tapping, and of course the number w increase every year till all were sufficiently large for the purp

The milk of this tree flows much more freely than that of *H* so that one cut seems to drain a much larger area of the ste its milk. The native methods of tapping are mostly very wast and also often cause the death of the trees. Sometimes the me described under Para rubber, by cutting V-incisions at freq intervals, is used, and so far this seems to have been the only used in Ceylon. We have found that the milk here runs so fr that a simple sloping cut is sufficient, and that there is no ne make the V. If this method is used, the cuts need not be so c together as in *Hevea*; they may be 3 or 4 feet apart instead Sometimes the whole tree is cut down and incisions made in bark as it lies on the ground. Other methods are to cut sp groves round the tree for some distance up, or to make a r channel on one side of the stem with lateral cuts leading int These methods are almost sure to kill the tree, at any rate af few years, and only the first-mentioned—the method of sl incision—should be used with cultivated trees.

Further details of methods will be given in succeeding circu of this series. The general principle recommended is to at four or five tin cups at distances of a few feet apart up the Single oblique incisions are made, one above each cup, and milk is collected and washed into a vessel with a tap at the bot Probably the best machine would be a glass churn with tap at b fixed so as to revolve about a horizontal axis. The milk is le stand, when it separates into a cream containing all the ru

nd a beery fluid below, which is run off by the tap. The cream is ixed with water. churned, left to stand, and the process repeated. he rubber is thus obtained almost pure in three washings, and he cream is poured out to dry on a porous surface, when a thin heet of perfectly dry and almost pure caoutchouc is obtained in a hort time.

YIELD.

Till further experience has been gained we do not know how uch tapping is advisable in *Castilloa*, nor how much it will stand. he trees in the island, so far as tested, yield very well, but it would e premature to draw any general conclusions. A few trees of about hree feet girth gave an average of five ounces of rubber each from ne day's tapping. Probably three or four tappings might be done very year without serious injury, but this remains to be investiated. The amount of rubber is not much larger than in Para rees of similar age, but it was collected from a quarter of the umber of incisions, thus very much reducing the cost of its collecon. It must also be remembered that this rubber was perfectly ry, whereas the driest rubber prepared by the old methods conained 10 per cent. or more of water.

The cost of opening plantations of rubber will be found in the receding circular. The probable return in the case of *Castilloa* is rger than in the case of Para, and its cost of collection is less, so at the cultivation of this plant as a bye-product in favourable calities may be recommended to planters. Neither kind of rubber n be safely recommended as a principal product. Those who ish to plant it on a large scale would probably do better in ountries further east.

LITERATURE.

The following books and papers, among others, relating to *astilloa*, may be consulted in the library at Peradeniya. The itials and figures indicate their place in the library :—

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JOHN. C. WILLIS,
Director, Royal Botanic Gardens.
Peradeniya, April 7th, 1899.

ELECTRICITY AND AGRICULTURE.

Science, as applied to the operations of agriculture, has, for many ars, engaged the attention of enthusiastic experimentalists, and, many cases, the results of applied science have been little short marvellous. The idea of the application of electricity to grow-g crops is not by any means new. We have ourselves achieved od results by using it in connection with a crop of potatoes. *The lifornia Fruit Grower*, writing on the subject, says :—

Perhaps the most extensive and conclusive experiments on the lation of electricity to plants growing were those of Dr. Selim mstrom, a physicist in the University of Helsingfors, Finland. e became convinced that the rapid growth of plants in the short mmer months of Finland and Spitzbergen was due to the highly ctrified atmosphere. Laboratory experiments were so successful at in the summer of 1885 a field trial was made with barley rt of the field was covered with parallel wires, about a yard art, which were secured to insulators on low posts at the margin the field. At distances of 18 or 20 inches each wire was supplied h metal points, through which a current could discharge into e air. The whole was connected with a Holtz electric machine, d the current was supplied from 6 to 10 o'clock in the morning and from 5 to 9 o'clock in the evening, from the middle of June until the first of September. The barley was well up when the experiment began, and at harvest time it was found that the yield of this portion of the field was 35 per cent. greater than the other : also that the quality was correspondingly improved. The following year the experiment was repeated upon a more extensive scale. In this case garden vegetables were the plants tested, and white beets, red beets, potatoes, radishes, parsnips, leeks, celery, turnips, and rutabagas gave increased yields in the order named varying from 107 per cent. to ¼ per cent. On the other hand, carrots and kholrabi showed losses of 5 per cent. and cabbages of 43 per cent. Further experiments with cereals and potatoes gave results that were considered very favourable.

At least one instance may be cited in which electricity has been used commercially. Near Boston a large grower has put the electric light to work in forcing lettuce so that a gain of at least two weeks on three crops is secured. Two lamps are hung above the house, and their effect is apparent for at least 100 feet.

NINE YEARS OF TEA IMPORTS IN CANADA.

Imports of tea into the Dominion during the fiscal year ending June 30, 1898. were 19,954,565 lb. valued at $2,721,189.

In quantity, this is the smallest since 1893, when the figures were 18,034,897 lbs

The imports of tea into Canada during the nine years ending June 30, 1898, were as follows :

	Quantity in lbs.	Value.
1898	19,954,565	$2,721,189
1897	24,317,104	3,310,348
1896	22,667,535	3,252,133
1895	20,610,733	3,115,025
1894	20,459,530	3,039,928
1893 ...	18,034,897	2,975,452
1892	22,593,619	3,650,940
1891	18,042,043	2,981,415
1890	18,451,378	3,073,643

The decline in the importation for 1898 cannot be ascribed to a falling off in the consumption of tea. It was undoubtedly due to the heavy purchases which were made during the previous year in expectation of a duty for revenue purposes being placed upon that commodity. Heavy stocks was the natural concomitant, which, in turn, caused a decline in importations. Consumptive requirements are limited, and, when one year the market is over-supplied, it is only to be expected that the next will be characterized by more cautious buying.

Notwithstanding the decline, however, the average for the past two years exceeds that of the previous two, the average for 1897-98 being 22,135,834 lbs., against 21,639.134 lbs. for 1895-96.

The present fiscal year promises to witness another large importtaion of tea, the quantity brought in during the nine months ending March last being valued at $2,965,068. The monthly returns from which the figures for the past nine months are gathered do not give the quantities. In value, it will be noticed, the figures exceed those for the twelve months of 1898.

The monthly average for the twelve months of 1898 was $221,765, and for 1897 it was $226,425. For the nine months of this year it is $328.345.

The fact that teas are costing more than in 1898 would in itself help to swell the value of the teas imported, but, when the full returns have been issued, it will doubtless be seen that there is an increase in the quantity as well as in the value, particularly in view of the smallness of spot stocks in Canada in first and second hands.

It may, perhaps, not be uninteresting to note that the tea imported in 1877, 22 years ago, exceeded in value the imports of tea during any one of the past nine years given in the above table. In regard to quantity, however, the conditions were the very opposite, there only being 13,575,657 lbs. imported.

Indirectly these figures show the difference in the price of the tea imported in 1877 and 1898 respectively, the cost being 25·90c. per lb. in the former year and 13·63 in the latter, a decline of over 47 per cent.

Taking the population at 5,000,000 in 1890-91, and at 5,500,000 in 1897-98, the average consumption of tea in Canada per head during the former two-year period was about 3·64 lbs. and during the latter 4·02 lbs.—*Canadian Grocer.*

LIMESTONE, A MANURE FOR TEA.

It is now pretty well an accepted fact that one of the things on which the future of Indian tea depends is the throwing up of unprofitable patches and concentration of energy on the high cultivation of those portions of the gardens which, from *jat* of plants and suitability of lay and site, promise remunerative returns. By the term "high cultivation," is not meant the ceaseless hoeing of steep inclines, or even of flat lands, liable to submergence during the rains, but the application to tea planting of those principles of agricultural science which have proved so successful in Europe, America, and the Colonies. The tea-planter of the present day has not only to combine within himself the qualifications which have hitherto been considered those of a good manager, tea-maker and accountant, but he is further required to be somewhat of a skilled agri-horticulturist and entomologist, versed in the proper drainage of lands, the application of manures (in the blending or proper admixture of which he should be an adept), and in the treatment of diseases incidental to the tea plant. Indeed, gentlemen of the stamp of Sir Alexander Mackenzie would have him *au fait* with an encyclopædic list of other branches of knowledge, or branded as "incompetent."

Attention has from time to time been drawn to the value of crude limestone as the basis of most of those fertilising agents which are recognised as necessary stimulants to all lands which have been under cultivation for more than six years, by which period the average of our tea plantations attain their maximum yield. In selecting sites for tea planting, no one now who could get flat land would select *tilas*. But *tilas* more or less steep have for various reasons been planted out, and the drawbacks have been counteracted by a system of "terracing." Now, although this system is imperatively demanded to keep the plants in proper position on the hillsides, almost all the surface soil is so much disturbed in the primary operation that at the end of the rains but a very small proportion remains *in situ*. Theoretically, the only portion of the terraced land thoroughly deprived of the original vegetable deposit is the apex of the *tila* so treated, the argument being that whatever surface soil is disturbed from above is retained on the lower terraces. But in watching the effects of heavy rain on newly-terraced land, it becomes apparent that the surface soil from the light nature of its composition, is carried so rapidly over the edges (as the terraces become soaked with water), that it is almost all washed down to the foot of the hill by the end of the first rainy season. Although the loss of it has no material effect on the tea plant for the first year or two, it needs not much reflection to see that manuring by means of renovating pits upon terraced *tilas* is absolutely necessary from the time the plant commences to yield, because the very process adopted for the benefit of the plant at the outset is such as, by depriving the soil of its most valuable constituents, to ensure the rapid deterioration of its yielding powers. Much indeed might be done were the surface soil from the upper terraces scraped together and buried either in a trench running right round the inside of the terrace, or in pits dug behind the place subsequently to be occupied by the plant. But although this might eke out the yield, for a couple of seasons possibly, it is apparent to all who have had experience of *tila* gardens that without renovating aid artificially supplied, the yield must gradually fall off until it becomes no longer remunerative. To anyone knowing the Cachar and Sylhet districts tolerably well this can be ascertained beyond question by referring to the statistical accounts of the annual yield of the numerous gardens in the reports published of late years by the various agency firms. In some gardens the falling off has been so marked as to almost lead the shareholders to think that the existence of their company could only be ensured by large yearly extensions. Had the money already sunk in such extensions been employed in the scientific application of manure to the older portions of their respective properties, the average outturn would have been maintained, and the gardens kept within the original area. These extensions have necessitated a much greater expense in the way of additional labour and supervision than the careful nursing of the old gardens would ever have required.

The efforts of tea planters should be directed to the utilisation of all such material for forming manures as can be collected within a reasonable district of their gardens, such, for instance, as cowdung, stable refuse, and *bhil* soil. But, as is well known, these manures alone do not possess the requisite strength to compensate the plant for the severe strain put upon it, and so long as this demand is exacted it is evident that something more stimulating and nourishing is required. The merits of limestone are well known, and what is required is a compost of all animal refuse, mixed with one-third its bulk of crushed limestone. A regular system of manuring with such a compost would largely increase the yield of all *tila* gardens where renovating pits could be dug without endangering the stability of the plant. Where this work has not already been adopted, it will, of course, take time, but in the present state of the tea industry an increased yield, as soon as possible, is absolutely necessary, and the effects of manure such as recommended would increase the outturn far quicker than large extensions even of the best *jats*, which would remain for two or three years at least a dead weight on the finances of the concern. All doubts hitherto expressed as to the safety of applying limestone to tea have long since been laid to rest. Its value is now greatly appreciated. Its use as the basis of a compost is advocated because it is procurable in limitless quantities and at a nominal price,—recommendations which cannot but have due weight with proprietors at the present time.—*Planter.*

MARKET REPORT.

By Mail advices of 12th May, 1899.

COFFEE.

The *London Commercial Record* says:—The whole of the week has been occupied in the disposal of postponed sales, of which there are still many to be completed, and the congestion was intensified by Wednesday being a lost day, owing to the bad light. The demand has been irregular, and faded qualities of East India continue more or less neglected even at a decline, but the trade demand for desirable grades has been better at about former prices for second size, and dearer for bold lots. Costa Rica in good request, and firm to rather higher prices paid for colory quality. In other Central American descriptions transactions have been limited and prices irregular. "Futures" have experienced some slight fluctuations, but closing prices shew no material change for the week, viz.:—

London	... Santos	... July delivery	... 29s 3d
New York	... No. 7 Rio...	„ „	... 5.25 cents.
Hamburg	... Santos ...	„ „	... 29½ pf.
Havre	... Santos ...	„ „	... 36 francs
Holland	... Good ordinary Java	..	... 27¼ cents.

Auctions this week have gone off as under:—

East India.—3,617 bags partly sold—*Mysore*, smalls 37s to 51s, low middling to middling 46s to 63s 6d, bold faded greenish 66s, good bright gray to blue 82s to 94s, pea-berry 70s to 88s. *Coorg*, smalls 35s 6d to 45s 6d, low middling to middling 48s 6d to 60s, good middling 66s, bold good colory 82s to 90s, pea-berry 73s 6d to 85s. *Neilgherry*, smalls 42s to 55s low middling to middling 53s, to 65s, good middling 66s to 68s 6d, good to fine bold 79s to 101s 6d, pea-berry 68s to 86s 6d. *Wynaad*, smalls 39s to 42s, low middling 52s, bold 75s.

Jamaica.—263 barrels 143 bags mostly sold, ordinary palish 29s to 30s, good to fine ordinary greenish 32s to 36s 6d, fine fine ordinary to low middling 39s to 46s 6d, middling 49s 6d to 52s per cwt.

Costa Rica.—4,331 bags mostly sold, smalls 37s 6d to 43s, good to fine fine ordinary 38s to 45s, low middling to dull colory 48s to 51s, middling greenish to bright blue 59s to 67s, good middling to bright blue 69s 6d to 75s, good to fine bold blue 78s to 99s 6d, pea-berry 64s 6d to 92s 6d.

Salvador.—Of 979 bags offered a good part sold, smalls 31s, fine fine ordinary greenish 43s to 44s, low middling to middling colory 46s 6d to 53s, good middling 56s, good gray bold 66s to 66s 6d, fine bold blue 81s, pea-berry 58s 6d to 65s.

Guatemala.—Of 798 bags catalogued a small part sold, triage 27s 6d to 28s, smalls 42s to 42s 6d, good ordinary pale grayish 38s.

Mexican.—223 bags nearly all sold, smalls 28s 6d, good middling brownish colory 57s, good bold 85s, pea-berry 85s.

Savanilla.—127 bags sold, fine ordinary to low middling 40s to 45s, middling pale grayish 50s 6d, bold 56s, pea-berry 49s to 55s 6ds.

Colombian.—813 bags nearly all sold, fine fine ordinary to low middling greenish 43s 6d to 48s, middling to good middling 50s to 58s, fair to good colory bold 61s to 72s, fine 80s to 85s, pea-berry 54s to 70s 6d.

Receipts in Rio and Santos.

Since July 1	1898-9.	1897-8.	1896-7.	1895-6.
Rio	2,831,000	3,959,000	3,212,000	2,100,000
Santos ...	5,131,000	5,864,000	4,820,000	2,818,000
Total ...	7,962,000	9,823,000	8,032,000	4,918,000
Crop	—	10,461,000	8,680,000	5,489,000

Prices realized at auctions for some of the principal marks of East India:—

MYSORE.

	0	A	B	C	PB	T
Kulhutty (WD) Mysore ...	95-0	66-0 bid	47-0 bid	—	91-0 bid	36-6 bid
Do. do. S do.... ...	106-6	88-6 bid	57-0	—	101-6	41-6
B B B Mysore	65-0	50-0 55-0	45-0	—	68-0	30-0
Do. J P & H B ◇ Guntanaik Mysore		no bid	no bid	36-0	76-0	32-6
Horikhan Mysore		75-0 bid	52-6 53-0	39-6	79-0	35-0
Bundara Mysore	50-0 bid	47-0	38-0	—	66-0	32-0
C S G S Dythamara Mysore ...		94-0	63-6 63-0	51-0	88-0	39-0
Goody Tota Mysore		82-0	54-6	42-0	80-0	36-6
Murgaddi Mysore		66-0	46-0	39-0	70-0	32-6

	0	1	2	3	PB	T
Kudunuhully Mysore... ...	82-0	58-0	41-0	—	85-0	35-0
Maynard's Mysore R D B □ ...	68-0 bid	45-6 bid	39-0	—	73-0 bid	32-6
Macdougall's Mysore P M & Co....	no bid	43-0 bid	37-0	—	70-0	35-6
B S S ◇ Someswarkhan Mysore	no bid	43-6 bid	37-6	—	72-0	—
Maynard's Mysore Walshams ...	no bid	41-0 bid	35-6	—	69-0 bid	31-6
Do. Devarakhan ...	64-0 bid	43-0 bid	37-0	—	72-0 bid	32-6

COORG.

	A	B	C	PB	T
Aynsley	81-0	57-0	43-6	88-0	38-6
Koorghully	85-0	63-0	44-6	91-6	38-0
G M M Coorg Closeburn	72-0 bid	50-6 bid	38-0 bid	75-0	35-0
Muskelbora	no bid	42-6 bid	—	56-6 bid	27-6
Colovondra Silverhill Coorg ...	64-0 bid	44-6 bid	34-0	76-0	33-0
A B Acktoor	63-6 bid	48-6	39-0	—	30-0
Chisholm's Coorg Banangalla ...	73-0 bid	50-0 bid	38-6	74-0	35-0
Do. Silpikadu ...	83-6	58-6	39-6	80-0	36-6
J R Grove	82-0	54-0	39-6	83-0	35-6
Mangles Santagherry	84-0	55-0	41-6	86-0	37-0
Wood Suntikoppa ...	84-6	60-0	42-6	81-0	38-0
Mangles Hallery	90-0	58-0	45-6	81-6	33-6
Faith Coorg	90-0 bid	no bid	no bid	no bid	no bid

	1	2	3	PB	T
Kayam Kollie Coorg	82-0	66-0	—	73-6	32-0
Wood Suntikoppa	84-0	53-0	—	85-0	38-0

NEILGHERRY.

	A	B	C	PB	T
Elephant Devicolam Estate Co., Ltd. Tailiar	91-6	65-6 66-0	47-6	89-0 bid	37-0
Lockhart	92-6	63-0	40-0	—	34-0
Glenburnie	84-0	66-0	55-0	68-0	41-6
Colacumbie	91-0	57-0 58-0	44-6	76-6	38-0
Tonyville	79-0	53-6 53-0	47-6	68-6	36-0
T H S Riverdale...	no bid	48-0 bid	44-6	—	35-6
Tuttapollium W ◇	84-0	54-0	44-0	66-0 bid	35-0
Chengal	85-0	53-0	44-0	60-0 bid	32-0

	A	B	C	PB	T
Kotergherry K. C.	90-0	58-6	50-0	75-0	33-6
Patycumbay	73-6	52-6	41-0	60-0	32-0
Moutere	101-6	65-0	45-0	86-6	32-0
J M ◇ Woodlands Nilgiris	67-0	48-6	40-0	58-0	33-6
Elephant Vagavararai Tallair ...	84-6	57-6	42-0	68-0	38-0
Glenmore	100-0	63-6	48-0	79-0	37-0

WYNAAD.

	A	B	C	PB	T
Walker's Estates Touramulla ...	63-6	48-6 48-0	34-0	69-0	33-6
Chulika	77-0	55-0	44-0	75-0 bid	36-6
Poothoondoo Peak	76-0 bid	54-6 bid	43-0 bid	83-6 bid	34-0
Wynaad P & Co....	75-0	52-0	43-0	71-0	36-0
Clonshavoy	66-0 bid	45-0	39-0	—	34-0

NELLIAMPATHY.

	A	B	C	PB	T
Chundra Mulla Nelliampathy ...	81-0	57-0	44-0	76-6	37-0
Nelliampathy 80	90-6 91-0	60-0 bid	45-6 bid	85-0 bid	36-0

PEERMADE.

	A	B	C		T
Peermade Pambanai	65-6 bid	47-0 bid	36-6	PB	23-0

TEA.

CHINA.—Auctions have presented 5,162 packages during the week, demand for which has been fair, resulting in recent values being supported for Congous, whilst green teas were a little easier.

INDIAN.—Rather larger sales were held totalling 15,200 packages, contrasted with 9,600 packages in the week before, and 21,700 packages last year.

There was a fair enquiry at about former rates for the medium and better grades, but common and ordinary passed flatly and often at a further slight decline, while a considerable quantity was withdrawn owing to offers being below the ideas of importers.

Fine tippy Teas received more attention, among which the following were noticeable:—Hapjan (A.F.T. Co.), P.O. Pekoe, 2s 6½d, and F.O. Pekoe, 1s 7¼d; Kobong (A.F.T. Co.), F.O. Pekoe, 1s 7¼d; Hilika (A.F.T. Co.) B.O. Pekoe, 1s 7½d; Cinnamara (Jorehaut Co.), O. Pekoe, 1s 8½d, and B. Pekoe, 1s 7½d; Mijica Jan (Maj. Co.), B.O. Pekoe, 1s 8d; and Joyhing (Jok. T. Co.), F.O.P., 1s 7½d per lb.

For 11,000 packages on Estate Account 9d per lb. was obtained, against 7⅛d per lb. for 11,700 packages, and 6¾d per lb. for 4,800 packages in the two foregoing years.

CEYLON.—Auctions comprised 22,300 packages, *versus* 21,000 packages on the 2nd inst., and 22,200 packages at this time in 1898.

With a limited business doing in the country, and at the moment a lack of export orders, buyers were disposed to act cautiously, especially in bidding for parcels over 8½d per lb. Dealers were anxious to secure Pekoe Souchongs and Pekoes from 7d to 7½d per lb at a fractional reduction on the basis lately current, so that although these descriptions met with spirited competition prices occasionally went against sellers. Quotations for good medium Pekoes, Orange Pekoes and Broken Pekoes ruled very irregularly and generally easier, notwithstanding the reasonable scale now prevalent for them.

The average is 8⅛d per lb. On the 4th inst. it stood at 8¼d per lb., while in 1898 it was barely 7¾d per lb.

JAVA.—About 800 packages (547 being of direct import) passed the hammer, and in sympathy with other growths prior values were scarcely maintained.

Nearly 4,000 packages are declared for next week.

Deliveries.—The clearances of all tea (on which duty has been paid) from the London Warehouses, as per official returns, were:—

From 1st to 9th May, 1899 ... ... 4,882,590 lbs.
„ „ 1898 ... ... 5,029,165 „

During the week the following have been printed for sale by public auction:—

	Sold.	Withdrawn	Total offered.
	Pkgs.	Pkgs.	Pkgs.
India	10,808	4,349	15,157
Ceylon	21,102	1,222	22,324
Java	451	351	802
Total ...	32,461	5,922	38,283

Also 402 packages from second hands.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated May 12th, 1899, says:—

QUANTITY BROUGHT TO AUCTION IN LONDON
FROM 1st JUNE TO DATE.

	Indian.	Ceylon.	Java.
1898-1899 ...	1,545,827 pkgs.	1,060,980 pkgs.	44,625 pkgs.
1897-1898 ...	1,547,944 „	1,129,855 „	5,575 „

15,604 pkgs. Indian
22,396 „ Ceylon
802 „ Java
} Total 39,802 packages were offered in public auction this week.

Indian. Sales are now becoming very small, only 15,604 packages being brought forward this week, while for next Monday catalogues are issued for only 8,932 packages. With a good demand, prices were maintained at about last week's rates, while buying apseared to be decidedly more general, with better competition then has lately been noticeable. 306 last of the season invoices have been sold to date against 306 pkgs. during the same period last year. It is too early yet to say much about the quality of the new crop, but musters to hand indicate fair Teas for the time of year coming forward from Darjeeling and Dooars.

Total Tea sold on Garden Account, 1st June to date 1899, 1,144,687 pkgs., av. 8 79d. 1898, 1,124,722 pkgs., av., 8 66d.

Ceylon. 22,396 packages were brought to auction against 21,065 last week, the quantity proving quite as much as buyers were prepared to take. The market was somewhat irregular, Teas under 8d. occasionally showing a slightly easier tendency, while medium Pekoes and broken Pekoes were very frequently ¼d. to ½d. per lb. cheaper. Avge. for week 8·16d., against 7 72d. same period 1898.

Ceylon Tea sold on Garden Account, 1st Jan. to date 1899, 371,678 pkgs., av., 8·44d. 1898, 416,692 pkgs., av., 7·64d.

Java. Amongst the Javas 547 packages were of direct import and 255 packages were brought over from Holland; the tendency in sympathy with Indian and Ceylon Teas was to rather easier rates.

Bank rate 3 per cent. Exchange on London three months' sight:—Calcutta $1/4\frac{5}{32}$. Colombo $1/4\frac{5}{32}$.

COCOA.

Offering at Tuesday's auctions consisted of 7,451 bags Colonial and 450 bags Foreign. There was very little demand, notwithstanding no public sales had been held for a fortnight, and large withdrawals were made rather than accept the very low prices offered. The result was that only 280 bags changed hands under the hammer at some decline on rates previously ruling. The sold lots comprised 127 bags good Trinidad at 71s to 72s, 39 bags Grenada at 65s to 68s for fair to good, 2 bags Dominica and 2 bags St. Lucia at 65s 6d, 85 bags Jamaica at 64s to 67s for common damp to good fermented, and 30 bags Ceylon at 52s 6d to 62s per cwt. for blacks and good pickings. Privately 400 bags Trinidad sold at 68s to 75s, 100 bags Grenada at 66s to 69s 6d, and 60 bags Ceylon, red at 74s, Native 66s per cwt.

PEPPER.

Black.—The market has been quiet this week with a limited business at 5¼d for fair Singapore on the spot, at $5\frac{9}{16}$d down to $5\frac{3}{8}$d for near at hand parcels, at $5\frac{3}{8}$d down to $5\frac{9}{16}$d for June-August, and at $5\frac{11}{16}$d down to $5\frac{9}{16}$d July-September shipments. On the spot sales of Trang are reported at $5\frac{3}{8}$d to $5\frac{1}{2}$d.

At public sale on Wednesday, of 174 bags Singapore only a few bags sold at 5d for ordinary and 4¾d for very light dusty and [illegible] 182 bags Penang withdrawn. 20 bags good heavy brown [illegible] realised 5⅛d per lb.

White is also quiet, with a retail business in fair Penang at 7⅞d. and of good Singapore at 8¾d. Penang has been sold for arrival at $8\frac{1}{16}$d June-August shipment.

At auction on the 10th inst., of 64 bags Singapore, 145 bags Siam, and 130 bags Penang offered, only 20 bags fair brown Siam, ex land carriage, sold at 8¼d to 8⅜d per lb.

GINGER.

Cochin flat. 110 cases 462 bags offered, but only 6 bags cuttings sold at 17s per cwt.

Japan.—90 bags were bought in.

Jamaica.—The very large quantity of 1,313 barrels offered, and prices obtained registered an irregular decline of from 3s to 5s per cwt., viz.:—good bold hard washed 77s 6d to 80s, bold and medium ditto 73s 6d to 75s, medium to fair leanish washed 66s to 72s, common to good ordinary leanish 54s to 64s 6d per cwt.

CINCHONA.

The *Chemist and Druggist's.*—Our Amsterdam correspondent, following up his cablegram in last issue, states that the auctions of Java cinchona-bark passed off very quietly. The richest parcel of bark offered at the sales was a lot of 18 bales Ledgeriana stem bark in broken quill, produced on the Government estate. It analysed 8·89 per cent. of sulphate of quinine, and sold at 76½c. per half-kilo. The highest price paid was 91c. for a parcel of Succirubra, long quill, which analysed 2·20 per cent. quinine sulphate. The East Indian twig bark realised 8¼c. Of the 604,345 oz quinine sulphate in bark, 463,610 oz. sold, at a decline of 23 per cent. owing to the increased shipments from Java. The prices were lower at the end than at the beginning of the auction. In London to-day most of the offerings sold at easier rates, especially Calisaya. Java root bark (2·40 per cent. quin. sulph.), damaged, was bought in nominally at 10*d.* per lb.; bold flat yellow bark sold at 3*d.* to 4¼*d.* for damaged. Bolivian cultivated Calisaya, mostly thin papery, realised 8*d.* down to 4¼*d.* for damages; for sound, 9*d.* per lb. was refused; thick flat Cartagena, sound, was limited at 4½*d.* per lb.

The exports from Guayaquil in 1898 were 863 quintals, valued at 1,726*l.*, as against 1,364 quintals, valued at 2,728*l.*, in 1897 (1 quintal = 101½ lbs.). The ruling figure at Guayaquil was 2*l.* per quintal.

QUININE.

The reduction in the unit at Amsterdam last week, combined with the heavy shipments of bark from Java, has had a depressing effect on the market this week, and the tone throughout has been quiet. Friday and Saturday of last week saw a small business in second-hands at easier rates, including June delivery at 1*s* 4½*d.* per oz., and August at 1*s.* 3½*d.* to 1*s.* 4*d.* the week closing with sellers at the lower quotation. The market recovered slightly on Monday, when some 20,000 oz. were turned over at 1*s.* 3½*d.* to 1*s.* 3¾*d.* on the spot, and August delivery at 1*s.* 4*d.* and 1*s* 4¼*d.* and on Tuesday there was a few small deals at 1*s.* 4*d.* and 1*s.* 4⅛*d.* per oz. for the latter position. Yesterday and to-day little has been done. Makers' quotations unchanged. Several job lots were offered in auction to-day, and a bid of 1*s.* 1*d.* was accepted "subject" for a portion of it, but the holder insisted on 1*s.* 4*d.* for sulphate, and 1*s* 10*d.* for muriate; so the deal was cancelled. The tone is distinctly firmer to-night.

(AVERAGE FOR ALL INDIA 8·83d.) *May 12th.*

GARDEN.	Total.		Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust and Various.	
	Quantity		Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.
Neilgherry															
Culloocoray ...	33½c		7¾	...	...	33½c	7¾	...	...	...	...	...	...	...	...
Travancore ...	**628 p**		**7 61**												
Arnakal ...	85 p		8	34 p	7⅞	2	8½	36	8½	4 p	7½	2 p	7½	7½c	5⅞7½
Caraday Goody ...	91 p		7⅞	63 p	7⅞ 11¾	13	7¼	...	...	10	6⅝	...	...	5½c	6 7½
Fairfield ...	108		7½	...	...	49	7½	34	8	13	7¼	8	7½	4	6¾
Glenmary ...	159 p		8	99	8 8¼	25	7⅞	...	...	...	...	...	...	35 p	6 8¼
Vembanard ...	185		7¼	8	8	60	†7	72	†7¼†7½	26	7 7½	10	7½	9	6½

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

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N.B.—Remittance, should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 16th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, *7th June.—Weather.*—It has been like monsoon all through since the 20th ultimo, though very light. Showery weather with plenty of intervals of sunshine. Fine growing weather. Last night and this morning ·30 inch of rain fell. Monsoonish weather more pronounced since yesterday for sometime. Previously it was fair. *Plant diseases.*—Eradicating and burning borer nearing completion of first circuit of estates. Not severe this season. Coffee looking fine. Labour plentiful.

THE FOOCHOW TEA TRADE.

One or two warnings have been uttered lately to the effect that Indian and Ceylon tea planters must not consider China as "out of the race." The "hare and tortoise" business must not be repeated, for China may yet awaken, and, if the British Tea duty be further lowered, this may possibly act as a stimulus to Chinese traders and to the Celestial Government. Hence, we must not shut our eyes to what is going on in the China tea trade, but must rather watch every movement, slow though all may be, and be ready for any change that may occur. From Foochow, where four-fifths of the trade done is in Tea, we learn that the quality of the 1898 crops generally was perhaps rather better than that of 1897. There was a smaller proportion of common Congou, perhaps because of the change of standard in the United States. The first shipments to London in 1898 realised fair prices and showed profits where sales were effected without delay, but prices subsequently declined rapidly. The American markets were active during the spring, but the very high standard adopted by the Government for the admission of tea into consumption curtailed shipments generally. As regards Australia, shipments to that market

resulted on the whole satisfactorily, small profits being the rule and large returns occasionally available. This is largely attributed by China tea merchants to the fact that the prices of Ceylon teas, which now supply the bulk of the Australian requirements, have been exceptionally high, This has caused a demand for Foochow sweet-liquoring. common, and low medium teas to help to reduce the price of blends, in which ordinarily less Foochow tea is mixed with the Ceylon product. Finer China teas continued to be less and less inquired for. A factor in the success of the year's trade in Australia is said to have been "the way in which shipments have been regulated to meet the immediate demand upon their arrival, instead of, as in past years, two-thirds of the year's supply being forwarded in the first month of the season, and the market consequently overloaded." This is interesting in the face of the recent evidence of the Messrs. W. J. Thomson, senior and junior, before the Indian Currency Committee. It shows that a grave disadvantage under which China teas have laboured in the past, can be removed by the Chinese at will.

European Continental markets are thought to have been rather over loaded last year, and, as regards China leaf, it is said, "not only have direct shipments given a far poorer result, but the demand for the Continent on the London market has been very slack and prices so weak as to cause loss to the importer, a fact which has also damaged the out-turn of direct shipments." An interesting remark is that "there is no doubt that Ceylon teas are gaining ground on the Continent, and most shippers expect that here, as in every other market, where Foochow teas have to compete with Ceylon, the former must go to the wall." The following table shows comparative exports for three years :—

	1898-99.	1897-98.	1896-97.
	Lbs.	Lbs.	Lbs.
To Europe	12,839,390	12,607,188	12,749,506
Australian	5,818,934	4,444,217	6,208,357
United States and Canada ..	8,439,625	7,536,521	11,716,764
South Africa	1,417,903	1 257,944	2,577,719
Coastwise—South	3,387,355	3,174,470	4,262,938
Do. North	5,892,618	6,361,542	13,719,815
Total ..	37,795,825	35 381,882	51,235,099

Exchange, by the way, did not help the China tea trade in 1898. The lowest point for 4 per cent. bills was 1*s.* 11*d.* (June), and at the end of the season the rate was 1*s.* 11$\frac{15}{16}$*d.* The statements referred to above do not, in fact, lend much colour to ideas that the China Tea trade may revive; but it must always be borne in mind that the Chinese are quick to accommodate themselves to circumstances; will change the style of tea manufactured whenever they notice an alteration in demand, and are only shut out from fair competition with other countries by the restrictions and taxes imposed by iniquitous officials. Should these obstacles ever be removed, the China Tea trade may yet be spoken of as threatening dangerous rivalry to the Tea industry in India and Ceylon.

Apropos of this, a few remarks on the failure of the Foochow Tea Improvement Company will serve to throw light on some of the main difficulties that hamper the Tea trade in China. In a recent report the British Consul at Foochow remarks that, although it is admitted by all experts, both native and foreign, that the use of machinery does improve the manufacture of tea both in leaf and in liquor, the quality and quantity of the green leaf in the Pakling district, where the Company's factory was situated, afforded insufficient scope for the Company's operations. After the season 1897 was over, the manager and the Chinese manager were sent into the Panyong district to see if it were feasible to start a factory there. Their report was favorable as regards the leaf, but the trade was found to be so hedged round with monopolies that, in the absence of support from the Chinese directors and shareholders, some of whom are interested in Panyong teas, it was decided to be useless to commence operations there. The total output for 1898 was only 3,105 half-chests, 100 boxes, and 1,080 bags of siftings. All were offered at Foochow for public sale, and, when offers were unsatisfactory, shipped to London on the Company's account. The result was a very heavy loss. This is not the point of chief interest for us here, however. The British Consul observes:—"The Company's want of success is ascribed to the difficulty of getting machinery into the interior beyond treaty port limits, and to the absence of special support from the customs and Consular authorities, but the heavy fall in the prices obtainable for China teas, and the consequent tendency of tea cultivation to give way to cereals, have probably had more to do with it." These words afford food for thought.

VANILLA IN CACHAR.

From an account of an experimental garden in Cachar, printed by the *Planter*, we learn that *planifolia* is considered more suitable than *aromatica* for that district, as the latter will only grow rapidly when the temperature is pretty constant throughout the year. The vanilla under reference was planted on slightly raised beds of well-rotted leaf mould and rich sandy soil. A great many plants died off, apparently from damp, damping off near the ground. They commence to flower when they are about three years old, and as from the peculiar disposition of the male and female organs, insects are unable to fertilize them, this must be done artificially. A portion of the pollen is, therefore, taken from the anther by means of a small thin slip of the bamboo and introduced into the stigma. After the pods set, they continue to grow until several inches in length and when mature in eight or nine months, the base commences to turn yellow. They must now be carefully gathered, selecting only the ripe ones. There are several methods of curing the pods, but perhaps the simplest and best is that adopted in Mexico, where they are placed in heaps in a shed for a few days to colour, after which, if the weather is warm and dry, they are spread on blankets and exposed to the morning sun. Before mid-day they are wrapped up in thin blankets, but allowed to remain in the sun until evening, when they are taken indoors and shut up (still wrapped in their blankets) in closed boxes to "sweat" all night. The next day the same treatment is repeated, and the beans, after exposure to the sun, acquire a dark coffee colour, the shade being deeper in proportion to the success of the sweating process. If there should happen to be damp cloudy weather, the necessary heat is obtained by artificial means. The pods have then to be dried by exposure to the sun, morning and evening, after which they are tied in bundles, and packed in small air-tight tin cases like cigar boxes.

This is obviously a mere sketch of how things are managed in Cachar, but we should be glad to learn what prospect there is of vanilla proving *a commercial success* there. It is unquestionably an article that demands very skilful manipulation, especially in the curing; and probably its future in India will depend largely on the ability of planters to acquire the knack that has led some Mexican vanilla growers to fortune. Without that knack mere successful cultivation means nothing very tempting; on the other hand, successful cultivation is certainly the primary essential.

BOARD OF TRADE RETURNS FOR APRIL.

The following figures show the imports of certain commodities into the United Kingdom during April last:—

Cocoa (raw) there was a marked expansion in the supply, which, in spite of handsome deliveries piled the bonded stock up nearer to that in the previous year.

In the first four months.		1899.	1898.	1897.
Imports ...	lbs.	19,692,702	20,417,447	15,472,038
Home consumption ...	„	12,962,246	11,476,978	10,627,773
Exports ...	„	4,403,255	3,400,471	4,906,009
Stocks in bond ...	„	18,231,000	20,631,000	24,113,000
Value of imports ...		£600,277	£608,531	£414,915
„ exports ...		140,239	108,175	130,063

Cocoa (prepared).—The quantity landed was only about a moiety of that in 1898, and with fair deliveries, there was a further diminution of stock.

In the first four months.		1899.	1898.	1897.
Imports ...	lbs.	1,857,838	3,464,396	2,521,406
Home consumption ...	„	2,036,640	2,178,382	2,369,591
Exports ...	„	327,977	179,791	156,264
Stocks in bond ...	„	805,000	1,449,000	76,000
Value of imports ...		£173,898	£236,594	£187,844
„ exports ...		35,576	20,073	17,875

Coffee.—Greater abundance was observed in April, and with but trifling augmentations in the clearances, the stock in bond became of wider dimensions.

In the first four months.		1899.	1898.	1897.
Imports ...	cwts.	486,030	403,852	417,726
Home consumption ...	„	92,704	88,845	87,427
Exports ...	„	174,867	153,953	102,225
Stocks in bond ...	„	528,000	358,000	315,000
Value of imports ...	„	£1,777,538	£1,816,940	£1,926,395
„ exports ...		627,315	619,335	454,788

Chicory arrived but moderately, and, being delivered more freely, the stock was palpably diminished.

In the first four months.		1899.	1898.	1897.
Imports ...	cwts.	29,692	35,463	31,643
Home consumption ...	„	27,657	27,711	28,936
Exports ...	„	149	284	607
Stocks in bond ...	„	13,000	16,000	11,000
Value of imports ...		£14,693	£15,153	£14,152
„ exports ...		174	268	604

Tea.—The receipts were quite normal, but the duty payments, in anticipation of a higher impost being levied, were puffed out far beyond the immediate requirements of the trade, and the bonded stock was made to look very small.

In the first four months.		1899.	1898.	1897.
Imports—China ...	lbs.	3,425,629	4,647,164	2,618,355
„ British East India	„	28,274,648	32,260,214	31,221,097
„ Ceylon ...	„	30,927,883	33,795,211	32,580,548
„ Other countries	„	3,738,589	3,330,358	2,213,902
Total imports	„	66,366,749	74,032,947	68,633,902
Home comsumption—China	lbs.	6,025,658	5,127,953	6,190,181
„ „ B E.I.	„	53,612,654	45,795,083	42,276,297
„ „ Ceylon	„	26,315,456	27,632,627	24,840,119
„ „ O.C.	„	2,113,631	1,427,047	900,281
Total ...	„	88,067,399	79,982,710	74,206,879
Exports—China ...	lbs.	3,809,163	5,812,941	6,038,366
„ British East India	„	2,536,951	2,315,461	2,065,642
„ Ceylon ...	„	3,336,988	3,752,969	3,261,819
„ Other countries ...	„	214,119	398,093	256,248
Total ...	„	9,897,221	12,279,464	11,622,075
Stocks in bond ...	lbs	67,727,000	81,140,000	84,799,000
Value of imports ...	„	£2,427,788	£2,831,336	£2,703,158
Of which British Indian ...	„	1,067,197	1,288,594	1,266,059
Ceylon ...	„	1,119,982	1,278,415	1,269,660
Value of exports ...	„	429,453	496,048	491,490

THE INDIAN TEA ASSOCIATION.

We are glad to see it stated in the report of the General Committee of the Indian Tea Association for the year ending 28th February 1899 that "the two Planters' Associations in the Travancore District have again subscribed liberally" to the American Tea Fund, though we should be still better pleased to see all South India working together to push trade in markets other than London. There are *three* Planting Associations in Travancore, by the way, so one of them stands out—with the rest of Southern India. For our own part, we doubt if this American trade is now being properly catered for, and the uncertainty as to whether the I. T. A. will co-operate with the Ceylon Planters' Association in pushing continental trade, or will act independently, makes it impossible to forecast the future. Some remarks of the *Times of Ceylon*, with comments by the *Madras Mail*, are given in this issue and deserve consideration. As for the rest of the report of the I. T. A., extracts from which are given on another page, we have from time to time kept our readers informed of such of the plans and operations of that body as are of interest to planters down South, and it is unnecessary either to comment upon these again or to touch upon the many important matters of purely local interest that have been dealt with by the Association during the year. We should like to see the U. P. A. S. I. as powerful and as progressive as the I. T. A., but this can hardly be, for the planting interests of Southern India are, after all, very small when compared with those of the North. We ought to push onwards, however, and to do this successfully combination and union are indispensable.

TEA FROM SEED TO CUP IN SOUTHERN INDIA.

(BY THOMAS BROWN, GLENDALE, COONOOR.)

I.

Selection of Site.—The following points should be attended to in the choice of land for tea:—

Choose—

1. Land facing east with a protecting ridge to cut-off the east winds.
2. Land with a good depth of leaf-mould.
3. Undulating land with the natural gradients never exceeding 1 in 15.
4. Land with a good stream of water with a good head, flowing through centre.

Avoid scrupulously—

1. Land with large sheets of rock.
2. Land with great hills towering over it.
3. Land cultivated for years by natives.

Elevation & Rainfall.—As to elevation and rainfall. In Ceylon tea grows from sea-level up to 7,000 feet, on the Nilgiris from 3,000 to 8,000.

At the lower elevations about 100 and at the higher elevations 60 inches of rain, equally distributed throughout the year is best.

For maximum flavour, combined with a paying yield, there is nothing to beat an elevation of 5,000 feet and a rainfall of 70 inches.

Water Power.—It adds much to the success of a garden if sufficient water, in the driest season, to drive at least 20 H. P. can be secured, and this without a long and expensive lead of pipes.

Factory Site.—Attention must be paid to the site for the future factory, which should be central, free of knolls that will need expensive cuttings, and one to which the water can be led without much cost.

Bungalow Site.—The Manager's bungalow is best by the side of the factory, with, if possible, a covered passage leading into it, so that he may be constantly in-and-out at all times without notice.

The Manager must be *always on guard* if the undertaking is to succeed well; at the same time, he must be able to be so without feeling any difficulty whatever. The factory should become a part of his home, in fact.

Clay for Bricks.—It is desirable that there should be a swamp near the site chosen, from which all bricks and tiles required can be cut. It adds considerably to the cost if these have to be transported any distance.

Fuel Supply.—This is a matter that need give no great concern (important though it is). We would advise the planting in of *Grevillea robusta* (bastard oak) along roads and as wind-breaks at the rate of 20 trees per acre, and reckon that one of these when large should supply sufficient fuel for a year for the produce of that acre (say, 500 lbs.) giving it 19 years to grow up again from the stool or better still from a new plant. For the first twenty years, old logs and reserves must be depended on, but, if these should prove inadequate, young *Grevilleas* can be cut and new ones put in as fast as older ones are removed. Thus a constant supply of fuel can be secured.

Trees fertilize Soil.—Besides the advantage of shelter and fuel from trees, they are great fertilizers of the soil, many (of which the *Grevillea* is one) adding nitrogen to the soil. It is probable, too, that white ants eating the roots of the cut trees, open up and drain the soil, while adding manure to it. I have always considered these mites great helpers of cultivation. True, they attack and spoil the tea bushes when in excess, but it has not been my experience so far to see any material damage done by them.

Site for Nurseries.—A good spot, free from wind and living trees, with a constant supply of water, must be chosen for nurseries and reserved for them. Work at these must be undertaken, if possible, while the jungle is being felled, care being taken to see that, when the burn is made, the heat is not likely to scorch the young plants. The situation should be quite near the bungalow, so that constant supervision can be exercised.

Estimated Cost.—I think it well just here to insert an estimate of cost, as it will give the young planter an idea of what he has to face, the work that must first of all be considered and the amount of money needed within the next twelve months, while to myself it will be a guide as to the points needing to be dealt with, so that nothing of importance will escape attention.

Temporary Buildings.—It is best to begin with these, as permanent buildings take time to put up, are expensive and house-room must be provided for a start.

ESTIMATE FOR BRINGING A TEA ESTATE OF 300 ACRES INTO BEARING:—

	Rs.	Rs.
1st year—		
Felling, clearing & planting 300 acres @ Rs 70	21,000	
Purchase of tools	1,000	
Temporary cooly lines, 300 coolies, 60 huts @ Rs.10	600	
Temporary bungalow, wattle and daub 50 x 40 ...	250	
2 weedings, 300 acres @ Rs.3 per acre per weeding	1,800	
Superintendent's salary @ Rs.150 per mensem ...	1,800	26,450
2nd year—		
To maintenance of 300 acres @ Rs.50, including manager		15,000
3rd year—		
Maintenance as above	15,000	
Cost of producing 15,000 lbs. tea f.o.b., London, over and above ordinary maintenance ...	3,750	
Cost of factory and machinery	50,000	
Total...	68,750	
Less value of 15,000 lbs., say	5,000	63,750
		1,05,200
4th year—		
Superintendent's bungalow	5,000	
Permanent cooly line, 60 rooms @ Rs.50 each ...	3,000	
Working expenses on produce, 60,000 lbs. @ As. 8	30,000	
Total...	38,000	
Less value of produce, 60,000 lbs. @ As. 6 ...	22,500	15,500
Total Capital		120,700
5th year—		
By value of 120,000 pounds tea at As. 6 per lb. ...	45,000	
Less expenses @ As. 4	30,000	
Profit—Rupees...		15,000

or 12·428 % on capital.

The figures have all been put at their lowest, so as not to give an extravagant ideas of possibilities.

TELEGRAPHIC QUOTATIONS.

	June	3	4	6	7	8
LONDON.—						
Bar Silver		27⅞	27¾	...	27 11/16	27¾
Bank Rate		3%	3%	...	3%	3%
Coffee						
Mysore, Av. (B) size.		66*s.*	...	dull 66*s.*	...	...
Ceylon		105*s.*	...	...	...	...
Stock, tons ...		...	...	24,042	...	...
Landings ,, .		..	...	2,700	...	...
Deliveries ,, ...		...	...	1,700	...	...
Cinchona, per unit ...		1¾	...	...	...	...
Stock, pkgs. ...		16,000	...	..	...	...
Tea—Stock, lbs. ...		20,000,000	..	...	...	...
Cocoa		72/6*d.*	...	...	...	...
Cardamoms		3/3 to 3/10	...	...	...	...
NEW YORK.—						
Coffee—Fair Rio ...		6¼	6¼	6⅛	6⅛	6⅛
,, Futures, Sept.		5·91	5·91	5·93	5·97	5·97
Silver—Comml. Bars ..		61	60½	60½	60½	60½

NOTES.

Quinine in Japan. During the first quarter of 1899, Japan imported 20,000 oz. muriate of quinine, 19,000 oz. of sulphate of quinine, and 300 lbs. cinchonine muriate.

Coffee in Texas. Importations of coffee into Galveston have again begun *after a lapse of some years.* By far the largest quantity is from Brazil.

Ceylon Teas in Russia. From 439,350 lbs. in 1897 to 2,714,000 lbs. in 1898 is rapid progress. That is what the import statistics of Odessa show in regard to Ceylon tea.

Ceylon Tea Shipments. The official figures for shipments of tea from Colombo in May and June are—

May.—*Shipments* ..	8½ millions.
June.—*Estimate* ..	10½ to 11 millions

Quinine, &c., in the United States. In 1898 the United States imported 3,512,449 lbs. cinchona bark, as against 2,696,366 lbs. in 1897; and 3,893,541 oz. sulphate (&c.) of quinine, as against 4,364,823 oz. in 1897.

Cinchona. Last night's *Madras Mail* contains a Reuter's telegram which gives the result of the Amsterdam Cinchona Sales as "price in unit 8¼". Apparently this means 8¼ cents. = about $1\frac{13}{20}$d. per unit.

The Draft Allowance on Tea. The assents to the joint circular of the Ceylon and Indian Associations against the continuance of the 1 lb. draft allowance on tea in London represent 190,000,000 lbs. of tea (per annum), but Messrs. Densham, the leading dealers, threaten strong opposition.

Indian Tea 1899. Messrs. Lloyd, Matheson, and Carritt, of London, state that:—"Samples received of the new crop generally show rather better quality than those of the previous season, as was to be expected, the weather having been more favourable for manufacture than was the case last year.

China Tea. In the Consular report on the trade of Shashib for 1898, we read:—"But for the occurrence of the riot, some tea from Western Hunan would, I believe, have been offered for shipment by steamer in May. As things turned out, the intending shippers preferred to convey it to Ichang. Consequently, tea does not appear at all among articles of export in 1898.

"A Beneficent Insect" A correspondent writes to *Indian Gardening*:—"I see the 'B. I.' is called a 'red spider-eating beetle.' We have food for such a thing in tea. Will not some one—or body—help the 'B. I.' to a passage across from Queensland? Such immigration should be, of course, State-aided, or at any rate aided by our Calcutta Tea Association."

Exports of Tea from South India. The following are statistics of exports from Madras (Presidency and Port):—

YEARS.	MADRAS PRESIDENCY.	MADRAS PORT.
1893-94	1,775,812 lbs.	153,355 lbs.
1894-95	2,194,006 ,,	110,324 ,,
1895-96	2,510,059 ,,	101,923 ,,
1896-97	2,690,927 ,,	58,338 ,,
1897-98	3,242,079 ,,	99,886 ,,

Coffee. In these days of low prices it is curious to find the *I. P. G.* drawing the attention of tea-planters to "the cultivation of coffee as well as tea." "If the American people will not have as much of our teas as we would like them to, there is," says our contemporary, "no reason in the world why we should not have some share in supplying them with coffee." Is there not? At least there are reasons why that share is likely to be a small one.

The Revival of Cinchona. The *Ceylon Observer* is glad to know that quite a number of Ceylon estate proprietors in different districts have taken its advice and put in a good deal of "cinchona" in the fair hope of it turning out a valuable help when the trees come to maturity. It sees no reason to doubt the soundness of this expectation, judging by what is heard of cinchona bark supplies from South America, Africa, and India as well as Java.

The London Tea Market. In their last weekly cable, dated 1st instant, to Colombo, Messrs. Gow, Wilson and Stanton stated that the market generally was unchanged, demand for teas with quality weak. Average 8d.; fair liquoring Ceylon Pekoe Souchong 7½d.; 24,000 packages Ceylon sold out of 25,000 offered. Of Indians, only 7,000 were offered, 6,000 sold. Average 8d.—¼d. down. The recent falls in Indian averages have now totalled a serious figure. From about 9½d. to 8d. in a few weeks is a drop, indeed!

Coffee. The *Singapore Free Press* in the Straits is doleful. It says:—On the 6th of May one or two suggestions were offered in this journal towards the devising of some means of popularising coffee amidst the millions of possible consumers who will prefer tea for the plain reason that nothing is wanted for that save the boiling of the kettle. It is disappointing

to find that not one local planter, hard hit though the industry be, has yet had one idea to rub on another as to this most practical question.

Complaint of Tea Standards.

A press despatch from Halifax, Canada, says: "Merchants in this city have been bitterly complaining of the Government's tea standards ever since they were formulated. These standards exclude the cheapest teas, a class of goods, however, which is demanded by the Newfoundland trade, and the trade in fishing and other districts in the Maritime Provinces supplied by Halifax. One firm here that recently imported 200 half-chests of tea, inferior to the minimum standard quality, suffered seizure by the Government."

Tea in Russia.

The Russian *Official Messenger* gives some interesting details of the attempts that are to be made in the Caucasus to develop the local tea industry. A tea factory has been started by the authorities near Batoum, and machinery of the latest type, as used in India and Ceylon, has been ordered from London. The paper states that Russians prefer Chinese teas to those from India and Ceylon, and, accordingly, every effort is to be made to produce an article as much like the former as possible. With this view experts have been invited from Central China to assist and advise the local grower.

Neatly put.

A Canadian advertisement runs thus:—"All women are alike in some things. They all want a tea that is cleanly, pure and wholesome, one which is uniform and that can be relied upon in every instance. The women of Canada have been taught by judicious advertising, and have learned from experience that the only tea worthy of their attention comes from Ceylon and India. The grocer who is in business to make money can reap the benefit of this very easily. Just put these teas into stock and let your customers know you have them—you'll sell 'em all right. Try it and see.

Tea in the United States.

Messrs. Jas. and Jno. R. Montgomery & Co. report the statistical position of tea for the United States and Canada on May 1 as follows:

Total afloat to May 1, 1889	40,840
Receipts to May 1, 1899	81,104,329
Total shipment advised by mail	81,145,169
Leaving to be shipped	1,024,926
Estimated supply seasons 1898 and 1899 ...	82.170,095
Supply seasons 1897 and 1898	87.711,780
Supply seasons 1896 and 1897.	93,551,353
Supply seasons 1895 and 1896	105.300,581
Afloat May 1, 1898	1,940,909
Receipts to May 1, 1898	85,176,558
Total shipments advised by mail to May 1, 1898 ...	87,117,467

Tea? or Manure?

A Colombo contemporary writes under this heading:—A well-known Colombo buyer sends "A specimen of fine (!!) tea plucking, which is certainly a credit to the estate concerned." "This choice lot," he remarks, "is to be offered in next sale and is certain to be bought by natives and eventually hawked in our harbour under some such description as 'specially selected pure Ceylon tea.' It certainly is tea, but it ought never to have left the bush, or, if plucked, it should have been buried as manure. Where is the Health Officer? The tea may fetch 5 to 10 cents. per lb. It requires an expert (in manure) to value such stuff." For ourselves we may say we have never seen such coarse-plucked half-fired rubbish.

Tea in North Travancore.

A North Travancore correspondend writes to the *Ceylon Observer*:—Tea is looking wonderfully well at present and leaf everywhere coming tumbling in. I note the Travancore tea has been realising a much better price the last month or two; later on, when we get all our new factories in working order, we shall show Ceylon how to do it. So you, Johnnies, had better keep your weather-eye open. I see no reason why Travancore teas should not pretty well top the market later on. Soil is grand, jât of a superior description, labour cheaper than in Ceylon, elevation from 4,500 to 7,000 feet, and now that this part of the country is almost wholly being superintended by old Ceylon planters of experience, things ought to hum a bit soon.

Glutting the Market.

Thus the *I. P. G.*:—Already we notice that many correspondents write in congratulatory terms as to factories being so much ahead of last year in quantity, and as the teas are up to the present standard of requirements, and stocks at home pretty well depleted, unreflecting people may consider the outlook promising, but in the foregoing favourable condition lies the danger, inasmuch as it will lead up to glutting the market, and last season's experience will be reversed. As we know, 1898 opened gloomily, but partially recovered in the autumn when the greatest outturn is yielded. This season, we may say, the spring teas have been, and are, fetching fair average prices, but if all gardens are to "beat the record" in outturn, prices will fall to what they did in the early months of 1898.

Cocoa in Guayaquil.

The cocoa crop, the principal article from Ecuador, was much larger in 1898 than that of the year 1897, the difference being an increase of nearly 30 per cent., with an average price, without expenses, of 27 sucres 75c. (£2 15s. 6d.), the highest price being in June, 30 sucres (£3), and the lowest in December, 24 sucres (£2 8s.). The cocoa crop of 1898 gave a total of 422,094 quintals (nearly 19,000 tons), being 30 per cent. over 1897, and really the largest crop ever gathered in Ecuador. Added to this there have been very good prices throughout the whole year, so that the total result in value has been about 50 per cent over that of 1897. The last four years have given crops as follows:—

Year.	Quantity. Tons.
1894	17,467
1895	16,000
1896	15,500
1897	14,800

against 19,000 tons in 1898.

Tea and heavy Manuring.

After stating that "Ceylon estates used to be remarkable for high cultivation and heavy manuring," and that certain facts would seem to show that well cultivated old land is equal to virgin soil for the production of tea, the *I. P. G.* remarks:—"In this connection it would be advisable, perhaps indispensable, to collate information as to whether reduced prices for tea and the consequent necessity of

cutting down working-expenses have not forced the Ceylon men to lower their standard of cultevation, before drawing a hard-and-fast conclusion that Ceylon tea has fallen off in quality, merely because the tea lands are no longer 'virgin.' Our own planters would be able to throw more light on this question than we can hope from Ceylon. for the most ancient of the Island tea is very youthful in comparison to thousands of acres in Assam and Darjeeling." Of course, as our contemporary says, Tea was originally put down in Ceylon upon old coffee land by no means virgin soil.

Red Leaf.

The *I. P. G.* observes:—"Red leaf," which in the good old days went under the name of "monmara," appears no longer in the form that brokers knew it some forty years ago, and even few planters take the trouble to break it down to mix with dust pure and simple; it would not cover expenses to send it to auction in its old form, and even dust, though a bye-product, is hardly worth bothering about as tea; but our refuse (under which head both may be classified) can be utilized in another way, and, perhaps, in conjunction with fustic, turmeric, or even the common meadow mallow, play its part in the dyeing of cotton or silk goods. Everyone who has indulged in fishing knows the dodge of toning down the glittering of his gut traces by steeping them in the leaves left in the teapot, and though tea dye is not a fixed, that is, an enduring one, the chemist can easily rectify this, so that even our tea-house sweepings, which many boarding house-keepers dispense to their lodgers, may fetch a remunerative price when diverted into the right channel.

Cinchona in Travancore.

"Klondyke" writes to the *Ceylon Observer*:—I noted some time ago in the *Observer* you are advocating cinchona growing again, more especially in the Uva district, I think with properly selected land (but where is this to be had in Uva?) and good, fresh imported seed from Java or India, one might do worse than give the old product another trial. Land suitable for cinchona will be hard to get in Uva with the exception of some few estates, which I could name, which have some reserve of jungle, but a large number of trees might be grown throughout the tea in every, or almost every estate in Uva generally. There is a quantity of very fine cinchona, over this way, chiefly Officinalis and Hybrid, and some grand renewed bark really for harvesting, if prices were only better; and I still hear of cinchona seed being sown for the rearing of plants for future planting. Travancore North strikes me as being an ideal cinchona growing country, a bit windy perhaps during the bursts of the monsoons, but, if jungle belts were left for shelter, I think Travancore cinchona would be hard to beat."

Tea in French Colonies.

"Tea: its Culture and Manipulation" is the title of an illustrated work by Monsieur V. Bontilly, recently published in Paris. The *Revue des Cultures Coloniales* describes it as the most complete and best compiled that has yet appeared in France. Of its five chapters, the first deals with the origin and botany of tea; the second and third with the working of Ceylon estates and the methods of preparation; the fourth handles estimates of expenses, returns, etc.; in the fifth the author runs over the colonies suitable for tea cultivation. Indo-China, he says, at present gets all its tea from China, but as soon as the natives learn the processes of its manufacture they will cease to import a product they can make themselves. "Guiana, New Caledonia, Réunion, and a large part of the high plateaux of Madagascar seem as though they ought to lend themselves equally well to this cultivation, for the climate of these various regions does not sensibly differ from that of the interior of Ceylon." Finally, the author gives an estimate for the working of an estate in Réunion, where expenses would be the same as in Ceylon were it not for the scanty labor-supply, which is twice as costly.

Tea in the United States.

Now that a duty is collected on tea, it is fair to assume, says the *American Grocer*, that the returns of custom houses are correct The imports for March, as reported by the United States Treasury Bureau of Statistics, were 4,307,431 pounds, of which 3,047,021 pounds were from China and 542,479 pounds from Japan. The total imports for the nine months ending March 31, all dutiable, were as follows:

From	Quantity, Lbs.	Value.
China	29,694,621	$3,646,589
Japan	28,012,144	3,827,275
United Kingdom ...	1,150,899	254,668
East Indies	1,369,322	216,980
Other Asia and Oceanica ...	1,194,285	28,929
Other countries	9,442	3,115
Total	62,230,683	$8,103,658
Total same time 1898	60,187,766	8,244,632
Total same time 1897	85,037,698	10,743,290

The total exports for the same period in 1899 were 170 pounds, duty free, and 753,258 pounds, dutiable, which leaves net imports of 61,477,255 pounds. Evidently the Tea Act, judged by the above record, is not leading to an increased use of the article.

Coffee Bags and Aroma.

A correspondent writes to the *Journal do Commercio* in regard to the disfavour with which Brazilian coffees are regarded in Europe, saying that his own experience leads him to believe that the prejudice is well founded and due to the loss of aroma of coffee *en route*. It has always been a puzzle to us, says a Brazilian contemporary, why European consumers should find our coffees so inferior when there can be no question whatever that the coffee we drink here is infinitely superior to anything to be obtained in Europe. No doubt one of the great attractions of coffee is its delicious aroma, if that be lost or partially destroyed it is easy to understand that such coffee must lose considerably in commercial value. The correspondent of the *Journal* states that the aroma of Brazilian coffee offered for sale in Europe cannot compare with that of similar coffees here and goes on to speculate as to the cause. Is it not possible that coffee, like tobacco and tea and other substances, possesses the power of assimilating aromas, and takes that of the jute bags in which it is shipped? When delivered at the *commissarios* in cotton bags it still preserves all its delicacy. It is not possible that the Jute bag really prejudices the native aroma? The point is worth studying.

The China Tea Season.

A report from Hankow, dated May 11th, 1899, says:—Musters were put on the market from both the Hankow and Kewkiang districts on the 8th instant, and since then arrivals have taken place freely, all districts being represented,

with the exception of Hohows, Kutoans, Lielings, and Ichangs. It is satisfactory to have at last a crop that is *sound* and pure, whatever defects it may have incidental to a dry season, such as we have lately had. Keemuns have met with a poor reception, quality being considered inferior to last year, when they had exceptional merit, and which became still more pronounced in consequence of the *taint* attached to the Ningchows. A few special parcels were taken at about Tls. 60, but tea men had to abate their demands considerably to effect further sales. At the close there is more doing, and total settlements are estimated at 6,000 half-chests. Ningchows are fresh and pure, but somewhat lacking in fullness and strength. They have been fairly popular, and settlements reach about 12,000 half-chests. Hankow teas compare favourably with former seasons, though occasionally dry and somewhat burnt. Finest qualities show much better value than last year. Below Tls. 25 the demand is very strong, and common grades are about Tls. 2 dearer than they were at the corresponding period last May. We estimate settlements at 40,000 half-chests.

Quality or Quantity.

"Superior Orange Souchong" sends an amusing letter to a Colombo paper. He writes:—"The loud outcry for many years past from London and Colombo buyers of Ceylon teas has been, "You must give us better quality. Make a good article, and we will give you a good price for it." Many a superintendent has been driven to insomnia, illness, and some to premature graves, by the persistent crowing of this gigantic cock-a-doodle. Now that supply has overtaken demand, how about quality *vs.* quantity? Broken orange pekoes of undoubted quality and good make are selling within 1d. of the same estate's pekoe souchong. The *H. & C. Mail* of 12th May has the following: 'In times of scarcity *all nice distinctions of quality* and degrees of preference are silently dropped,' and fanciful pickings and choosings of favourite growths have to make room for rough-and-ready purchases of 'whatsoever ill-assorted teas may chance to be on offer.' What becomes then, now, of all this *very superior* advice doled out to us *ad nauseam* during the last few years? What do Solomon's 'Sinne Durais' of Colombo and London now advise the superintendents to do? I think it would at least be in better taste if, in future, these wiseacres would admit the law of supply and demand to be all-powerful, and not attempt to take the tarpaulins off the man at the wheel when the storm is at its height."—We can only say that if this planter allows himself to be guided entirely by what is said to happen *in times of scarcity*, he is likely to learn wisdom at a somewhat high cost!

GENERAL ARTICLES.

THE BURNING OF PAPER MONEY IN BRAZIL.

Apropos of our Editorial remarks in last issue, we quote the following from the *Brazilian Review*:—

"Paper money is still being burned, 9,000 contos having turned to smoke. We continue to receive more letters than we have space to publish on the burning question, each one flatly contradicting the other and on the most scientific principles. And yet in spite of all exchange, like Truth, looks neither to the right nor to the left, goes on its way and makes no answer! Neither up nor down and so neither the reductionists nor their adversaries get any encouragement from her! *Patiencia*! Rome was not built in a day, and after all what is 9.000:000$ amongst 770 953:500$ to which, as our readers will observe, our currency is now reduced."

Replying to the question, "What is the real economical meaning of burning paper money," the same contemporary says:—

Money of whatever kind is debt. When paper money returns to Government and is finally destroyed, that debt is at length extinguished; but when debt is made current by law, the extinction of debt means restriction of the currency and, consequently, if other factors remain the same, increase of its value.

It is a fact that debt having been thus finally extinguished it cannot be liable to be employed again in the purchase of bills of exchange or for any other purpose. But, other factors remaining constant, what is lost in quantity must be gained in value and, consequently, the whole remaining current debt be raised in value and its purchasing power be enhanced precisely by that of the moiety destroyed. With less paper money the same quantity of bills of exchange will then be purchased; and, if the necessity persist, certainly neither Agriculture nor any other interest will be freed from having precisely the same demand for remittances presented at the Banks' counters as before. In that case neither Agriculture nor anyone else will have benefited, except owners of money and fixed incomes, the result being merely a fall of prices.

Again, as regards the destruction of the currency, that so much amuses our correspondent, it must be observed that in making the above statement we did so with the reserve that *other factors remain constant and normal*. Should the one other factor of value, foreign exchanges, be abnormal and become unfavourable the depreciation thus caused might and probably would be sufficient to counteract the effect of restriction of the value of the currency and and its value fall instead of rising.

In that case the remaining currency might easily become insufficient for the wants of internal exchanges and the value of loanable capital rise extortionably with consequent paralisation of industry and business. Such a crisis was but lately provoked in India by the restriction of the currency, resulting from simply refraining to emit. Those who accustomed to 4 or 5%, saw discounts rise to 9, 10 and even 12% found it a very palpable evil and by no means a 'bogey.'

It is a fact that by the action of the *moratorium* we shall have escaped paying some £10,000,000 sterling in bills of exchange, but the internal indebtedness will not have been diminished to anything like the same extent. The total amount to be destroyed will, at 18d. to the milreis, the rate agreed on, be precisely 133.333:333$333, but it is difficult to comprehend how that sum can be regarded as equivalent of £10,000,000, when at current rates it is not much more than one-third of it. Evidently the idea of the real meaning of money has not yet penetrated our correspondent's mind.

Money is debt. When the Government receives it in payment of taxes it is a mere transfer of a debt receivable, but when it burns it that debt is destroyed, not so many promises to pay, but the right to exact its equivalent in commodities or services, which may be estimated, as far as foreign commodities and services are concerned, at the current, not *par*, rate of exchange. By burning paper money at 6d. it destroys the ability to exact so many 6d. worth of goods or services. The fact that it is a promise on the part of the Nation to pay means nothing, because its ability to do so must depend entirely on circumstances generally independent of will or inclination.

Economically, therefore, we are piling up foreign debt at the rate of £3,000,000 per annum, whilst we are reducing our home indebtedness, so long as exchange remain at less than 7d, at the rate of less than £1,200,000.

So long, therefore, as the value of the currency is not raised, so long as our reduced local debt or currency is unexchangeable for larger quantities of foreign debt we are not better off, but poorer.

It is true that what our foreign creditors fail to receive during the *moratorium* and what we fail to remit must be some gain to commerce, because it is thus freed from a ruinous competition for bills and, consequently, able to remit more advantageously. Indeed it is only on this ground that it can be defended.

Had it been possible to continue payment, even on the onerous terms of 1897-8, there would have been no excuse for not doing so.

But it was not possible and the only alternative was suspension or Bankruptcy.

In order, however, that the sacrifice may be productive, that at the end of three years the results may justify the means, there is but one course to follow, to raise the value of the currency to a level at which it will be possible for the market to supply bills again in sufficient quantity not only for its own necessities but for Governments too. That cannot be secured by merely burning paper money. It must be supplemented by *economy*, not of Government merely but of the whole community sufficient to secure a favourable balance of foreign exchanges, thus reducing payments abroad still further, and by increasing our exports, or both.

A loan or sale of property, which to many seems the plank of salvation, is but a transitory relief, a soporific not a remedy. What is required is a drastic treatment that will cure once and for all!

TEA IN THE NILGIRI-WYNAAD.

We take the following from the *Times of Ceylon*:

WAYNAAD, May 29th.

Those Amshoms of the Nilgiri district, which embrace the tract of the country extending from the confines of the Ouchterlony valley (on the western slopes of the Nilgiri hills) to the southern limit of what is known, for administrative purposes, as "The Wynaad," includes the villages of Charambady, Davalah, Gooraloor, and Nellacottah, as well as the hamlets of Mookatty, Nellialum, and Pundaloo, and is traversed by the Government highroad, leading from Calicut *viâ* the Tambercherry ghât, through Vayitri to Gooraloor, 85 miles in length, as also by the line from Gooratoor into the Mysore country, through Tippoo Cardoe and Goondelpet, to Mysore city, distance 65 miles, and by the highway linking the Mysore road, along the track which connects the latter with Manantoddy, 43 miles off, through Nellacottah and Sultan's battery.

Within the last decade the hamlet of Mookatty has sprung up, and

A GROUP OF COFFEE ESTATES

opened on either side of the road, so that, for a distance of about 5 miles, before reaching Nellacottah, the line traverses *Arabica* coffee heavily shaded with *Grevillea robusta* almost continuously. These properties are all situated on what was bamboo forest; but further on, the older Nellacottah plantations (some of which were opened in the sixties) are shaded mainly with jâk and *Ficus glomeratta* (or Utti fig). It is a notable feature of this part of the country that estates which 25 years ago had yielded phenomenal crops still present a most vigorous and regular appearance, indicating that a system of cultivation has been followed which, in combination with the fertile soil and equable climate, has proved both profitable and successful.

The general elevation of Nellacottah is probably over 3,500 feet, as some of the coffee runs up to 4,000 feet.

FINE TEA—FURTHER EXTENSIONS.

From Nellacottah the road descends for a couple of miles some 600 feet, and a short distance beyond the base of this declivity a large block of land has been taken up by some cocoa planters, one part having been planted with Arabian coffee and "Silver oak" as shade, while the contiguous tract has been reserved for tea. The coffee evidently enjoys the best of treatment, no "borer"-stricken bushes being allowed to remain in the fields, and, judging by the appearance of the place, manure is liberally applied. Of the tea opened in 1898 (when the initial clearing was planted), I have no hesitation in affirming that this clearing is second to none in the Wynaad, both in the regular growth of the young plants and in the insignificant proportion of vacancies (which are apparently under 5 per cent). Marching with the past season's young tea, a very considerable extent of land is being prepared for the current season's extensions, upon which the work is so well organized that the whole will in all probability be planted up by the 30th proximo—a most important advantage hereabouts, as the average rainfall rarely exceeds 45 inches.

The ground gradually rises from the level of the property just described towards the Nilgiris, and the road traverses several older coffee estates (which appeared to be well cared for) before it reaches the toll-gate about a quarter of a mile below Gooraloor, where the line bifurcates to Mysore.....Gooraloor itself, which the writer had not visited for nearly twenty years, is situated at the foot of the Neddenduttum ghât, 32 miles from Ootacamund, and appears to have prospered exceedingly during the past few decades .....In addition to the Government buildings, Gooraloor boasts of its hospital, dispensary, post office, Protestant and Roman Catholic churches, and is probably about the best-stocked grain market in the Nilgiri coffee districts, while the position, at an elevation of over 3,500 feet, commands a wide view of the Wynaad plateau, extending into the Mysore country on the north east, and to the confines of South Coorg in a northerly direction. The Government line to Calicut, as already mentioned, branches off the Mysore road, about a mile below Goodaloor, and, for some distance along the track, traverses a considerable extent of very fine bamboo land, consisting of the Surrey, Nundutty, and Chembaly properties: the two latter in particular, some 1,000 odd acres in extent, would, under judicious treatment, make an ideal tea estate, as the old tea already opened shows that the soil and climate are thoroughly suitable, while the situation and facilities for introducing Mysore Canarese, Coimbatore Tamils, and low-country labour are unique.

THE GOLD MINING INDUSTRY.

In the early eighties gold mining was approaching its meridian; a vast amount of cinchona had been planted, either alone or amongst *Arabica* coffee, and the latter was in many instances most imprudently ignored in favour of the two other undertakings; but all this is now a thing of the past, and tea is slowly but steadily finding its way to the lands once under coffee, the appearance of the tea-fields near Pundaloor and at Charambady being very satisfactory; and firms upon the East and West Coast are reported to be extending their tea interests, which may be said to have passed beyond the experimental stage, as Charambady tea (from Kanombyle garden) averaged 10⅛d. for many months before the drop in the London tea market, and advices of the last breaks gave an average of 8¾d. It is not improbable that an effort may be made to resuscitate gold mining in the district, the initial steps to bring about this result having been taken; and, as mica has been found at Charambady, the land in that quarter is being judiciously exploited by a West Coast firm with a view to determining whether this mineral can be profitably treated. Its proximity to the Southern Capua, as well as climatic and other advantages, will always offer numerous advantages to those desirous of investing in tea in Nilgiri-Wynaad.

CINCHONA IN JAVA.

Mr. A. F. McLachlan, who is acting as British Consul in Java, has sent a report on the business of 1898 to the Foreign Office, from which we quote the following remarks regarding cinchona:

The quinine-manufactory, established in 1897, and referred to fully in my predecessor's report, has been well supported by most of the cinchona-planters. They have given it a share of their bark for manipulation sufficient to enable it to work steadily throughout the twelvemonth, and to deliver about 500,000 oz. of sulphate of quinine, while its capacity has lately been considerably enlarged.

The bulk of the Bandong manufactory's product has been shipped to London, where it has found eager buyers at satisfactory prices, whilst large shipments have also been made to New York and Amsterdam, and smaller consignments to Australia, China, Japan, and the Straits.

Another manufactory has been erected by the Cinchona Cultivation Company ("Pandan Aroem") on its estate at Paroeng Koeda in the Preanger Regencies, to convert their bark into quinine, but so far the greater part of the output has been sold for local consumption, and only small quantities have, I understand, been exported.

Exports from Java of cinchona bark during last year amounted to 11,150,000 Amst. lbs., sold at public auction at an average price per unit of 4·78c., as against 8,511,000 Amst. lbs. in 1897, at 4·70c.; 10,079,000 in 1896, at 2·67c.; 8,827,700 in 1895, at 2·79c.; 8,917,700 in 1894, at 3·95c.; and 7,342,000 in 1893, at 4·28c.

The large quantity exported last year must be attributed to a number of the cinchona-estates having taken advantage of the rise in home prices to harvest their bark on an unprecedentedly large scale, and it must not be forgotten that the 500,000 oz. of quinine, manufactured in Java, represents in bark nearly another 350,000 Amst. lbs. of bark.

Such large exports of bark are not likely to prove permanent, especially as the Bandong manufactory expects to be able to treat this year a very much larger quantity.

There is no indication in Mr. McLachlan's report of diminished cultivation in Java.

A PROPOSED INDO-CEYLON TEA COMMISSION.

Commenting on the circular letter recently issued by the Indian Tea Association (Calcutta) with a view to the raising of funds for a campaign in foreign markets generally (not in the United States alone) the *Times of Ceylon* remarks:—

The make-shift in India of an appeal to individuals, such as we had in the days of the old Tea Fund, prevents our neighbours from knowing with certainty the amount estates will subscribe year by year; and this has always been a drawback in the joint American campaign. It will be a month, or two even, before the Indian Association can say definitely how the new appeal has been received; and we are not likely to hear until then whether they desire to join forces with us in the European campaign which both communities are to inaugurate next year. We are inclined to think that the Indian Association will make the proposal eventually, because it is decidedly in their interests to do so. Their uncertain sinews of war could be strengthened by the constant and steady flow of money on this side; and—as in North America—we have been longer in the field. The details of any such project would, of course, be critically considered; but the main idea would be sympathetically received, and would be accepted, we believe, if it were on a more liberal financial scale than India's share in the American business. There are several reasons, however, why we should exempt Russia altogether from the combination. We have struggled to get into that special market for many years, and marked success is now crowning our efforts. We also have direct shipment to Odessa, which is being increased by another Russian steamer line—the visit of whose first vessel we record to-day—while India is to be left indefinitely without any such service at all. With every desire to co-operate, therefore, we should be handicapping ourselves if India now came into the Russian campaign on equal terms. As for France, Germany, and the rest of Europe, that also cannot be on the basis of the arrangement in America. There the Indian Association had its permanent representative; and his valuable services were so acceptable to us that we were content to pay part of his remuneration, and at the same time meet the cost of Mr. Mackenzie's work as a Visiting Commissioner. This time, Ceylon has been the first to appoint her representative, for a definite term and for the whole of each year. and his qualifications are such that the Indian Association are not likely to find his equal. Thus the question is—can India adjust the balance by supplying her proper share of money? If she were leaving Russia entirely to Ceylon she could do so. We doubt her ability otherwise, though recognising that she cannot be expected to avoid that promising source of demand. If a fair basis could be arrived at the saving of outlay which might be needlessly duplicated, would bé desirable; but the difficulty is that the Indian Association may want equally good terms as in America, and without being able to guarantee any permanency. Plainly, we do not think this is good enough for jointly exploiting Europe; and an early expression of our views may cause our Indian friends—desiring success for any pending negotiations—to frame their terms on a liberal scale, without which these will have little chance of proving acceptable to Ceylon.

On this the *Madras Mail* observes:—

THE TEA CAMPAIGN.

Commenting on the circular letter lately issued by the Indian Tea Association (Calcutta) to all proprietors and agents of tea gardens, inviting subscriptions for an American and Foreign Markets Fund, the *Times of Ceylon* remarks that "the make-shift in India of an appeal to individuals, such as we had in the days of the old Tea Fund, prevents our neighbours from knowing with certainty the amount estates will subscribe year by year; and this has always been a drawback in the joint American campaign." As it will be at least a month or two before the Indian Tea Association can say definitely how the new appeal has been received, our contemporary thinks Ceylon is not likely to hear until then whether the Indian Association desires to join forces with the Ceylon Planters' Association in the European campaign that both communities are to inaugurate next year. It is "inclined to think that the Indian Association will make the proposal eventually because it is decidedly in their interest to do so. Their uncertain sinews of war could be strengthened by the constant and steady flow of money on this side; and—as in North America—we have been longer in the field."

Thinking that the details of any such project would, of course, be critically considered, the *Times of Ceylon* proceeds to throw out a series of feelers. It would not have an invitation issue in due form from Mrs. Ceylon. It takes the part of everybody's friend on itself and suggests to Lady India that she should volunteer to take part in the picnic, undertaking to furnish her own supply of tea and bread and butter, and—not to ask for any cake! "The main idea would be sympathetically received, and would be accepted," our contemporary believes, "if it were on a more liberal financial scale than India's share in the American business." But immediately after saying this it adds, "there are several reasons, however, why we should exempt Russia altogether from the combination." It also observes that France, Germany, and the rest of Europe cannot be on the basis of the arrangement in America. India, therefore, is to pay her share, and to receive such share, exclusive of Russian cake, as Ceylon may think fit to give her As for Russia, it is argued that Ceylon has struggled for many years to get into that market, and that marked success is now crowning its efforts. A hint is thrown out that if India would leave Russia entirely to Ceylon, a nice little joint arrangement might be made about the United States and the rest of Europe; and our contemporary somewhat naïvely acknowledges that its remarks on this subject are framed in the hope that they may influence its Indian friends "to frame their terms on a liberal scale, without which these will have little chance of proving acceptable to Ceylon"

This is a matter of business not of sentiment. The fact that Ceylon was the first—after China!—in the Russian field gives her no claim to a monopoly there. India is free to try to drive Ceylon teas out just as Ceylon is striving to oust China teas. The work that Ceylon has done may help India in work of this kind, that is the good fortune of the one or the bad fortune of the other, if any one likes to regard it in that manner. For ourselves, we should strongly deprecate any joint action that was not on an absolutely fair basis, every market open alike to both parties—a fair field and no favour, in fact, and the best teas to secure the trade. The fact that there is no direct line of steamers from Calcutta to Odessa is a trifle. Political reasons obstruct progress in this direction far more than do trade considerations. If the British Government would not agree to the appointment of Russian Consuls in India, we fancy a direct Russian line of steamers could be arranged for without a month's delay. As for the markets of the Continent of Europe, fair play must again be the motto. So, too, in America and Canada. In some places Ceylon will doubtless obtain the preference, in others India will. There need be no heart-burning on that account. That India should contribute liberally towards the expenses is unfair, and no better basis could be selected than that of the gross exports of Indian and Ceylon teas, the contributions of each to the foreign campaign fund to be in proportions to the magnitude of its trade. Necessarily, only approximate figures could be relied upon for this purpose, and the question arises as to whether South India would wish to be included.

Indeed, there is a larger question still unanswered. That is, whether India should or should not combine with Ceylon in this matter. On the whole, we think she would be wiser if she decided to run a campaign of her own The time for co-operation has passed. China teas no longer hold the market against the world. Indian and Ceylon teas are known by repute almost everywhere, and are sold in the chief markets of all parts of the world. The time has now arrived for discrimination between Ceylon and Indian leaf. What we should like to see is an energetic and well endowed campaign conducted by India alone. Even if South India decided to act by herself, we should not blame her. Allied with Northern India she must for many years be a nonentity; alone, she may, in her own little way, be a force, and a force of increasing magnitude. Taking up one or two markets at a time she may push her way in, secure prices that will enable her to fully maintain standards of quality, and leave a little margin for campaign expenses. What is lacking is a leader, a man who will draw up a plan of campaign and place it in convincing form before his fellow-planters. It will need a strong man to secure them as followers and as subscribers. If such an one is not forthcoming, South India will probably continue her present rôle (in which some of the Travancore planters take no part) of keeping her money in her pocket and availing herself where possible of Ceylon and India's expenditure on advertisements, canvassing, demonstration, etc.

THE YACHT AND THE POT.

AN ENGLISH LYRIC ON "SIR THOMAS JOSEPH PORTER SKIPTON."

The Irish aspirant for America's Cup honors has been known for a long time in connection with teas, cheese and smoked ham, and his efforts to gain possession of the coveted cup have caused some talk about clever advertising. But the comments on that score in the American papers have been mild and of a friendly nature. The challenger's own countrymen are now poking fun at him. In a book of "Lyrics," recently published in London, the following song appears under the title, "Sir Thomas Joseph Porter Skipton:"

When a penniless boy I formed a plan
To come to the front as a business man,
So I saved some money across the "say,"
And I opened a shop in a very small way.
Chorus:
He opened a shop in a very small way.
But I made it pay. *Chorus:*
Yes, he made it pay.
And I shouldn't be what I am to-day
If I hadn't begun in a very small way.
Chorus:
And he wouldn't be what he is to-day
If he hadn't begun in a very small way.

I endeavored to sell the best of teas,
I sold good butter, and likewise cheese.
They were all of them real, for none were sham,
And the same applied to my eggs and ham.
Chorus:
And the same applied to his eggs and ham.
And I sold good jam.
Chorus:
Yes, very good jam.
And I shouldn't have been what to-day I am
If I hadn't relied on the very best jam.
Chorus:
And he wouldn't have been what to-day he am
If he hadn't relied on the very best jam.

My one small shop I soon made two,
The business then like a snowball grew,
And a good many people appeared surprised
To find my name so popularized.
Chorus:
To find his name so popularized.
Yet I advertised. *Chorus:*
Yes, he advertised.
And I shouldn't have been so very large sized
If I hadn't so carefully advertised.
Chorus:
And he wouldn't have been so very large sized
If he hadn't so carefully advertised.

And now I'm as rich as man can be;
I give and I spend in a way that's free;
And I'm not a bit proud, and I don't demur
When you call me Tom if you prefix "Sir."
Chorus:
We may call him Tom if we prefix "Sir."
For I like that "Sir."
Chorus:
Yes, he likes that "Sir."
And I shouldn't have been a real live "Sir"
If I hadn't provided the food you prefer.
But sha'n't I carry a smiling face
If I win the Cup in the great Yacht race?
There are Skipton's Teas and I don't know what
But the Skipton favorite is Skipton's Yacht.
Chorus:
But the Skipton favorite is the Skipton Yacht.
And I want that Pot.
Chorus:
Yes, he wants that Pot.
And I shouldn't have been so near that Pot
If I hadn't sold the Bacon that bought the Yacht.
Chorus:
And he wouldn't have been so near that Pot
If he hadn't sold the Bacon that bought the Yacht.

INDIAN TEA ASSOCIATION.

The following are extracts from the Report of the General Committee for the year ending 28th February 1899:—

A considerable amount of correspondence has as usual passed between the General Committee and the Assam and Cachar Branches of the Association. Mr. J Buckingham, C.I.E., of Amguri, who has so long occupied the leading position in connection with the tea industry in Assam still continues, the Committee are glad to record, as Chairman of the Assam Branch. The printed proceedings of this Branch, with copies of which the Committee are favoured monthly, indicate very forcibly the great activity which characterizes its management, and the watchful care which it exercises over the interests of the tea industry in every possible direction. It need hardly be pointed out that the tea industry in the Province of Assam is placed in a much stronger position when representations have to be made to the authorities by the existence of this Branch of the Association with its active Committee, while on the other hand the Assam Administration, as the Chief Commissioner has more than once stated, recognize the advantages of the existence of the Branch as a means of communication between Government and the planters Reference was made in the last report to the reconstitution of the Lungla Valley and Balisera Valley Branches of the Association in Sylhet, and a hope was expressed that this was only the commencement of the re-organization of the Branch in the Sylhet District. The Committee are in full sympathy with those planters who are doing their best to re-establish branches throughout Sylhet, and regret that their efforts have not been more successful. The Committee have corresponded during the year with the various Planters' Associations both in Northern and Southern India, with which they feel it is most desirable that they should be in as close touch as possible.

INDIAN TEA IN AMERICA.

Full particulars of the campaign in America, as it is the custom to call it, have already been placed before the members of the Association in the Interim Report of the American and Foreign Tea Committee in London which was published there on the 24th February and reprinted in Calcutta on the 14th March in the present year. This Report was as usual accompanied by a very interesting summary drawn up by Mr. Blechynden of the work he had accomplished during the year. In this Mr. Blechynden said he had great pleasure in recording that his relations with Mr. Mackenzie, the representative of the Ceylon Planters' Association, continued most close and intimate.

Mr. Blechynden's mission came to an end on the 30th April, and the General Committee here desire to place on record their high appreciation of the services he has rendered in the development of the Indian tea trade and of the ability with which his enterprize has been conducted. The American and Foreign Tea Committee have recommended that another levy should be raised in Calcutta on the same lines as in former years, but on the understanding that funds shall be employed to push Indian teas in any part of the world and not in the United States alone. This proposal is now under consideration, and if it is carried into effect, funds will be available for pushing the trade in France, Russia, Germany, Turkey, South Africa and elsewhere. The Paris Exhibition of 1900 will offer a great opportunity for making Indian tea better known on the Continent, and arrangements are in progress which, it is hoped, will result in having it adequately represented. These will be referred to below. A paragraph in the last Report under this head referred to the question of raising a fund for the opening up of new markets by means of a tax to be imposed on exports of tea in India, in the same way as has been done in Ceylon for some years past. The Committee, however, after giving the matter full consideration, have decided not to proceed with it, as they have ascertained there would be little probability of Government assenting to any proposals of the kind, the circumstances of India being very different from Ceylon where tea planting is the standard industry, and where the shipment of tea is all concentrated at one port.

THE PLAGUE AND EMIGRATION TO THE TEA DISTRICTS.

On the outbreak of plague in Calcutta in May last the Committee enquired from the Superintendent of Emigration what steps were being taken to put a stop to the importation of coolies from Calcutta depôts into the tea districts, and suggested that orders should be issued to prevent labourers being so despatched. A reply was

received that every possible precaution was being taken against an outbreak of plague in the depôts, but that the despatch of coolies was not being interfered with. The Superintendent of Emigration, however, placed the Committee's letter before Government, the result being that orders were issued prohibiting coolies from up-country entering Calcutta, and providing that they should proceed to the tea districts *viâ* Naihati; coolies from Ganjam, whom it was impossible to prevent from passing through Calcutta, being quarantined at Goalundo. These orders were withdrawn on the 3rd November, but were reimposed on the 6th March in consequence of the recrudescence of plague. On the 21st March in the present year the General Committee enquired of Government what measures, if any, of a similar nature to those taken in connection with coolie emigrants had been introduced with regard to ordinary native passengers to the Assam Valley. The Committee considered that any precautionary measures which might be thought necessary for garden labourers, many of whom came from districts not infected, were even more essential in the case of native traders and others from Calcutta having their head-quarters in the parts of the city infected with plauge. In reply to this letter, on the 4th April, the Secretary to the Government of Bengal intimated that His Honor the Lieutenant-Governor, while considering it reasonable that labourers proceeding to the tea districts should be placed in quarantine, did not think any such measure would be legitimate or possible in the case of ordinary travellers.

REDUCTION OF CHARGES ON TEA.

This is a matter which has been engaging the serious attention of the General Committee on this side and also of the General Committee in London The Committee were favoured early in the year with some extremely interesting papers bearing on the subject, and also on the special question of the bulking of tea by Mr. J. Buckingham, C.I.E., Chairman of the Assam Branch, and by Mr. H. Compton, Honorary Secretary of the Kangra Tea Association. Copies of the papers were sent home to the General Committee in London for such action as they might think it desirable to take. From correspondence which has passed between the Secretary of the London Association and the Secretary of the Tea Clearing House Committee, copies of which have been placed at the Committee's disposal, it would appear that every application which is made for the reduction of warehouse charges is met with a simple *non possumus*. Mr. Tye, the Secretary of the Association in London, pointed out very clearly that the scale of charges imposed on Indian tea by Warehouse Proprietors and Dock Companies in London is out of proportion to the value of the article owing to the serious decline in the price of tea, which now realised 50 per cent. less than it did a few years ago. The Tea Clearing House Committee regret they are unable to hold out any hope of a decrease in the charges for landing, storing, bulking, and handling tea as, since the present rates were fixed, wages, cost of materials, rent, rates, and taxes have materially increased The General Committee on this side are inclined to agree with the London Committee that the present high charges with which tea is burdened afford an additional argument for continuing the agitation for the abolition of the English import duty which once effected would afford a simple solution of the question of Bonded Warehouse charges. The question of bulking in this country has not progressed materially since the last Report of the Association was written. The Committee were much interested by a recent experimental demonstration of mechanical tea bulking at the Tea Warehouse in connection with a bulking machine designed by Mr. J. H. Apjohn, C. E., Vice-Chairman of the Port Commissioners. With certain improvements and modifications this apparatus would probably answer the purpose of its design, and it is estimated by the inventor that bulking, including re-packing, taring and grossing could be undertaken by the Port Commissioners at about one-fourth of the charge levied for the unsatisfactory bulking and repacking at the London Docks and this would leave a fair profit after paying a sufficient royalty to the inventor and patentee. The General Committee will watch developments very carefully in connection with this new machine, which they feel may eventually solve the difficulties which now exist in regard to the bulking of tea to any large extent on this side, and as a natural consequence will tend to the reduction of charges in London.

SCIENTIFC EXPERT FOR THE TEA DISTRICTS.

Attention has been drawn from time to time since Mr. Kelway Bamber left the service of the Association to the necessity which existed for the appointment for a fixed term of years of a scientist of established reputation to investigate the numerous important questions and difficulties connected with the cultivation and manufacture of tea, and also to study the causes and best mode of prevention of those blights, the ravages of which inflict such injury on tea plantations and which still require elucidation. The Committee of the Assam Branch in particular have repeatedly urged upon the attention of the General Committee the desirability of making an effort in this direction, but it has always appeared to the latter that unless the aid of Government could be secured, it would not be possible while an annual levy was being taken for the extension of the tea trade in different parts of the world to raise sufficient money for this particular purpose in addition. However, as the matter was again strongly pressed upon the attention of the Committee from London, about the commencement of the year, they addressed the Chief Commissioner of Assam at some length on 21st January last, intimating that if Mr. Cotton could come to their assistance with a guarantee, say of half the expenditure, they had little doubt they would be able to raise from the tea industry the balance required. A reply was received from the Chief Commissioner of Assam to the effect that while he recognises the importance of the object in view to the tea industry and the province, Mr. Cotton regrets that he is unable to hold out any prospect of being able to contribute from provincial revenues towards the expenditure which would be involved in securing the services of a competent scientist to undertake the proposed enquiry. The Committee have since addressed the Government of Bengal on the subject, and are glad to be able to state that His Honour the Lieutenant-Governor has been pleased to sanction a grant of Rs. 5,000 a year for three years for the purpose, and they have again addressed the Chief Commissioner of Assam upon the question asking whether, in view of action taken by the Government of Bengal, Mr. Cotton would be inclined to reconsider his decision.

ENGLISH IMPORT DUTY ON TEA.

The attention of the General Committee has recently been drawn to a Resolution with reference to this matter passed by the Committee of the Planters' Association of Ceylon, and printed in their Annual Report for the year ending 17th February 1899. The Resolution was to the effect that the Ceylon Committee were not yet sufficiently convinced of the desirability of a reduction of the tea duty in England to induce them to take up an agitation on the matter at present. The General Committee of this Association having been strongly in favour of the total abolition of, or, at any rate, a considerable reduction in, the English Import duty, read this Resolution with much regret, and they have asked the Committee of the Ceylon Planters' Association if they would be good enough to favour them with their reasons for passing it. The General Committee of this Association are of opinion that the abolition of the duty would lead to a considerable increase in consumption in the United Kingdom, as they think the removal of the tax would induce a greater demand for cheap tea than at present exists among the artisans and labouring classes in England. They are further of opinion that the abolition of the duty would not only tend to the removal of the abuses now existing in the London warehouses in connection with the opening and weighment of tea, but also to the reduction of the present heavy charges with which tea is burdened under present regulations in London.

OCEAN FREIGHTS.

The question of the rate of freight on tea as provided for in the agreement between the Calcutta Steam Conference in London and shippers of tea in Calcutta has been under the consideration of the General Committee. It has been felt for some time that the margin of 15s. per ton between the rates for tea and deadweight cargo was far too high and should be reduced. The circumstances of the tea industry are very different now to what they were when this agreement was signed, and in addition Indian tea, in the opinion of the Committee, is unfairly handicapped in competition with Ceylon by the extra rate of 10s. to 15s. per ton which Calcutta shippers have to pay over and above what is paid from Ceylon. Accordingly the Committee addressed the Committee of the London Association at considerable length on the 23rd February with reference to this important subject and were glad to find that the matter had been taken up almost simultaneously in London before the movement on this side had become known there. The Committee sincerely trust that the negotiations which are now in progress

between the Committee of the London Association and the Liners' Conference will result in rates being placed on a more fair and equitable basis.

HYBRID COFFEE.

The South Sylhet correspondent of The *Planter* writes that Liberian and Arabian always flower simultaneously the first time of the season in that district about the first week in March. The Liberian of course keeps on flowering at intervals during the whole monsoon. It is, he says, just coming again into a mass of blossom at the present time, at the same time a set of fruit about the size of peas is swelling away on the bushes, and last year's 'set" is gradually becoming ripe, at least as ripe as I ever heard of this kind getting. The Liberian never gets soft ripe and never gets pulpy, as the Arabian does. In any of the descriptions of this variety which I have seen, let them be describing it in Ceylon or in the Straits, it is always described as being possessed with a hard brittle testa, even, when it has been allowed to hang on the bush till it dropped off. If I were asked how this could be accounted for, I would be inclined to put it down to us having got hold of a spurious variety. If we argue from this and that, we are forced to the conclusion that in West Africa somewhere there is to be found the parent of our Liberian, which most likely would be a more regularly growing shrub, coming true to seed as a rule and ripening off its berries thoroughly. What makes me think that our Liberian is merely a shoot from a more advanced type is that it cannot have been in existence for a very great number of years in a natural state previous to its discovery. Because if it had been so the simple process of natural selection would have brought it to a more perfect state than it is at present. For instance if it had been growing in a natural state for any considerable number of generations the birds would always have been selecting the very ripest berries, leaving the others to fall in a heap below the parent tree. In the course of a few generations certain bushes would ripen off this fruit better than other and even the ripest of those would again be selected by the birds as food and the seed disseminated. The ultimate result would be that those bushes which ripened their fruit most thoroughly would be the survival of the fittest, the others naturally going to the wall. By the time this was accomplished there would be evolved a shrub with a firmly settled character which our Liberian certainly has not got at the present time. Different bushes ripen off their fruit at different times, some bushes ripen their fruit better than others. Again some bushes have an entirely different habit to others. This all points to it being a mere variety of a species which has not been as yet found, or if found has not been recognised as its parent. Of course as it is in cultivation now it would not take long to bring it into a thorough state of civilisation, because man with his intelligence can manage things considerably quicker than nature. Although the Liberian has not the fixed character of the Arabian it could be given so in a comparatively short period of time. It has been complained that we cannot get the white colour of the parchment which can be attained in the Arabian. I am afraid we never will, the nearest I have seen being a golden colour. It is again said that it does not fill the parchment after the latter is dried, which would point to its not ripening well As a set off against this, I am assured that it greatly improves in quality by being allowed to ripen for some months in the parchment after drying, before being milled.

A good class hybrid coffee between Arabian and the present type of Liberian I would imagine rather difficult to procure. One of the parents is sufficiently formed characteristically to be depended upon for giving to its progeny a tendency towards stability. But what about the other? As far as I can judge, the Liberian is by no means in a fit state for using for breeding purposes with the intention of having its good points transmitted and its bad ones eliminated. The danger will be great of having a perfect chaos of bastards. In short, the Liberian shows none of the characteristics of a species and until such times as its character becomes good and staid, we cannot look for it producing a fixed and staid progeny. Of course, as far as constitution is concerned, a cross will always improve that, and most likely the quality and quantity of fruit be increased in some instances; but we could never depend upon that fruit good and all as it might be in itself, to reproduce itself correctly. They are following a very wise plan at Dauracherra in South Sylhet by only plucking and curing for seed purposes off the very best type of bushes, those which ripen up best and those which do not go much to stem before sending out primaries. The selection of these two qualities combined ought to give it a decided character in time, but it will have to be continued.

TEA EVOLUTION.

The *Philadelphia Evening Bulletin* says:—It is interesting to note the change that has taken place in recent years in the blending of tea for consumers' use. In olden times the Chinese merchant gathered various chops and lines together of many grades of size of leaf and shade of color and deftly mixed them so that it became one uniform grade. This was put into chests, labeled and shipped to foreign ports, and was then ready for sale. The entrance of India and Ceylon teas upon the market, containing a greater amount of body, of theine, and aroma, changed all this, for as these teas come from an immense number of gardens, and no two of them produce exactly the same quality or shape of leaf, it is impossible for the small dealer to keep his supply uniform. Thus the old methods of blending teas have passed away, and now such men as Sir Thomas Lipton, of England, and Thomas Martindale, of Philadelphia, are revolutionizing the trade, in assorting and blending in the nicest proportions (so as to produce the best results), teas from almost all quarters of the tea-producing countries of the world. This it is which has made Sir Thomas Lipton so famous across the water among housekeepers and dealers, and is now likewise doing the same thing for Thomas Martindale in the United States; for of his "Caricol" blend of tea Mr. Martindale has sold in this country, in the West Indies, Mexico and Canada over 1,000,000 pounds, so that his name, coupled with the legend "Caricol," has verily become a "household" word in the land. One reason for the success of tea blending is to be found in the fact that by the blending of a number of teas together a result can be obtained which in quality as well as cheapness literally astonishes all dealers who confine themselves to the sale of teas not blended. To illustrate—"Caricol" at 34 cents per pound, its present price, will equal in cup quality most teas that are sold at 80 cents per pound and in some cities even a dollar will not buy as good a tea as "Caricol"; therefore careful housekeepers of the United States have found the use of this delicious tea to be a delight and an advantage; and hence the large and phenomenal sales as recorded above.

PRODUCE AND PLANTING.

The Position of the Tea Industry.—After the doleful rumours about the tea industry current six months since, the majority of the recently-issued reports of companies are not so depressing after all. There have, of course, been disappointments, but things might have been much worse On the whole, the season's working may be expected to show better results than was at first anticipated. Messrs. Gow, Wilson, and Stanton, who give a list of the dividends announced in their circular, point out that the average price of teas, notwithstanding some recent weakness, is well above what it was at this time last year. Here are some recent results: Alliance Tea Company: Final of 4 per cent., making 7 per cent. for year; £300 depreciation; £500 forward. Assam Company: 12½ per cent. for year. Borokai: Accounts show a debit of £223. British Assam: 8 per cent. for year, and £128 forward. Cachar and Dooars: 3 per cent. for year; £386 forward. Ceylon Tea Plantations: 15 per cent. for year; £5,000 reserve; £5,000 depreciation; £3,908 forward. Ceylon Proprietary 4 per cent. for year; £121 forward. Carolina: An interim of 2 per cent. Darjeeling, 5 per cent.; £884 from reserve. Darjeeling Consolidated: 5 per cent preference dividend to December, 1898, Doom Dooma, 12½ per cent. for year; £4,986 forward. Eastern Assam: Five shillings per share; £2,098 forward Galaha: 4 per cent. for a period of eighteen months; £1,000 to reserve; £173 forward. Highland: 5½ per cent.; £125 written off new clearings; £70 forward. Imperial Ceylon: 4 per cent.; £42 forward. Indian Tea of Cachar: 1½ per cent.; £118 from reserve fund. Jhanzie: 5 per cent. for the year on the ordinary shares, and the proportion payable on the contributory shares, leaving £301 to carry forward. Lebong: 10 per cent for year; £2,000 from reserve; £297 forward. Mazdehee: Reports show a deficit of £681. New Sylhet: Preference dividend paid, and £18 forward. Nuwara Eliya: 6 per cent.; £300 sinking fund; £2,000 estates purchase account; £1,609 forward. Poonagalla:

4 per cent.; £164 forward. Ragalla: Preference dividend paid; £64 forward. Scottish Ceylon: 10 per cent for year; £456 forward. Standard Tea Company: 15 per cent. for year; £1,000 depreciation, £644 forward. South Wanarajah: 5 per cent. on ordinary; £400 written off; £56 to reserve. Sunnygama: 3 per cent. for year; £95 forward. Sylhet Company: Nil.

Gifts with Tea.—The gift system in connection with the sale of tea has been carried to such lengths that there is no room left for astonishment as to the nature of the devices employed But presumably these schemes pay or they would not be persisted in. *The Grocer* gives an extract from a circular issued on the subject, which runs: "On behalf of my mother, the widow of the late ——, I am pleased to inform you, in reply to your note, that she regularly receives her pension of 10s. weekly from ——, as stated on the bills. My mother had been taking ½lb. of tea weekly when my father died last ——, and immediately upon receiving evidence of the death and regular purchase of the tea the first cheque was sent, and since that time a cheque for 10s. has arrived every Saturday morning. My mother is over seventy years of age, and we can never be sufficiently thankful that her remaining years are thus rendered independent. The family would never have allowed her to want; but, still, this 10s of her own gives her many little comforts, and she often says, 'Thank God for —— and Co.!'" —*H. & C. Mail.*

ON PRUNING.

Of all operations on a tea garden this is probably that most open to discussion, or rather that on which there is the greatest diversity of opinion, and this must always be so: after results are so far reaching and the number of managers who remain long enough at one place to study the ulterior results of their system of pruning is unfortunately not very large.

The theory of pruning is sufficiently plain, namely, that all non-vigorous wood must be removed, that the bush may be induced to throw out fresh young and vigorous growth, that it may always be kept in its most vigorous condition.

Many can say, and show good argument, why their own treatment of the young bush is the best; but one would be glad to hear of the results of similar tea treated in opposite styles at its first pruning; I doubt if such an experiment has ever been tried as years must necessarily elapse before such tea would be brought into comparison.

At one time I know an idea was to cut the two year or three year bush so as to get a good thick and wide plucking head on it quickly. Was not this robbing Peter to pay Paul? for when these bushes required cutting back, the pruning had to be made far lower than with their compeers who had not been so heavily treated. I have met with the opposite extreme, the bush being left to run up to so great a size as to make plucking difficult, before it was pruned at all (unless the leaders were headed off, and I do not think so). Here doubtless much leaf was lost for one or two seasons, for which I doubt if the fine bushes resulting when the tea was pruned was any adequate compensation.

The age of the bush when first pruned must vary with the districts; as in some, a two year bush is too small, and in some passably sizeable; other bushes, especially with seed at stake, require it

Let me here diverge to the ageing of tea, as there are some that confuse it; it is simple enough if it is reckoned from seed and not from the making of the clearance; as the latter can give three ages to the same growth of tea by planting seed at stake one cold season, yearling plants from nurseries of the same years' seed the next cold season, and the remaining balance from the same nurseries the next cold season. Tea being reckoned seedlings up to the following cold season, yearlings up to the second cold season, in fact the age being the completed years from the planting of the seed.

To resume: possibly the best treatment for a new bush, *i.e.*, a fair three year old or a very vigorous two year old would be—if it has a good leader (or prominent central stem), to cut that to say eighteen inches and leave the less vigorous sides three to six inches higher: with weedy plant, *i.e.*, of no strength of wood but running high, a high cut over with the intention the next year of pruning to make the bush, would possibly be the best plan, as one would get more leaf than if the bushes were left untouched; cutting should cause the wood to thicken to a decent size and the plant to improve generally; so that at the end of the year there would be a really decent bush to be pruned into shape; after this start the tea must, of course, be pruned according to the yield and growth made, and cut back and back as required.

I have heard several outcries made against heavy pruning on the score of ruining the plant, but have not seen any really bad results from it.

With careful and considerate pruning, tea should go many years before pruning need become really heavy; but if managers will in the earlier stages prune back too liberally with young tea, they or their successors must necessarily get back to really heavy pruning before they otherwise would.

One does not require to cut far below a knot, as the new shoots usually come at least an inch below the cut, and the compacted growth near the knot would probably cause the bush to bleed less, as the term is from the cut.

Now to attempt to classify the grades of pruning as near as may be, I think the following fairly represents the usual nomenclature.

Collar pruning: the collar being where the bush emerges from soil; this covers cutting from about three inches below to three inches above the surface of the soil.

Double pruning: this would range from six to nine inches and leave little but straight stems sticking up.

Heavy pruning often covers the two above; if regarded as separate, it might be classed nine to twelve inches, getting a little forky.

Half-double pruning, say, from twelve to fifteen inches; about the first severe pruning young tea should get, the bush here retains some of its form. This is also a resource of those who are afraid to risk cutting radically back, in which case the lower knots would be left.

With all these classes, all useless thin wood is usually cleared away.

Above this comes all light pruning, which has usually no other definite name to show the class of wood operated on, and any of which is styled stick pruning if all the weak wood is cleared out and only bare sticks ranging to the size of a pencil left.

After the heaviest classes of pruning, leaving the tea unpruned the next cold weather is often advocated, to let the new wood thicken for cutting on, and the plants of backward growth grow up, so that pruning may be done the second season at a good high level. I have known bad results from this in the way of outturn as well as fair results; and I think that equal results as to growth and better results as to outturn would be the outcome of plucking the tea high enough, so that pruning out the crow's feet would yet leave the bushes high enough for a clean cut at the intended height at the end of the second season.

Where very heavy pruning is done, a very early start in doing it is distinctly advisable, as otherwise it is very late in doing anything at all, and the bushes barely yield anything in the season; while when early done, it seems to recover and get under weigh before the rising temperature can catch it, and it comes away with the rest of the pruning and quickly grows to plucking length, and before the end of the season is going strong. When one considers the small yield any block, especially one that requires cutting down, makes after the commencement of November, the loss of leaf by commencing heavy pruning then is more than compensated by the superior yield next season, by its coming into plucking earlier and more strongly.

Could coolies be brought to understand what was required of them in pruning and be trusted to do it, no doubt heavy pruning could mostly be avoided, as with each seasons pruning the bad stems would be cut back out of the bush, and the bush thus partially renewed from year to year; moreover old bushes requiring it could be cut entirely back. Of course, this would also entail more careful pluckers and intelligent plucking.

For heavy pruning nothing comes so handy as the curved draw cut pruning saw, it saves the knives being used as hatchets, and the chances of breaking in cutting heavy stems it saves the coolies hands (their palms); it saves labour as more can be done for a hand and so saves expense; and it is, on the whole when carefully done better for the bush; if the stumps are to be tarred they are possibly best left unpared with the knife after the saw has been used.

The draft and thrust double-edged saw is useful for collar pruning, but the second edge is often woefully in the way of anything lighter.—[Contributed to the *Planter.*]

DISTRICT ASSOCIATIONS.

SHEVAROY.

Proceedings of a special General Meeting of the Shevaroy Planters' Association held in the Victoria Rooms on Monday, the 5th June, at 2 p.m., to consider G. O., No. 566 Ry., of 11th May 1899, *re* certain suggestions of the Consulting Engineer for Railways with reference to a proposed wire airway to the Salem foot of the Ghât and a driving road from Yercaud to Mallapuram Railway Station. PRESENT:—Messrs. C. Dickins, F. Short, B. Short, S. M. Hight, Thurston Short, Rev. J. M. Kempf, Messrs. A. G. Nicholson, C. G. Lechler, *Chairman*, Rev. M. Andersen, Messrs. C. Rahm, E. Dickins, H. B. Evans, F. B. Nicholson, R. Foulkes, J. C. Large, and R. Gompertz, *Honorary Secretary*.

The Chairman read the correspondence out and, after some discussion, it was

Proposed by Mr. Gompertz—*seconded* by Mr. A. G. Nichloson,

That if the Madras Railway will construct a wire airway (or preferably a cable tramway) from the Salem foot of the Ghat to Yercaud, and if Government will make a driving road from Yercaud to Mallapuram, this Association will gratefully accept the proposals of the Consulting Engineer, as a fulfilment of the promise of Government and a final solution of the question.—*Carried unanimously.*

(Signed) C. G. LECHLER,
Chairman.

(Signed) R GOMPERTZ,
Honorary Secretary, S. P. A.

Proceedings of a Committee Meeting of the S. P. A. held in the Victoria Rooms on Monday, the 5th June, at 1 p.m. PRESENT: Rev. M. Andersen, Messrs. C. Dickins, Thurston Short, J. C. Large, C. G. Lechler, *Chairman*, Rev. J. M. Kempf, Messrs. C. Rahm, S. M. Hight, and R. Gompertz, *Honorary Secretary*.

1. *Read* Circular of 26th ultimo from the Secretary, U. P. A. S. I., asking for suggestions and recommendations about exhibits for the Paris Exhibition of 1900.

Proposed by Mr. S. M. Hight—*seconded* by Mr. J. C. Large.

That this Association do send a sample of Shevaroy Hill coffee through the U. P. A. S. I. to the Paris Exhibition and that all expenses thereof should be borne by this Association.—*Carried unanimously.*

2. *Read* Chairman's letter suggesting that the next Annual Meeting of the U. P. A. S. I. be opened at Bangalore, on Monday, 14th August, at 2 p.m., a Committee Meeting being held on the same day, at 11 a.m., and the dinner at the U. S. Club on the same day.—*Approved.*

3. *Resolved* that this Association request that the matter of the reduction of curing charges, as well as that of obtaining improved machinery for curing, be placed on the agenda paper at the coming meeting of the U. P. A. S. I.

4. *Read* letter No. 352 (Mis.) from the Collector of Salem, saying he could see no reason why Planters should be exempted from serving as Assessors, but that the Association might address Government on the subject if it pleased.

Resolved that the Honorary Secretary be requested to address Government on the subject through the Collector of Salem.

5. *Resolved* that the Honorary Secretary inform the Secretary, U.P.A.S.I., with reference to his Circular No. 63/99 of 30th ultimo that this Association will cordially support any action that the U. P. A. S. I. may take with the view of protesting against the enhancement of the stamp duty on hypothecations of crop.

Read and recorded the following letters:—

39/U. W. Circular from the Secretary, U. P. A. S. I. Paris Exhibition, 1900, regarding space required, if any, by the U. P. A. S. I.

40/U. W. Circular from the Secretary, U. P. A. S. I., re *Paris Exhibition*, 1900, informing that the Government of India's offer, regarding certain space in the Indian Imperial Court, has been accepted by the Association, and requesting District Associations to submit recommendations and suggestions and to instruct the delegates how to vote at the next General Meeting.

41/U.W. Circular from the Secretary, U. P. A. S. I., suggesting that the Annual Meeting of the Association be opened at Bangalore on Monday, the 14th August, at 2 p.m. A Committee Meeting being held the same day at 11 a.m, and requesting to be informed whether this will suit the S. P. A.

42/U.W. Circular from the Secretary, U. P. A. S. I., informing that the Nilgiri P. A. has requested that the subjects of adulteration of coffee and deterioration of E. I. coffee, be placed on the agenda paper for the next Annual Meeting of the U. P. A. S. I.

25/P. Circular from Mr. M. Hammick, Plague Commissioner, regarding the Plague.

26/H. Letter from Mr. Hayes, Proprietor of the *Daily Post*, requesting proceedings of the S. P. A. and other particular for publication in the above paper.

31/C. Letter from Mr. J. T. Christie, requesting a berth for his son under a coffee planter on the Shevaroy Hills.

27/H. Letter from Mr. Hayes, Proprietor of the *Daily Post*, informing that all news from the planters of the S.P.A. will be published free of charge.

32/C. Letter from the Collector, Salem, in answer to this office letter No. 898, regarding planters being called upon to act as Jurors and Assessors at the Salem Sessions.

The following papers were laid on the table:—

Proceedings of the Nilgiri Planters' Association, dated 10th May 1899.

Proceedings of a General Meeting of the Mysore Planters' Association.

The Agricultural Ledgers—No. I. (Spider-wort), No. II. (Swallow-wort), No. III. (Ban-Riha, or Wild Rhea).

Planting Opinion, 4 copies, dated May 6th, 13th, 20th and 27th.

(Signed) C. G. LECHLER,
Chairman.

(Signed) R. GOMPERTZ,
Honorary Secretary.

THEORY OF THE FLAMING SWORD.

"AH, talk of blessings! What a blessing is digestion! To digest. Do you know what it means? It is to have the sun always shining and the shade always ready for you. It is to be met by smiles and greeted with kisses. It is to hear sweet sounds, to sleep with pleasant dreams, to be touched ever by gentle, soft, cool hands. It is to be in Paradise.

"There came a great indigestion upon the earth and it was called a deluge. All the evil comes from this. Macbeth could not sleep; it was the supper, not the murder. His wife talked and talked; it was the supper again. Milton had a bad digestion, and Carlyle must have had the worst digestion in the world. Ah! to digest is to be happy!"

There!—how does that strike you for a burst of eloquence? I quote from Trollope. If there is anything wrong about the theology you must hold him responsible As for its physiology and pathology (pardon all these "ologies") I can answer for the correctness of these two. And so can millions of people besides me. They speak of the curse of indigestion continually in every language; they groan and writhe under it in every land and climate.

"For many years," says one of this innumerable army of martyrs, "I was obliged to bear as best I could the torments of indigestion. My appetite was practically destroyed. I ate, of course, because one must eat or die! but after meals I had great pain at the chest and around the sides.

Sleep almost forsook my pillow, and naturally I was tired and exhausted. Sometimes better and then worse, but never free from pain and illness, I lived on with little or no hope of getting well. It is hardly necessary to say that I had medical treatment, yet no real benefit resulted from it. Happily at this time Mother Seigel's Syrup was brought to my notice, and so strongly commended that I laid aside other medicines, which were doing me no good, and began using this one only.

"In a short time I realised a great improvement; food agreed with me and I gained strength. A little later—continuing to take the Syrup regularly as directed—the pains at the stomach, sides and chest wholly ceased, and I have not felt them since. My indigestion was cured at last, and I enjoyed the blessing of health. My son, who suffered severely from rheumatism has been relieved by Mother Seigel's Syrup as by nothing else he ever tried. In gratitude I give you full permission to publish my letter should you desire." (Signed) (Mrs.) Ann Barker, Field Lane, Braughing, Ware, Herts. Oct. 7th, 1898.

It was a fortunate circumstance for Mrs. Sarah Gell, of Melchbourne, Bedfordshire, that one day she had a personal talk with Mr. Smith, the butcher at Rushden. He told the lady that in his

opinion if she went on suffering from indigestion and asthma (one of its consequences) it would be because she neglected to use Mother Seigel's Syrup. "And," said Mr. Smith, "I speak from knowledge." She had been ill with this abominable ailment for many years, and had spent time and money in unavailing efforts to obtain relief.

Acting on Mr. Smith's advice, Mrs. Gell began using this remedy at once, and tells the outcome in a letter of which we have room for the conclusion only:—

"I was better almost immediately, and was soon as well and healthy as one could wish to be. Now I keep 'Mother Seigel' in the house and it never fails to help us when needed for any passing complaint." (Signed) Sarah Gell, Oct. 5th, 1898.

Judging from the force of his comment on the disease, I should say Mr. Trollope knew something about indigestion from experience. Most literary people do. To them, and to all other victims, I confidently commend the best remedy yet found—Mother Seigel's Syrup

MARKET REPORT.

By Mail advices of 19th May, 1899.

COFFEE.

The *London Commercial Record* says:—Supplies continue on a very liberal scale, and the demand for all fine qualities has been strong. Colory Ceylon realised very full rates, and colory East India has sold well, to an advance for exceptionally fine lots. No improvement, however, has occurred either in demand or price for the less desirable grades of East India, which still fail to attract the attention of buyers, in spite of their relative low value. Mocha all withdrawn. Jamaica dull of sale, and tending easier. Foreign growths underwent little or no change. Auctions were suspended on Wednesday for the Whitsun holidays, and a considerable quantity of catalogues is left for the re-opening on the 25th inst. Futures have been quiet, and prices generally are rather easier for the week, closing as under:—

London	... Santos	... July delivery	...	29s 0d
New York	... No. 7 Rio	... „ „	...	5.15 cents.
Hamburg	... Santos	.. „ „		29½ pf.
Havre	... Santos	... „ „	...	35¼ francs
Holland	... Good ordinary Java	..	...	27¾ cents.

Imports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
Tons ...	21,906	15,083	22,481	20,675
	Home Consumption.		Export.	
	1899.	1898.	1899.	1898.
Tons ...	6,345	5,866	8,674	9,325

The preceding figures exhibit—

In the Imports an increase this year of 1,806 tons.
Home Consumption an increase of 479 „
Export a decrease of ... 651 „
Stock an increase of ... ... 6,823 „

Auctions this week have passed off as follows:—

CEYLON.—*Plantation.*—15 casks 6 tierces 21 barrels 138 bags mostly sold; pickings 28s 6d, smalls 48s to 67s, low middling to middling 92s to 104s, fair to good bold 106s to 112s, pea-berry 95s to 121s.

EAST INDIA.—5,138 bags mostly sold as follows: *Mysore*, smalls 38s to 62s 6d, low middling 42s to 55s 6d, middling to good middling colory 62s to 76s, fine middling 91s to 91s 6d, faded greenish bold 68s 6d to 74s 6d, good to fine bold blue 80s to 101s 6d, pea-berry 70s to 104s 6d, a fine mark smalls 68s 6d, medium 93s 6d, bold 108s 6d, pea-berry 110s; *Coorg*, smalls 38s 6d to 57s, low middling to middling 50s to 63s, good middling 76s to 78s, good to fine bold 80s to 96s 6d, pea-berry 72s to 96s 6d; *Neilgherry*, smalls 40s to 45s 6d, low middling to middling 48s to 59s 6d, fair to good bold 67s to 87s, pea-berry 60s to 78s 6d; *Wynaad*, smalls 36s 6d to 42s 6d, low middling 45s 6d to 52s, bold 60s to 78s, pea-berry 63s to 72s; *Nainoobatum*, smalls 56s 6d, good middling 88s, bold 100s, extra bold 110s, pea-berry 111s; *Nelliampathy*, smalls 42s 6d, bold 74s.

MOCHA.—24½-frazils withdrawn.

JAMAICA.—248 barrels 470 bags partly sold as follows:—ordinary to good ordinary pale greenish 30s to 31s, fine ordinary 37s to 39s, fine fine ordinary to low middling 40s to 48s 6d.

COSTA RICA.—4,771 bags nearly all sold, smalls 47s to 64s 6d good to fine fine ordinary 36s to 46s, low middling to middling 50s 6d to 68s 6d, good to fine middling blue 69s 6d to 83s 6d, good to fine blue bold 92s to 102s, pea-berry 55s to 90s.

GUATEMALA.—2,458 bags mostly sold—smalls 37s to 37s 6d, fine fine ordinary to low middling 42s to 48s, middling 52s to 55s 6d, good middling bright greenish 61s 6d to 62s 6d, good bold colory 69s 6d to 81s 6d, pea berry 64s to 70s.

SALVADOR.—951 bags partly sold—low middling brownish 45s 6d to 46s 6d, middling colory 50s to 55s, good gray bold 61s 6d to 62s, pea-berry 56s to 60s.

NEW GRANADA.—499 bags partly sold—middling to good middling 49s to 57s, bold 60s to 67s, pea-berry 52s to 63s.

SAVANILLA.—71 bags sold—low middling to middling 48s 6d to 53s 6d, bold 59s 6d, pea-berry 49s to 54s.

NICARAGUA.—145 bags sold—low middling to middling 44s 6d to 54s 6d.

COLOMBIAN.—231 bags partly sold—small 42s 6d, good middling 64s 6d, bold 71s, pea-berry 66s.

Receipts in Rio and Santos.

Since July 1	1898-9. Bags.	1897-8. Bags.	1896-7. Bags.	1895-6. Bags
Rio ...	2,866,000	4,018,000	3,257,000	2,143,000
Santos ...	5,162,000	5,912,000	4,858,000	2,840,000
Total ...	8,028,000	9,930,000	8,115,000	4,983,000
Crop	—	10,461,000	8,680,000	5,489,000

Prices realized at auctions for some of the principal marks of East India:—

MYSORE.

	0	1	2	3	PB	T
E C H Isabel △ Mysore ...		76-6	56-6	44-0	—	31-
E R Mysore		83-6	62-0	47-6	82-6	34-
Nabbi Sahib Mysore Cherry ...		52-0	47-6	44-0	49-6	33-
		50-0	45-0	40-0	49-0	30-
Yalliemudloo Mysore		68-0	46-0	39-6	75-0	33-
Bykarvully G H ◇ Mysore ...		74-6	54-0	41-6	70-0	29-
Maynard's Mysore R D B □ ...	60-6 bid	41-0 bid	38-0	—	71-0	33-
M P & Co. Mackenzies Mysore ...	62-0 bid	44-6	38-0	—	70-0	32-
Udevarhully Mysore	94-6	71-6	49-0	—	90-0	44-
Godanhully Mysore	85-0	55-6	41-0	—	80-0	31-
Maynard's Mysore Hitlow △ ...	61-0 bid	43-0	37-0	—	68-0 bid	32-
Mackanhully Mysore	94-0	69-6 70-0	49-6	—	87-0	40-
M P & Co. Barekodie Mysore ...	no bid	42-6 bid	37-6	—	68-0	32-
Macdougall's Mysore P M & Co. ...	61-0 bid	42-0	37-6	—	65-0	33-
Maynard's Mysore Devarakhan ...	no bid	42-6	36-6	—	62-0	—

	0	A	B	C	PB	T
Rungiah's Mysore	84-0	57-6	47-0 bid	—	86-0	35-
Kathlikhan Mysore	83-0	57-6	46-6 bid	—	77-0 bid	39-
B D G Mysore	101-0	91-6 91-0	62-6	—	104-0	50-
K △ Oliver's Mysore	108-6	93-6	68-6	—	110-0	46-
M ◇ Hoosul Mysore		80-0	62-0	41-0	68-0	31-
Alagaishwara McD Mysore ..		73-0	49-0 bid	40-0	74-0	35-
Dasarhully Mysore		97-6	74-0	49-6	90-6	41

COORG.

	A	B	C	PB	T
H G P Beechlands	80-0	54-6 bid	—	81-0	34-
Binny's Coorg Siddapur	77-0 bid	54-0 bid	49-0	84-0 bid	37
G. R. Evans Aalie Toopo South Coorg ...	77-6	54-0	46-6	no bid	36
Mangles Covercoly Mountain	96-6	76-0	57-0	96-6	38
Praters Derverah Cadoo	78-0	53-0	38-6	77-0	32
M B Coorg	86-6	60-6	44-6	85-0	35
C S Coorg	79-0 bid	55-0 bid	40-0	80-0 bid	31

	A	B	C	PB	T
Kayam Kollie Coorg	63-0 bid	49-0	—	72-0	34-6
B B Coorg	77-0	50-0	41-0	72-0	32-0
Mangles Hallery	80-0	52-0	41-0	76-0	34-0
C T Victory Coorg	70-0 bid	48-6 bid	—	65-0 bid	34-6

NAIDOOBATUM.

	1	2	PB	T
Glenvans	97-0	66-0 bid	87-0 bid	40-0
Glenvans Δ	94-0 bid	60-0 bid	84-0 bid	40-0

	A	AA	B	C	P
W B W Balmadies Naidoobatum ..	110-0	100-0	88-0	56-6	111-0

NEILGHERRY.

	A	B	C	PB	T
Palmadoo	79-6	55-6	—	80-6	—
Tiger Rock	67-0 bid	45-0 bid	41-0	—	34-0
J M ◇ Woodlands Nilgiris	67-0	48-0	40-0	66-6	34-0
Kotergherry D. C....	87-0	53-0	42-0	66-0	33-0
Pomanoo	80-6	58-6	44-0	70-0	37-0
Corncillon	86-0	59-0	45-6	74-6	38-6
T H S Maryland	68-0 bid	52-0	—	62-0	—
Rockwood	80-6	56-6	—	79-2	35-0
Toneyville	68-0 bid	no bid	40-6	58-0 bid	31-6
Tuttapollium	no bid	49-0 bid	43-6	65-0	31-6
Tudor Valley	72-0	51-6	43-0	60-0	31-6

NELLIAMPATHY.

	A	B	C	PB	T
Wallia Warrum	79-0	54-0	41-6	80-0 bid	37-0
Ootacooly Nelliampathies	74-0	53-0 bid	42-6	68-0 bid	32-0

WYNAAD.

	A	B	C	PB	T
Mootil Peak	77-0	54-6	—	76-6	35-6
Panora Peak	60-0	46-6	37-0	63-0	28-0
Variday Mulla	84-0	59-6	45-0	78-6	34-6
Do.	85-6	59-6	43-6	78-6	34-6
Perinda Methal	78-0	52-0	42-6	71-0	36-0
Rasselas	78-0	50-6	40-0	72-0	35-0

TEA.

INDIAN.—About 8,000 packages, a large portion of which consisted of Calcutta-bought consignments, were brought forward, against 15,200 packages last week, and 17,600 packages a year ago.

This small quantity passed with a strong demand for grades under 8d per lb., which were at times slightly dearer, but for others, unless possessing special point, there was as a rule less competition, and prices favoured buyers, many lots being withdrawn owing to low offers.

Nearly 1,000 packages from South India were included in the catalogues and received good support, quality on the whole being useful. The present state of the market is favourable to these growths as the produce of some estates is realising 1½d to 2d per lb over this time in 1898.

CEYLON.—Sales were heavier, totalling 29,300 packages compared with 22,300 packages on the 9th instant, and 20,800 packages in the foregoing year.

There was spirited bidding for tea up to 7¼d per lb., which sold at fully former rates. At and over 7½d per lb., however, better value was to be had, especially in Orange Pekoes, many of which did not bring more than the Pekoes in the same invoice. Broken Pekoes continued depressed and results were very unsatisfactory, particularly in the case of parcels drawing thin infusions which the Home Trade find unsuitable to their requirements.

JAVA.—Rather over 4,000 packages of direct import were submitted. The selection represented most of the favourite gardens and commanded attention, quotations generally shewing very little change. A small lot of 19 boxes of Flowery Pekoe from the Nangoeng Estate fetched 1s 11d per lb.

Deliveries.—The clearances of all tea (on which duty has been paid) from the London Warehouses, as per official returns, were:—

From 1st to 6th May, 1899 ... ... 7,975,710 lbs.
" " 1898 ... ... 9,338,524 "

During the week the following have been printed for sale by public auction:—

	Sold. Pkgs.	Withdrawn Pkgs.	Total offered. Pkgs.
India	6,824	1,094	7,918
Ceylon	26,517	2,781	29,298
Java	3,595	336	3,931
Total .	36,936	4,211	41,147

Also 813 packages from second hands.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated May 19th, 1899, says:—

QUANTITY BROUGHT TO AUCTION IN LONDON
FROM 1ST JUNE TO DATE.

	Indian	Ceylon.	Java.
1898-1899 ...	1,554,759 pkgs.	1,090,730 pkgs.	48,556 pkgs.
1897-1898 ...	1,566,395 "	1,150,783 "	42,375 "

8,932 pkgs. Indian
29,750 " Ceylon
3,931 " Java
} Total 42,631 packages were offered in public auction this week.

The following quantities of Indian and Ceylon Tea were taken by the United States and Canada during the first three months of each of the last five years. The figure for 1897 is unusually large, owing to the fear which then existed of an alteration in the Tea Duty. It is possible that the slight reduction in the first quarter of 1899 may be due to recent high prices.

1899.	1898.	1897.	1896.	1895.
lbs. 2,935,885	3,155,099	4,460,943	2,344,938	1,466,215

Indian & Ceylon Tea taken by United States & Canada from 1st January to 31st March.

INDIAN TEA

	1899.	1898.	1897.	1896.	1895.
Re-exports from U. K. .	908,093	605,950	851,746	318,245	432,461
Transhipments *via* U. K.	180,096	615,265	1,779,809	975,809	319,586
Direct exports *via* China...	64,942	50,601	71,023	*not stated.*	
Direct do. from Calcutta.	298,807	74,000	*nil*	*nil.*	*nil.*
Total lbs....	1,451,938	1,345,816	2,702,578	1,294,054	752,047

CEYLON TEA.

	1899.	1898.	1897.	1896.	1895.
Re-exports from U. K.	798,247	840,790	975,081	699,196	453,875
Transhipments *via* U. K.	104,033	432,360	682,515	317,120	188,919
Direct expts. *via* China .	227,948	241,495	100,769	34,568	71,374
Direct do. from Colombo.	353,719	294,638	*nil.*	*nil.*	*nil*
Total lbs ...	1,483,947	1,809,283	1,758,365	1,050,884	714.168

Indian. With further diminution in the quantity brought forward there was a distinct improvement in the demand, the auction passing very steadily at prices fully up to last week's rates. The official telegram gives exports to U. K. for first half of May as lbs. 2,220,000, against lbs. 697,000 and from the 1st of April to 15th instant, as lbs. 2,992,000, against lbs. 1,107,000 same period 1898.

Total Tea sold on Garden Account, 1st June to date 1899, 1,149·174 pkgs., av. 8 79d. 18. 8—130,694 pkgs., av., 8 65d.

Comparative prices of Indian Tea in London.

Ceylon. The week's auction was comparatively heavy, probably owing to the pressing forward of some Teas in view of the Whitsuntide holidays The market stood the strain well for all Teas under 7½d. per lb., which were readily disposed of at firm prices; rates for Teas over this figure were slightly easier, competition however being more general. Private telegraphic advice gives the quantity exported to U. K. for the first half of May as lbs 4,100,000, against lbs. 3,500,000 last year, and estimates the quantity for the month as lbs. 10,000,000 against 9,000,000 shipped in May 1898.

Avg. for week 7·99d., against 7·78d. same period 1898.

Ceylon Tea sold on Garden Account, 1st January to date 1899, 399,452 pkgs., av., 8·41d. 1898—437,275 pkgs., av., 7·64d.

Comparative prices of Ceylon Tea in London

	1899	1898.	1897.	1896.
PEKOE SOUG (Ordinary leaf; fair liquor)	7¼d.	6d.	6¼d.	7d.
PEKOE (Ordinary leaf, little twist; fair liquor)	7¾d.	7d.	7d.	8¼d.
PEKOE SOUG (Rather bold leaf; indifferent liquor)	7d.	5d.	5d.	5¾d.
PEKOE (Somewhat bold leaf; indifferent liquor)	7¼d.	5½d.	5¾d.	6½d.

Java The selection was large and varied, comprising a number of good liquoring invoices. Competition for all descriptions was strong; Teas under 7½d. were, if anything, slightly dearer.

Bank rate 3 per cent. Exchange on London three months' sight:— Calcutta $1/4\frac{5}{32}$. Colombo $1/4\frac{5}{32}$.

COCOA.

The tendency of prices continues strongly in favour of buyers, and Importers have at length given in to the inevitable, apparently. At public sale on Tuesday the small supply of 2,398 bags was offered, of which rather more than half sold at further declensions in value. Of 474 bags Trinidad brought forward 360 bags sold at 69s to 73s 6d for good to fine red, and 62s to 65s for blacks being slightly below valuations. Of 698 bags Grenada offered 550 bags sold at a fall of 1s to 2s per cwt, viz., fair to fine red 64s to 67s 6d. 21 bags Jamaica partly sold at 63s 6d, which price was also realised for 6 bags St. Lucia. 5 bags Dominica brought 64s to 64s 6d. Of 724 bags Guayaquil offered 200 bags early Arriba were quitted at 71s—a considerable decline. 3 bags common Surinam sold, out of 59 bags offered, at 64s. 11 bags sea damaged Bahia found a buyer at 64s. Ceylon's offering comprised only 391 bags, of which only 60 bags were placed at a further fall in value, viz., fine bold and medium red 73s, good pickings 60s 6d, blacks 47s 6d to 55s per cwt. Private sales include 500 bags Guayaquil Caraquez at 67s to 69s, and about 200 bags Ceylon at 68s to 71s per cwt.

GINGER.

Cochin.—There has been some pressure to sell, and auctions registered a fall of 5s on medium cut and 1s 6d per cwt. on small, washed rough being only a little easier. Catalogues comprised 295 cases 909 bags, of which 87 cases 160 bags sold in the room as follows:—Heavily limed medium roughly cut 45s to 45s 6d, good small cut ditto 28s 6d, bold and medium Native cut 41s, dullish to fully fair medium and small washed rough 22s to 22s 6d, good ends ditto 19s 6d. fair brown Calicut sorts 22s, common small and ends 18s to 19s, lean shrivelled to fair pickings 16s to 18s, cuttings 17s per cwt.

Bengal.—100 bags bought in at 21s per cwt.

Japan.—100 bags ordinary leanish limed sold at 17s per cwt. which was cheap, but privately 200 bags fair sold at 19s per cwt.—a full price.

Jamaica quiet but steady for all except the best qualities which were rather dearer. 319 barrels offered and 105 barrels sold as follows:—good plump bold bright washed 77s 6d, medium and boldish ditto 67s to 72s, dull medium lean and brownish 60s to 64s 6d, ordinary lean small and dark 54s to 58s, mouldy ditto 52s to 52s 6d per cwt.

PEPPER.

Black.—There has been a firm market this week, and a good business has been done in Singapore at an advance of $\frac{1}{16}$d to $\frac{1}{8}$d per lb.—at 5$\frac{3}{8}$d for fair on the spot, at 5$\frac{7}{32}$d April-June shipment, at 5$\frac{9}{16}$d May-July, at 5$\frac{5}{8}$d, June-August, and at 5$\frac{5}{8}$d July-September, also some business for July delivery at 5$\frac{1}{2}$d. In all about 400 tons sold.

At auction on Wednesday 22 bags damaged Singapore bought in at 5$\frac{1}{4}$d, and 199 bags Tellicherry at 5$\frac{3}{8}$d; also 410 bags Penang. 10 bags bold washed brown Ceylon found a buyer at 6$\frac{1}{2}$d per lb.

The shipments of Black Pepper for the first half of May compar as follows:—

		1899.	1898
U.K.—Sing.	20	100	70 / 260 } 330
„ Penang.	80		
Continent		100	*nil*
United States		20	*nil*
Total tons...		230	330

White.—The market is also dearer, with sales of 150 tons reporte including Singapore July-September shipment at 8$\frac{13}{16}$d, and Penan July-September at 8$\frac{3}{16}$d. About 700 to 800 bags of the latte description have been sold on the spot at 7$\frac{7}{8}$d to 8d for fair, also small quantity of Singapore at 8$\frac{9}{16}$d for fair.

At public sale on the 17th instant 18 bags Singapore, 26 bag Siam, and 126 bags Penang all passed the hammer unsold. 14 bag Ceylon realised 8$\frac{1}{4}$d for good brownish and 7$\frac{7}{8}$d per lb. for brown.

The shipments of White Pepper for the first half of May compar as follows:—

		1899.	1898.
U.K.—Sing...	*nil*	80	20 / 120 } 140
„ Penang.	80		
Continent		50	*nil*
Total tons....		130	140

CINCHONA.

The shipments from Ceylon for the weeks ending April 18 and 2 were 38,503 lbs. and 32,443 lbs., respectively, and from January 1 t April 25:—

	1899.	1898.	1897.	1896.
Lbs.	239,719	284,371	209,745	255.614

The auctions to be held in Amsterdam on June 8 will consist 4,342 bales Ledgeriana and hybrid, and 500 cases and 614 bal Succirubra. The stock in first hand at Amsterdam, on May 1 consisted of 2,228 packages Government and 5,800 packages priva bark, including the quantity to be offered in the above auctions.

QUININE.

The market at the end of last week closed dull, and no busine of importance was done on Friday or Saturday, the nomin quotation then being 1*s.* 3$\frac{1}{2}$*d.* per oz. for August delivery. C Monday a sale of 5,000 oz. was reported at this figure. The follow ing day witnessed a decline to 1*s.* 3$\frac{1}{4}$*d.* for August delivery, a 1*s.* 3*d.* for spot, at which figure a fair amount of speculative busine was done. The market slightly recovered on Wednesday, wh small shipments of bark from Java for the first half of May we announced, and some 50,000 oz. changed hands at 1*s.* 3*d.* for spo 1*s.* 3$\frac{1}{4}$*d.* to 1*s.* 3$\frac{3}{4}$*d.* for August, and 1*s.* 3$\frac{1}{2}$*d.* per oz. for Octob To-day 1*s.* 3*d.* had been refused for spot, but little business has be done. The makers report a fair consumptive demand.

(AVERAGE FOR ALL INDIA 8·17d.) *May 19th.*

GARDEN.	Total.		Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust and Various.	
	Quantity		Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price
Neilgherry ...	**41**	p	**10·85**												
Non Such ...	39		11	19 1/	0$\frac{1}{4}$1,0$\frac{1}{2}$	20	9$\frac{1}{2}$	...	...	...	...	...	..	...	...
Pykara Falls ...	2		8	...	...	1	7$\frac{3}{4}$	1	8$\frac{1}{4}$	...	...	...	...	..	...
Travancore ...	**990**	p	**7·59**												
BA ...	22		7$\frac{1}{4}$	...	...	...	...	...	...	...	...	22	7 7$\frac{1}{4}$	...	...
Bonaccord ...	270	p	7$\frac{1}{4}$	...	...	97	7$\frac{1}{2}$	91	7$\frac{3}{4}$ 8	44	7$\frac{1}{4}$	...	...	38 p	5$\frac{3}{4}$7$\frac{1}{2}$
Braemore ...	76	p	7$\frac{3}{4}$	...	...	39	7$\frac{1}{2}$	14	8$\frac{1}{4}$	...	...	14	7$\frac{1}{4}$	9$\frac{1}{2}$c	6$\frac{1}{2}$7$\frac{1}{4}$
Cherian Mallay ...	37	p	8	37 p	7$\frac{1}{2}$ 8$\frac{1}{4}$	...	...	...	...	...	...	...	...	...	...
Great Valley ...	76$\frac{1}{2}$	c	7	...	...	46$\frac{1}{2}$c	7$\frac{1}{4}$	25$\frac{1}{2}$c	7	...	..	2$\frac{1}{2}$c	6$\frac{1}{2}$	3$\frac{1}{4}$c	5$\frac{1}{2}$
Isfield T Colsfield	49$\frac{1}{2}$	c	7$\frac{3}{4}$	14$\frac{1}{2}$c	8	35$\frac{1}{2}$c	7$\frac{1}{2}$	...	...	...	...	...	...	...	...
Kinmylies ...	64$\frac{1}{2}$	c	7	10$\frac{1}{2}$c	7$\frac{3}{4}$	48$\frac{1}{2}$c	7	...	...	4$\frac{1}{2}$c	7	2$\frac{1}{2}$c	6$\frac{1}{4}$	...	...
Mahendraghery ...	64$\frac{1}{2}$	c	7$\frac{1}{4}$	10$\frac{1}{2}$c	7$\frac{3}{4}$	18$\frac{1}{2}$c	7$\frac{3}{4}$	...	..	4$\frac{1}{2}$c	7$\frac{3}{4}$	2$\frac{1}{2}$c	7	..	...
ME ...	18	p	7	...	...	...	...	...	...	...	...	16	7	2$\frac{1}{2}$c	6
Merchiston ...	84	p	7$\frac{3}{4}$	22$\frac{1}{2}$c	7$\frac{3}{4}$	44	7$\frac{1}{4}$	13$\frac{1}{2}$c	8$\frac{3}{4}$	...	...	...	...	5$\frac{1}{2}$c	6$\frac{1}{4}$
Poonmudi ...	25		7$\frac{3}{4}$	...	...	14	7$\frac{1}{2}$	6	8$\frac{1}{4}$	...	...	5	7$\frac{1}{4}$	...	...
SthrnIndCKud K ...	65		8$\frac{1}{4}$	43	8$\frac{1}{4}$	11	7$\frac{1}{2}$	..	...	...	...	...	.	11	7$\frac{3}{4}$
8th Trav Co Ven ...	140		7$\frac{3}{4}$	...	...	57	7$\frac{3}{4}$	56	7$\frac{3}{4}$8$\frac{1}{4}$	22	7$\frac{1}{2}$	...	...	5	5$\frac{3}{4}$

PLANTING OPINION.

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N.B.—Remittance, should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 23rd instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, 14*th June.*—*Weather.*—Monsoon set in here in earnest on the afternoon of the 11th. About ·70 in. that day; ·60 in. the next day. Yesterday the rainfall was very heavy amounting to 1·50 in., most of which came down in the evening. *Crop.*—Estimated at from 1 to 1½ cwts. per acre! Going to be one of the worst years on record. *Plant diseases.*—Removing borer nearly all completed. Coffee looking very fine everywhere. *Labour.*—Plentiful. *General Health.*—Good. *Prices.*—Gram Rs.5-6 per palla. *Ragi,* 20 seers the rupee. Rice, 10—11½ seers per rupee.

DRAFTS ON TEA SALES IN LONDON.

The Associations that represent the Indian and Ceylon Tea industries in London have long shown a determination to do all in their power to bring about a reduction of the charges incurred in putting tea on the English market. They are hammering away at this matter now with revived vigour. Owing to the serious decline in the prices of tea, the London charges now represent a very formidable percentage on its value. The Tea Clearing House Committee meet this statement by saying that, since the present rates for landing, storing, bulking and handling tea were fixed, wages, cost of materials, rents. rates and taxes have advanced considerably. An understanding between the two parties has yet to be arrived at. Meanwhile, however, the Associations referred to have turned their attention to the draft allowances on tea. In a circular (which was published in our issue of 27th ultimo) they ask for the support of producers in an attempt to secure the abolition of the draft allowance on teas sold in London. They remark that, owing to the narrowness of the present margin of profit on tea

cultivation, every item of expenditure has to be curtailed to the very lowest limit, and that this pruning process must now be extended to unnecessary charges and allowances on teas in London. The "most obvious" of these is, they assert, the allowance of one pound draft per chest or half-chest. This represented last year 2,720,000 lbs. of tea. The circular also states that "by the present system of weighing by H. M. Customs, a turn of the scale is given in the buyer's favour on the gross weight and another on the tare weight." Putting the above together, it is estimated that during last year the buyers received 5,000,000 lbs. of tea more than they paid for. The Associations do not ask for any alteration in the system of weighing, but simply that the draft allowance should be abolished, and they make a point by stating that in 1890 all draft allowance was abolished on cured provisions and cheese, and the same has been done in the case of bark and other articles.

It was not to be expected that the proposal under reference would be readily accepted by buyers of tea in London. It is but natural that it should have aroused grocers and others, and that criticism should have assumed various shapes. Only in its infancy at present, it will probably soon assume much larger proportions; but care has already been taken to represent that there is "another side" to the picture given in the circular issued by the Indian and Ceylon Tea Associations. A reference made to the London Wholesale Teadealers' Association brought forth a statement that only an informal intimation had been received that importers were considering this question. The Secretary wrote to the inquirer:—"If you would be good enough to advise me, when you know that the importers have really decided upon taking such an objectionable step, I will immediately place the matter before my Committee, who will, I am sure, take prompt action to protect the interests of the trade. The subject is of special importance to the retail grocers, whose Associations would no doubt render valuable assistance in resisting any change in the old custom as regards the 1 lb. drafts. The attempt was defeated many years ago, and by united action will, if necessary, be successfully opposed again." This is a very confident statement; but, however much of bravado it breathes forth, it at least shows that strenuous opposition may be expected. Again, the Bristol Grocers' Association has taken the matter up very energetically. At a recent meeting it passed unanimously a motion—"That the members of this Association, having been informed that the Indian Tea Association and the Ceylon Association are entertaining a proposal to abolish the draft allowance on tea sold at public auction, are of opinion that such a proposal is highly detrimental to the interests of the trade generally; that as the custom has now been recognised in this country for so many years, the Bristol Association fail to see, without some justification for the proposed procedure, why the present custom should be abolished; that some sixteen or eighteen years ago the Indian Association endeavoured to institute a similar course of action, but were defeated; that as chests and half-chests of tea are received in such varied conditions, it would, in the opinion of this Association, be an injustice to the trade to allow the present proposal to become effective, and this Association therefore earnestly pray that the above-mentioned Associations will take into their prompt consideration the advisability of not stultifying so important a trade by the abrogation of the time-honoured draft allowance, which does not more than cover the incidental losses arising i transit, cooperage, and leakage." It was pointed out that, the pound draft on the chests or half-chests were abolished it would mean often that grocers would not have the te they really paid for, as loss always occurred in transit.

In this last sentence lies the key to the distributors determination to have the draft allowance continued. The want to receive, at their own places of business, as muc tea as they pay for. Naturally, they not only state thei own case, but assail that of their opponents; and the circula mentioned gives them certain opportunities of which the have been quick to avail themselves. As the *Grocer* remark the statement that the draft allowance "is a survival fro times and conditions which no longer prevail," implies als that there is a long established custom, and this is not t be lightly set aside. The planters' desire for a change i attributed to the cause mentioned in the circular, *viz.*, "th profit on tea cultivation having reached such a narrow margin," and the *Grocer* remarks:—"The growers i India and Ceylon have cut down there, and are now wish ful to cut down here. We should not have thought th Indian and Ceylon trade had been really so bad as all that though we can quite understand why cutting down shoul be attempted if people find themselves, or think themselves strong enough to do it. For our own part, however, w are bound to remember the other parties concerned, an we find the Bristol grocers asserting that the draft allow ance, which it is proposed to disallow, does no more tha cover incidental losses suffered by the buyer in transit cooperage, and leakage." This is the point the Associa tions will have to meet. As a matter of fact, we think i of little importance whether there is a draft allowance o not. The cost of conducting sales of tea is so much; th cost of transit is so much; there must be a certain wastag on the way. No matter who appears to bear these charge or this wastage in the first instance, when the selling pric between importer and wholesale buyer is adjusted, the eventually fall on the consumer. Fix charges and allow ances how one may, the prices referred to will, in course o time, adjust themselves according to the immutable law of demand and supply. The prices hitherto paid hav been reckoned according to the scale of charges and allow ances in force; if the scale be altered, so will be the syste of reckoning and, consequently, the prices.

COFFEE AND TEA AT HAMBURG.

The latest British Consular Report issued from Hambur states that the fear entertained by many persons that th further over-production of coffee in various countries durin 1898 would be attended by a further decline in prices, a well as the hopes of others, who thought business woul take a more favourable turn last year, were not realise in the market under reference. The fluctuations in pric were only of a limited extent, but, on the other hand, th low quotations left hardly any margin for profitable bus ness. A natural consequence of the low price of coffee i 1898, as in the preceding year, was its largely-increase consumption in Germany as well as in other countrie though the import duty in Germany, it may be added, i comparatively high, and thereby still renders the sale o cheaper substitutes possible. The following figures show

the comparative consumption in Germany of coffee, cocoa and tea per head of the population since the year 1870, *viz.* :—

Annual average of—	Consumption per Inhabitant of Germany per annum.			
	Coffee.		Tea.	Cocoa.
	lbs.	ozs.	ozs.	ozs.
1870—75	4	13·5	·7	1·7
1881—85	5	3·4	1·	2·1
1886–90	5	1·1	1·4	3·5
1897	5	6·565	1·7	9·4

The total importations of Coffee to Hamburg-Altona in 1898 amounted to about 3,930,000 cwts., as against 3,720,000 cwts. in the preceding year. The stock on hand, in this and other markets, has now increased to a figure never experienced before, inasmuch as consumption, though increasing, cannot keep place with the vast production of the past two years.

Business in Tea at Hamburg was limited to about the same extent as in 1897. It is considered that the mild autumn and winter of last year was unfavourable to the increase of tea consumption in Germany and Austria. Statistics showing the quantities of tea imported are not yet available; but it is stated by competent authorities that the importations of Indian and Ceylon teas were in excess of those during 1897, and the consumption of these sorts appears to be developing, though slowly, also in Germany. It is, on the other hand, also thought that the present efforts towards exploiting and developing the resources of China are likely to lead to the resuscitation, by European assistance, of the cultivation and export trade of Chinese teas at a near date.

COFFEE, TEA AND COCOA IN HOLLAND, 1898.

Coffee.—The total importations of coffee into Holland in 1898 were, as nearly as possible, the same as in the previous year, amounting to—

From	Quantity. Bags.
Dutch East Indies	572,279
Santos and the West Indies	900,591
Total	1,472,870

Prices did not fluctuate much from the low figures with which the year began, and the large importation kept the trade dull and depressed. Good ordinary Java dropped at once from 60/6*d.* to 59/6*d.* per cwt. in February, recovering in September to 60/6*d.*, but closing in December at 54/7*d.* per cwt. Santos coffee was in dull demand, but the low prices have caused this quality to replace the dearer Java sorts more extensively year by year. Prices followed the course of the market in general, dropping from 37/6*d.* to 33/*d.* per cwt. in December. It may be assumed that these figures represent the lowest point likely to be touched, since lower figures must check importation.

Tea.—The importation of tea in 1898 amounted to 67,361 chests of Java tea, 3,346 chests of China tea. The Java article continues to take the place of the good ordinary China tea, and the importation and consumption steadily increase. The average figure reached in 1898 for Java tea was 5$\frac{5}{6}$d. per lb., and there were but inconsiderable fluctuations during the year. Business was fairly good, and prices improved towards the close. The quality of the Java tea is said to be very similar to that of the Assam leaf. The number of new tea plantations in the Preanger district of Java is increasing.

Cocoa.—Holland imported in 1897 from Java 15,000 tons of cocoa, against 11,367 tons in 1896. Only 1,000 bags were received last year from Surinam, so that the trade with Holland has now nearly reached that with Great Britain. Prices were firm throughout the year with an upward tendency, the stocks held by the manufactures of cocoa and chocolate being comparatively small Quotations for good Java varied from 65/3*d.* to 79/3*d.* per cwt.

TEA FROM SEED TO CUP IN SOUTHERN INDIA.

(By Thomas Brown, Glendale Coonoor.)

II.

The Seed.—Tea plants are invariably raised from seed, of which there is at this time of the industry a full supply, at from 30 rupees to 100 rupees per maund of 82$\frac{2}{7}$ pounds (the maund being known as "the Bengal" as distinguished from the Madras maund of 25 pounds and the Bombay maund of 28 pounds).

In the tea-fever days tea seed was sold at from Rs.200 to 300 a maund, and was so badly handled that frequently but 3,000 to 5,000 unhealthy seedlings were all that was obtained from one maund.

Picking of Seed.—It is difficult to distinguish ripe from green pods, and as the seed must be gathered from the trees before the capsules burst and the seeds fall to the ground, it too often happens that immature seed is gathered, and weak sickly plants raised.

In shelling the seed, coolies are apt to use their teeth and knives, thus puncturing the shell and causing doubtful results.

A few well-trained women should therefore be employed on the important work of harvesting seed.

We cannot advise seed to be gathered off the ground, as they frequently get mouldy before being picked up, do not germinate well or healthily, (after the kernel has once shrunk), and you can never be certain of your jât, if other varieties are growing on the same slopes above your seed-bearers.

After gathering the seed, it should be placed for 48 hours in a cool airy place and then carefully shelled by hand. On no account should it be placed in the sun, to get the capsule to burst. After shelling, seed should be put down to germinate as soon as possible.

The same care in handling tea seed is needed as in the case of flower bulbs, to ensure sound healthy plants.

Germinating Seed.—There are various ways of germinating seed, but what we have found to be far and away the best is to mix the seed with fresh horse-dung and plant on an ordinary well-drained bed about 3 inches deep of seed.

The watering should be light and frequent. A layer of ferns or thatch over the bed is better than a pandal.

Planting-out into Beds.—The seed takes six weeks to germinate. The seed should be frequently turned over, after first signs of germination have appeared, and all seeds from which the radicle has come out, be planted into beds, 3 to 4 inches apart.

It must be particularly noticed that the young plant does not throw up its seed into the air as does coffee; but that root and leaflets proceed from the same point, the seed adhering to the plant like the shell to a snail, and that therefore the correct way to plant the germinated seed is with the crack or opening *horizontal*.

Coolies invariably stick the radicle and crack downwards and possibly more unhealthy plants with twisted roots arise from this mistake than from any other.

The number of plants from a maund of good seed carefully handled is 15,000 to 20,000—a maund of seed containing as many as 30,000 seeds.

Beds and andals.— The nursery beds for these are best made 4 feet wide, and any length down the hill, preferably from north to south, so that all the plants get a share of the morning sun. Low pandals, about 3 feet high are much preferable to higher ones, as wind frequently knocks the high ones down, they are expensive to construct and maintain, the morning sun cannot well be admitted to all plants and drip in wet weather is often so severe that the leaves become punctured and soil considerably disturbed.

Plants reared in high pandals are much drawn and do not succeed so well when put out as those reared in lower ones.

CACAO IN TRINIDAD.

The Superintendent of the Royal Botanic Gardens, Trinidad, writes :—I have to report the first fruiting of a tree of *Theobroma pentagona* in Trinidad. This species was introduced from Nicaragua in 1893, on Mr. Hart's return from a visit to that country. Plants were distributed to various cacao planters, and, in answer to a circular of enquiry recentlysent out, he finds that, while a few have done well, the majority are either dead, or doing badly. The following, however, was received from an experienced planter :— "The beans are very large, the skin is rough, thin and soft. There are some thirty pods of all sizes on the tree, but what is most remarkable is that every chirero (young pod) that comes out keeps healthy, and up to now I have not been able to find a single pod of any size blighted. The tree is strong and healthy, and from appearance very hardy : in my opinion will answer well here. I shall take great care to save every pod I can for plants." This letter confirms the experience of the Botanic Gardens, where the tree has fruited. It has proved a very acceptable addition to the kinds known in Trinidad, and, when better known and more widely distributed, will no doubt be very favourably thought of. Sufficient plants for an experimental row at St. Clair were raised from the one pod which was ripened, and these are now making healthy growth. Other rows of the white-seeded Creole, the Ocumare strain of Forastero, the Ceylon Red, and several grafted varieties, are under trial at that establishment also. The idea of improving the class of Cacao produced is to search out the varieties which give the largest crops and the best class of dried produce, and to propagate those by grafting.

Mr. Hart is glad to be able to put on record (he believes for the first time) successful results of Cacao grafting experiments, carried out during 1898. The operation presents no unusual difficulty. Grafting is effected by approach or in arching—a method which is by far the safest for all tropical plants, and so far it has been found that the union takes place in Cacao grafting with greater facility than with the mango or other trees. Grafting now makes it possible to propagate one desired variety, and to have that variety and nothing else upon an estate, instead of depending solely upon seedling plants, which are known, to vary iin so large a degree, and are know to produce at times varieties which spoil the samples of the better class of produce. It would not be a difficult matter, says the Superintendent, to show that an estate planted with superior grafted varieties selected from first-class estates would produce samples of Cacao that would be of the highest possible excellence; at least that is the general result in other cultivations where the practice of grafting is pursued, and it would not be easy to see why it should not be so in Cacao. The remarks of Mr. Hart and some of his colleagues on Cacao disease were given in these columns some little time ago; but he says, the Cacao pod disease is not the only thing which will blacken and destroy the pods. as there are several other causes which cause them to assume this appearance. It must not be assumed therefore, that because a pod goes black that it has an infectious disease. Neither is it to be assumed—at least for the present, that there is any connection between the Cacao disease of Ceylon, and the Cacao disease in Trinidad as this cannot be ascertained until the organization of the two fungi have been studied by expert Botanists skilled in the examination of microscopic fungi. It is quite possible, however, that they may be identical. The Trinidad disease, so far, is in no wise a serious matter, and the Trinidad planter may congratulate himself that it is no worse, and if it only enforces habits of cleanliness and watchfulness, and induces better cultivation, it may prove in reality to be a blessing in disguise. The planter, when treating these diseases. must not trust to his eyesight alone for that is not a sufficient or sure guide, as the character of the organisms causing such diseases cannot be detected without the aid of a compound microscope of high power.

WILL CHINA'S RIVALRY REVIVE?

Lord Charles Beresford's account of the mission entrusted to him by the Associated Chambers of Commerce for the purpose of inquiring into the present situation in China, with especial reference to the condition and prospects of British trade in that country, has been issued in a volume with the title "The Break-up of China, with an account of its present Commerce, Currency, Waterways, Armies, Railways, Politics, and Future Prospects." From such a title one might expect a pessimistic account of the Celestial Empire, but to judge from the review of the book in the London *Times*, Lord Charles has taken a pessimistic view. China, he insists, is still sound at the core

Its people are industrious and submissive, though, when properly trained to arms, they are among the bravest of the brave; its native merchants are notoriously men of their word, and not without capacity and enterprise in business; but its rulers are corrupt, incapable, opposed to all change, impervious to new ideas, politically hopeless and effete. Hence, if the whole fabric of the Government could be re-organised, China might be regenerated. This "if" involves "a large order." no doubt, but Lord Charles goes on to suggest the various measures that he considers essential to the proper execution of that order. It must be borne in mind that he writes in the interest of British trade. He says in one place:—"The situation in China to-day bristles with international, commercial, and financial difficulties. British commerce, once the only occupant of the field, has now to face competition and adverse political influences, and if the sixty-four per cent. of British trade is to be maintained, and increased, our commercial classes will have to use all their energies and abilities to keep the flag of Great Britain in the front of commercial enterprise in China." Lord Charles asserts that the European nations should insist on a series of reforms in Chinese administration and finance, which are as necessary to China herself as to her foreign traders. These reforms may be epitomised thus:—

1. An imperial coinage.
2. Reform in the method of collecting the land tax.
3. Removal of restrictions on the export of grain.
4. Modification of the laws governing the salt monopoly.
5. The right of foreigners to reside in the interior for purposes of trade.
6. The registration and protection of trade marks and copyright.
7. The removal of the remaining restrictions on inland water navigation.
8. The abolition of the likin, or reforms which would ensure that likin should be collected once only.
9. Greater facilities to be given to *bonâ fide* foreign syndicates to work minerals.
10. The establishment of bureaux for the regulation of finance, railways, waterways, roads, posts, and telegraphs, and a bureaux to deal with all questions connected with trade. All of these are urgently needed, particularly for the postal and telegraph service, which are at present managed under a legalised system of squeeze. The foreign merchants constantly complain that the existing service is so untrustworthy that no letters between the ports are safe unless registered. The present telegraph service is so bad that a letter from Tien-tsin to Shanghai has been known to arrive before a telegram sent at the same time. The *Times* correspondent at Pekin told me that his telegrams very often cost as much to send from Pekin to Shanghai as from Shanghai to London.
11. One other bureaux is urgently needed, and that is a Trade Intelligence Department, to deal with scientific and practical questions relating to the natural products available in China for commercial purposes. What is an insignificant export to-day may become a valuable article of commerce to-morrow. There should be a scientific classification of the products of China on the same lines as the classification of products in India.

What all this may mean to Indian Tea, should the reforms suggested ever be carried out, we scarcely dare to speculate. Abolish the likin, stop the "squeeze" system, improve facilities of communication, and you put China in the right road to get ahead of India and Ceylon in the tea trade. It is to be hoped, therefore, that whenever—if ever—the British Government decides upon a progressive line of policy in respect to China, it will bear in mind that Exports and Imports are two very different matters, and will not once again sacrifice India at the altar of Lancashire.

THE QUALITY OF INDIAN TEA.

Some "country dealers" write from Bradford to the *Grocer* that the rage for years seems to have been, in Indian and Ceylon teas, to produce quantity, quality being a secondary consideration. The result has been to drive the demand principally on low and medium kinds; and undoubtedly these have been the best value to the consumer. They think there is a decided inclination by the public to give higher prices, if they could find the quality distinctly better; but when they find they can get nearly as good tea at 1s 8d. as at a much higher price, they naturally stick to the cheaper kind. These dealers say:—"The higher-priced Indian teas have a blaze of tip, and some of them have a thick heavy liquor, which, when drunk hot and strong, tastes of something, but if allowed to cool tastes very distinctly of nothing. The ripe, well-matured, juicy teas of a few years ago are woefully scarce, and we think the difficulty of the importers would be best got over by their producing some better stuff." Attend to quality and don't bother about draft allowances, is the gist of the advice here given to planters; and the remarks of the *Ceylon Observer* on virgin soils, quoted on another page, lend support to the idea that Ceylon teas, at any rate—if not Indian also—have deteriorated in strength and in flavour. That seems to us to be the most natural deduction from our contemporary's remarks, though, perhaps, it was not the one that he desired to suggest It is a deduction that is in very unpleasing accord with the above remarks of Bradford dealers.

TEA IN THE UNITED STATES.

We append two interesting letters, giving them in full in spite of the length of one of them, because they refer to an important subject and are from the pens of men who write with authority. The remark of Mr. Mackenzie, that "'Ceylon' must now be the prominent feature as 'India' has ceased subsidising—although still assisting in advertising" favors the view that India would do better to work independently. As for Mr. Pineo's letter, it sets forth very plainly the views of a man who holds, as we do, that the virtual withdrawal from the American campaign is premature, and a blunder that may lead to considerable loss of business that might have been secured had a bolder policy been continued.

[LETTER FROM MR. WM. MACKENZIE TO MR. LANE.]

LONDON, May, 17.

DEAR LANE,—I have yours of 4th. I have already written to you, mentioning the very sum you suggest as what should be spent in America next year It would be chiefly in subsidies and demonstrations, as we could not also keep up the advertising with that amount

When writing to you about what I saw in Germany, I forgot to mention that the indefatigable Yankees have got hold of the banks of the Rhine. Sailing down one sees huge wooden placards, on the most prominent point of the famous "Castled Crags" with "Eat Quaker Oats" in very large white letters "Nothing is sacred from the sapper" may well be applied to the Yankee. I could not help wishing it were "Drink Ceylon Tea." An investigating Committee has been appointed in the States to enquire into Food Adulteration: some of the evidence is startling. Cheap as coffee is, it is manufactured in large quantities of flour paste, &c., pressed by machinery into the shape of coffee beans. I send two notices with our advertisement on the subject. I have arranged for a large advertisement to appear when tea is examined, provided ours are found

pure. In one of the cuttings sent, you will see something about the green colouring matter used in some tea. I enclose one of Finlay, Muir's Seeta Ceylon advertisements. Also a letter addressed to the ladies of Canada by the Blue Ribbon Co. (Galt & Co.)—one of those firms specially induced to help us in Canada last year. I also send you in separate envelope a list of the papers in which they are advertising and copies of the advertisements which are striking. They have sent me a huge box of newspapers with the advertisement, for which I had to pay 10s. cartage, &c. One likes to keep an eye on all our friends, and this was their crushing reply to a suggestion from me, that I would like to know what they were doing.

I send also a lot of our advertisements and those of others from recent *Canadian Grocer* papers, as you said lately in one of your letters that you took an interest in them.

Read the articles in *New York Herald* showing how politics come into every thing, and the lengths in robbery, &c., one may go, provided he has a strong political friend.

There is an immense number of things one has to watch, follow and keep in touch with. This is more difficult now, that Blechynden is no longer on the spot and working with us. I may have to go over in June, but I won't unless actually necessary, as I do not wish to put the Committee to the expense. In July and August we will, as last year, practically stop, although correspondence is incessant. However, there will be neither salary nor travelling expenses.

I am giving our allies the hint that "Ceylon" must now be the prominent feature, as "India" has ceased subsidising—although still assisting in advertising.—Yours truly,

(Signed) Wm. MACKENZIE.

[From Mr. Pineo to the Colombo papers.]

Sir,—In its Editorial of the 30th ultimo, in *re* "Our Staple and Foreign Markets," the *Times of Ceylon* suggests matter, both seasonable and comprehensive, for thoughtful, deliberate consideration, and all interested in our staple should give heed to it.

My object in now addressing you is for the purpose of again begging that greater concentration of effort be given to the markets of the United States where ground has been broken, but not yet thoroughly cultivated, and from which only a small harvest can, at this stage, reasonably be expected.

The Acting Secretary of the Indian Tea Association declares the operations in America "have admittedly been successful."

This satisfactory outcome is the result of work inaugurated and executed by Mr. Blechynden, who is deservedly entitled to great credit for satisfactory labour performed prior to, and during the opening of, and also subsequent to, the closing of the Chicago Exposition.

Mr. Blechynden was wise to study American methods, quick to accept ideas that gave promise of aiding him in accomplishing his designs; and the success he achieved was, in a measure, due to his power of assimilating what he felt would bring satisfactory results.

Ceylon is now to be congratulated on gaining the active aid and experience of Mr. Blechynden, as his services have been secured by the shrewd, progressive firm of Messrs. Whittall & Co., of Colombo, whose interests he will guide and advance in America.

The plan for the expenditure of the money voted for next year has not yet been disclosed to the public; but it will, doubtless, be largely on lines laid down and recommended by Messrs. Blechynden and Mackenzie, who, it is to be hoped, will not base their plans on a system of subsidies, which system can only be entered upon when guarded by conditions so stringent that no firm of high and honourable standing will care to accept. At best, this system is a poor make-shift affair, vicious in its bearings, and susceptible of great abuse, and ending—usually—in dissatisfaction, loss and calumny.

It may be accepted and recognised as a fact that both the American and Canadian consumer give the preference to Ceylon pure teas, and take to them more readily than to the teas of India, which are, however, used in larger proportions than Ceylon's for blending with and fortifying inferior teas of other countries.

My contention is that Ceylon has done but little more than tickle the ground in the United States, and that more aggressive work is demanded; while no thought of decreasing our efforts should—for a moment—be entertained.

A population of 75,000,000 people, increasing steadily and rapidly, cannot be reached without a protracted and vigorous siege. The people who drink tea are not those who dwell in large cities, but they who live in the smaller towns, villages, and country, many of whom use it three times a day, while the majority of them never saw Ceylon tea! How is it proposed to get at this class? The retailer is the only medium that can be used, and he is the one to be helped. If, when granting a subsidy to a wholesale man, it can be arranged that a portion, at least, goes to the retailer,—the latter will have an incentive and will, probably, do good work; otherwise he will have nothing to gain, and much cannot be expected of him. A plan for reaching the real consuming class was submitted by me, but its very simplicity has, most likely, caused it to be received with disfavor, and yet the plan is a good one and can be elaborated and improved upon and made more workable.

Canada is not nearly conquered; but it is fast coming into line. The lower or Maritime Provinces use nearly six pounds of tea per head per annum, whereas the upper Provinces only consume about three pounds.

The merchants of the Maritime Provinces have begun an aggressive campaign and our interests will be actively advanced by them, but, in the Upper Provinces, and in the Great North West, where large numbers of Russians are now settling, much remains to be done, and this work, we hope, will be conducted, with spirit and energy, by the merchants, who, however, should be assisted in every possible way, that may be considered advisable.

In Mr. Renton's guiding hands we can confidently and safely leave our interests in France, Germany, Austria, Italy, and the lesser kingdoms of the Continent; but in Russia we have much to do, and our efforts should be largely directed to securing a reduction in the duties on tea, so as to bring our tea within the reach of the masses of the people. This must, of course, be done by the aid of the Imperial Government, and through the devious, delicate channels of diplomacy; but it is a matter of vast importance to Ceylon, and hence should be constantly kept in view.

In order to reach the acme of success, Ceylon must continue to agitate, be aggressive, and, in some form, advertise. Now the principal objects to be striven for in advertising are to attract, impress, convince and convey to the mind something that will long be remembered. Having these matters constantly before us, we must study just what kind of advertisement will be best suited to our purpose and what mediums shall be used to reach the people we want to capture.

Nowhere is the art of advertising studied with greater fidelity and assiduity than in the United States, where men make it a vocation and give their undivided attention to it, and where they are a highly paid and absolutely necessary part of every establishment that seeks the purchasing public

Advertising that brings results must be bright, alert, aggressive and constant, and its main object, as before stated, should be to attract and so impress the reader's mind that he will remember it. No ordinary advertisement will do this, nor will a lack of persistent effort ever lead to success. Jumping or making a spurt and then easing off will not accomplish anything permanent, and this leads me to conclude my little say by imploring the "Thirty Committee" not to contract, but, on the contrary, to expand and increase its efforts in the United States, where a rich and satisfactory harvest may in time be secured, if cultivation of the ground be persistently conducted and uninterruptedly maintained.

Pears' soap has made a world-wide reputation and can be found in every first-class drug store in the World, and yet its owners go on increasing their advertising expenditure and effort every year, and that, too, in all parts of the globe. In the United States, the Royal Baking Powder Company—long established—spend something like a million dollars a year in advertising and making demonstrations, and yet no Grocery would think its stock complete without this article. Baker's cacao has been known for nearly a century, but the Company spends more and more money every year in advertising, and at the principal Food Exhibits in the country this cacao can be found in its attractive booths. The managers of these profitable concerns know that without constant, increasing advertising effort their business would decrease in volume and in amount. "Our own and only" Lipton's furnishes us with an object lesson, and where can a shrewder or more successful advertiser in modern, up-to date business methods and management be found?

If we want to succeed we must advertise, and if we advertise it is our bounden duty to learn how, when and where to advertise.

Circulars are mediums of waste land, no one in America heeds them. Advertising in the plethoric Sunday papers issued in the large cities of America is absolutely futile, and the same assertion is fairly applicable to the dailies—hence these mediums should all be rigorously excluded from any proposed plan.

As auxiliary to and part of my plan of demonstrations, which may be classed as one form of advertising, Cave's lecture on the buried cities of Ceylon, with its attendant paraphernalia, could be utilized and delivered before Lyceums, Lecture Rooms, and Church Vestrys, where the tea drinking class do mostly congregate during the long evenings of winter; then Ceylon tea would become popularised and known far and wide. Many other forms of useful advertising might be enumerated, but enough for my present contention has already been said.

When we have succeeded in placing 25,000,000 lbs. of our tea in the markets of America, then, and not till then, can we lay back and let the merchant, in place of the grower, advertise Ceylon tea.

If, Mr. Editor, you consider this little pipe of mine worthy of space in your valuable journal, please give it room—you will know what to do with it; should it, in your opinion, be of doubtful interest to your readers—and if it will in a feeble way arouse the planters, for whom it is primarily intended, some good may emanate from its little wail.—Yours, &c.,

R. E. PINEO.

TELEGRAPHIC QUOTATIONS.

LONDON.—	June	10	12	13	14
Bar Silver ...	...	27⅞	27⅞	27 11/16	27 11/16
Bank Rate ...	...	3%	3%	3%	3%
Coffee			dull		
Mysore, Av. (B) size.		61s.	61s.	...	...
Cocoa	...	72/6d.	72/6d.	...	...
Cinchona ...	...	1¾d.	...	1¾d.	...
Cardamoms ...	...	3/7 to 4/	...	...	...
NEW YORK.—					
Coffee—Fair Rio ...		6⅛	6	6	6
„ Futures, Sept.		5·91	5·94	5·91	5·91
Silver—Comml. Bars...		60⅞	60¾	60½	60¾

NOTES.

Liberian Coffee in Sylhet. This is said to be growing well.

Cardamoms. Latest advices from Home point to the probability of a further decline in prices.

Herb. Sap. In time of peace prepare for war. This pertains to battling insect and fungous enemies of agriculture as well as foreign foes.

China Tea for Russia. The Hankow market opened at very high prices for common teas. Out of 180,000 half-chests settled, 165,000 half-chests, were for Russia.

British North Borneo. Exports of Coffee from British North Borneo amounted to $29,278·67 in value in 1897, and $28,620·85 in 1898. Rubber increased from $49,513·86 to $79,600·29. Pepper from $895 to $1,760.

The London Tea Market. Reuter wired on the 8th instant that common tea was firm, while other sorts were irregular. Ceylons, Fair Pekoe Souchong 7s., average 7¾d.; 32,000 sold out of 35,000 offered. *Indians*—Average 7⅞d.—13,000 packages sold out of 16,000 offered.

Cheap Freights. Almost all the tea shipped from China and Ceylon to Russia goes in vessels of the Russian Volunteer Fleet. Not only are steamer freights low, but tea imported in Russian bottoms enjoy preferential railway rates between Odessa and Moscow.

Ceylon Tea in America. Messrs. Whittall & Co., of Colombo, announce the opening of a branch at New York under the charge of Mr. Blechynden. This is an indication that the time for relying solely on the American Tea Fund and Commissioners representing the whole planting community has gone by.

The London Tea Market. In a cable to Colombo, dated 9th instant, Messrs. Gow, Wilson and Stanton reported that the market was weak, and teas with quality showed a fractional decline. They quoted fair liquoring Ceylon Pekoe 7½d. (unchanged), average 7¾d. (¼d. down). Of 35,000 packages offered 32,000 were sold.

Calcutta Tea Sales. About 9,000 packages were offered and 8,000 packages sold at Calcutta on the 9th instant. A quiet tone prevailed throughout the sale; medium kinds were 3 to 6 pies lower, common 2 to 3 pies lower, and good teas firm at previous rates. It is curious that London reports of the same day report poor liquoring sorts steady and teas with quality lower in value.

Planting Districts revisited. A veteran Ceylon resident writes to a Colombo paper:—"How changed are the districts of Dikoya and Dimbula!—with all the timber trees growing up in ravines and along roads. I think it breaks the tiring monotony of all tea in a welcome manner. I know one planter who gets all his firewood from his grevilleas and gums, besides timber for lines, &c."

Peruvian Bark. In a German official report on the trade of Peru, we find it stated that cinchona-bark is not cultivated in the country but gathered in the forests. The export of the article has considerably diminished on account of its low price in the world's market. Probably also the wild bark of Peru is inferior to its cultivated rival of Java and India.

The London Market. Our reports this week are briefer than usual, for the Whitsuntide holidays had upset business at the time the mail left, and several sales had been postponed. This, we fear, has not been to the advantage of sellers of coffee, and planters here certainly needed all the advantage they could get. The break in the spice sales was probably good for all.

Duty on Coffee in Queensland. At a recent meeting of Queensland coffee-planters at Cairns it was decided to co-operate with the local Chamber of Commerce, thereby strengthening that body's hands, in obtaining an extra duty imposed on coffee introduced into the colony, thus protecting the locally grown article. The meeting was unanimous and enthusiastic, and is expected to bear fruit in the near future.

Colombo Tea Sales. At the sale on 7th inst. about 9,004 pkgs. = 684,205 lbs. were offered, of which about 7,500 pkgs. = 574,006 lbs. were sold. A much firmer feeling was noticeable at the auctions, says the *Times of Ceylon*, and prices generally were higher, except for broken pekoes, which were very irregular, and somewhat easier. Among the best teas in the sale were Middleton and Queensland.

Geography. The *Ceylon Observer* "lifts" a para chaffing the Yankees about "Russian Caravan tea" borne by camels passing the Pyramids (1)! and in the same issue announces, under the heading of "Ceylon tea for Russia" that the Hankow market has opened at high prices, and that large purchases have been made there for Russia. Seemingly, it is not only the *Yanks* that need to study Geography.

Enlarging as it travels. The *British & Colonial Druggist* says in its Indian Notes:—"Two or three tea planters in Madras, finding tea by no means as profitable as it used to be, have devoted several acres to the cultivation of roses, and are erecting apparatus for the distillation of attar. Roses of all varieties grow readily all over India, so it is surprising that the attar industry was not started here long ago." Neither true nor *ben trovato*. Roses grow readily *all over* India?

Tea at Batoum. A very considerable increase took place in the quantity of green tea that was landed at Batoum during 1898 in transit for the Russian possessions in Central Asia and for Bokhara. In 1897 the quantity was 1,330 tons; in 1898 the figures were 4,029 tons. From this it would appear that the overland routes, through Afghanistan and Persia, must have been practically abandoned by Indian Tea merchants, in favour of the sea route *viâ* the Suez Canal and the Black Sea.

Rubber in North Borneo. The *North Borneo Herald* says:—Mr. Harold G. Parsons, of Kalgurdie, West Australia, arrived in Sandakan on the 13th, and left on the 29th April. The immediate object of Mr. Parsons' visit was to take up land for the planting of India rubber and gutta on a large scale, and we understand that Mr. Parsons left the territory fully convinced of the feasibility of obtaining profitable returns from those products, and that he hopes to put the scheme into practical working order shortly after his arrival in London, whither he is now bound.

Coffee in the United States. The imports of coffee, as reported by the United States Treasury, for the nine months ending March 31, were 607,513,143 pounds, valued at $39,656,888. The exports of coffee were 22,934,454 pounds, leaving net imports of 584,608,689 pounds. Brazil furnished 477,072,485 pounds, or 78¼ per cent. of the total. During the ten years, 1880-1889, Brazil furnished an average of 50 per cent. of the total supply. Imports from the East Indies for the first nine months of the Government fiscal year were 8,293,768 pounds, against 12,571,590 pounds in 1898 and 9,886,124 pounds in 1897. There was also a decrease in imports from Mexico, as compared with last year of 7,492,958 pounds, but 341,827 pounds greater than in 1897.

Tea Blights. Writing from home, Mr. Carr thers, the cryptogamist who w lately employed in Ceylon, says:—I know Dr. Watt's publ cations *re* tea and other blights—he only compiles the things. Massee of Kew works at them and the dry pickled specimens don't give the best material for work consequently the 'grey blight' and many other fungi hav never been investigated and only one stage of their live described—their life history is unknown. I have her material which I collected, which I hope will enable me t give a more complete account of them, but have as yet ha no time to look at it.

Tea on Virgin Soil. Reviewing some recent remark of the *I. P. G.* the *Ceylon Observe* says:—"We have no hesitation in saying that there is large and reliable body of experience before us to sho that tea grown on virgin soil in Ceylon has produced a te greatly superior in flavour, if not in strength, to tea grow on land previously occupied by coffee or other product and that, as years rolled by, the tea even on virgin so gave a leaf which did not maintain its original reputation. Our contemporary adds that, though allowance may have t be made in some cases for "a virgin soil," a good dea weaker in one district than in others—yet to keep up tea t its pristine vigour the soil must be supplied in some wa with what it loses through successive, and, perhaps, heav crops of leaf.

Misapprehensions. That the critic ought to unde stand clearly before he attempts t criticise, may be seen from the report we give elsewhere a little friendly spar between the *Times of Ceylon* and th *Madras Mail*. How entirely the Colombo paper misread an consequently misled readers is shown by the following fro the *Observer*:—"The local *Times* last night discusses a Indian point of view of Europe and British grown tea, quo ing a long extract from the *Madras Mail*. It points out th disadvantages that would ensue for India should Sout Indian planters decide to start upon a 'tea-compaign' their own, as the journal quoted suggests *more especial in view of the supposed ill-feeling from Russia towards Indi referred to in the above extract.*" The italics are ours Read fairly, the *Mail's* remarks certainly contained n suggestion of even "supposed" "ill-feeling from Russi towards India."

"Male Coffee Plants." Referring to recent remarks o this subject in PLANTING OPINIO the *Queensland Agricultural Journal* states that Mr. J. M Bailey, Government Botanist in Queensland, says that n such a thing as a male coffee plant has ever come unde his notice, nor has it, to his knowledge, been mentioned b any other botanist. The coffee plant is neither dicœcious nor monœcious, but is *hermaphrodite*, the flowers co taining both male and female organs. Our contemporar remarks:—"As to a tree which bears peaberry beans considered a male, the idea is absurd. If the tree were male it would not bear at all any more than would a ma date tree. It is possible for the flowers to lose the fema organs, and for the tree thus to be barren; but still the could not be considered a male tree unless such a condit were ever afterwards its characteristic." These remark

suggest experiments in the line of producing a new "freak," a male coffee tree, but as the tree would be of no use there is not much inducement to planters to make the experiment!

The China Tea Season.

Reports from Hankow, dated May 18th, state :—The weather has been exceptionally fine during the interval, and teas have been arriving freely and all in excellent condition. Settlements have been on an extensive scale, but a very large quantity has yet to be reported. The quality of the *second packs* of Keemuns is good and they have met with ready sale, a few crack chops selling as high as Tls. 50 per picul. Ningchows have not been popular, and a decline of Tls. 3 to 5 has failed to bring about a general demand. The better kinds of Hankow teas have fallen Tls. 2 to 3 per picul, but the strong competition for common to fair grades below Tls. 20 has caused an average advance of about one tael on such kinds and the market is strong at the close. Nothing has been settled under *fourteen taels,* or the equivalent of 6½d. per lb. usual London terms. The S.S. *Glaucus* is circulated to *clear* on the 20th instant for London. She has about 5,000 tons brick tea on board for the Yenesi river, and takes the first of the new season's teas from here, estimated about two-million pounds.

Coffee in Cachar.

A writer in the *Planter* says :—Regarding coffee in this part of India "I hae ma doots." We have only about 200 bushes here in their fifth year, so that I am not qualified to form a very decided opinion, but I fear that the near future will see a heavy fall in prices of East Indian grades, which have hitherto held their own owing to the small supply from other countries of similar high quality. But now Nyassaland, Columbia and many other new sources are sending forward large quantities of very fine coffee, fetching indeed higher prices than East Indians. Our produce seems to be of the same type as the Wynaad, which I see from London reports is selling for, say, bold coloury 53s. per cwt., medium 48s. and smalls 40s., or, say, a crop average of 48s. I fear that it is not too pessimistic to suppose that the next two or three years will see the average down to 40s., and I confess that, at, say, 5 cwts. per acre of parchment, I cannot see where the profit comes in, even with the most economical management. It would be of much interest to many of the readers of this valuable publication if your Coorg correspondent would favour us with a statement showing actual expenditure on his own or other estates, and including cost of peeling, London, Calcutta, and freight charges. I recently received from Mr. Thiselton Dyer, of Kew, a pamphlet strongly urging the advantages of sending coffee to England, in the parchment, to be peeled there,—pointing out that, while the cost of peeling would be the same here or there, quality was gained by keeping it in the parchment during the voyage home; and that the consequent increase in price more than covered the extra freight charges. Besides the advantage of not requiring to sink money in the expensive machinery required for peeling, winnowing, sizing, and separation of peaberry.

Ginger

The *London Commercial Record,* commenting on the general dulness of markets, remarks that there is one article which, although still unripe for a boom, shows unmistakeable signs of slow recovery and which, is quite worthy of being carefully watched This article is Ginger, and to be more correct, rough Ginger. Our contemporary says :—"This year's season, which we may now consider closed, has been an exceptionally unsatisfactory one, for the boom which used to visit our market annually has this year been conspicuous by its absence. True, we have seen some sort of spurt, but it has hardly been deserving of the name of boom, and nothing like the usual quantities of Ginger have changed hands Prices have risen a few shillings, and not being supported, have declined to almost the lowest point they touched last year. Business has almost entirely been confined to cut assortments, very little rough unassorted Calicut and next to no Cochin washed being bought. The result is an appreciable decline in our stock of bag Ginger and some increase in that of cut descriptions. Deliveries, on the other hand, show a most satisfactory increase, and without laying ourselves open to the reproach of being sanguine, we feel convinced that if deliveries continue on the present liberal scale for a little while longer, our stock of rough Ginger will be reduced to as low a level as we have witnessed for a long time, for any large increase of our stocks by unexpected supplies in the shape of Native consignments is practically excluded. There has been nothing tempting in our market this year to induce Bombay dealers to buy up large quantities of Ginger for the purpose of trying the London market, and we may take it for granted that very little more will come forward. The recent heavy rains have greatly interfered with the preparation of Ginger, and this fact, together with the low prices ruling here, have a deterring effect on Bombay consignors. If a little later the statistical position of Ginger improves, the article will be worth the attention of speculators."

GENERAL ARTICLES.

QUALITY AS APPLIED TO TEA.

The application recently made before Judge Lacombe for an injunction against the Collector of the Port, the Tea Examiner, and the Board of General Appraisers, to prevent the rejection of certain teas which, it is asserted, differ in certain respects from the established standards and yet are equal thereto in purity, wholesomeness, and fitness for consumption and quality within the true intent and meaning of the act, has been denied.

It is claimed that the regulations of the Treasury under which rejections are made are illegal; that the true intent and purpose of the act is to prevent the importation of pure and unwholesome tea; that it is ridiculous and unreasonable to suppose that Congress intended by this legislation to permit the Secretary of the Treasury to determine the grade of tea which the American people were permitted to drink; that Congress could not confer upon the Secretary of the Treasury the power to declare what teas should be imported into the United States; that a wrong meaning has been given to the word "quality."

"The purpose of a standard is that there may be a fixed and stable measure by which similar articles can be tested, but if by the word 'quality' Congress meant to place it in the power of the Secretary of the Treasury to fix and establish the teas admissible into the United States according to their taste and flavor, then not only is it possible that the widest fluctuations may exist from year to year in fixing of the standards, but the determination of whether teas offered for import are inferior in flavor and taste to the standards so established must necessarily fluctuate with the varying skill or delicacy of taste of tea experts. It needs no argument to show that to subject an extensive trade in a commodity of foreign production

which must be purchased many months in advance of its arrival at our ports, subject to the variations of seasons, to entry under such a rule is to imperil all security of trade and to put the merchant under a hazard of loss for which there can be no compensation of gain to any other part of the community. For even if such a construction of the statute were not oppressive upon the importer, it would still be a harsh and unjust rule in its application to the consumer. It would exclude inferior grades of tea, although entirely genuine and wholesome, and would compel the poorer classes of citizens to purchase higher grades of tea presumably more costly and possibly less to their liking. To that extent it would interfere with the natural liberty of the citizen and the choice of commodities which it is the general policy of the law to extend rather than to restrict.

"If this be so the legislation is in the nature of a police regulation, and the word 'quality' is to be read as having regard to the tea as being fraudulent or deceptive or bad. The design of the statute, then, is to exclude 'impure,' 'trashy,' and 'unwholesome' tea.

"This in effect limits the word 'quality' by the purpose of the statute as we have claimed it, and by the words with which it is associated.

"The rejection of teas equal in purity, quality, and fitness for consumption because containing a greater mixture of similar teas broken up into fragments known as dust or fannings is unauthorized by the statute. The regulations provide that in certain standards the percentage of dust or fannings must be restricted to 10 per cent., and in others that the maximum of dust or fannings shall not exceed 4 per cent.

"It is entirely manifest that the inherent substance of the tea is not altered by its being broken into small fragments, nor is there any pretence that it is thereby rendered any less wholesome or fit for consumption. If these teas were properly rejected it must have been because the 'quality' refers not to the inherent substance of the tea, but to its size and packing. We submit that such a construction of the word 'quality' is inadmissible. It is strained and unnatural. It has no justification in the reason of the law or in the plain meaning of the words, and is merely a trade regulation absolutely unauthorized by the statute.

"The regulations require the rejection of teas not equal to the standards in flavor or cup quality, although equal to the standards in every other particular, and the defendants have applied and are applying that rule.

"The defendants having prevented the importation of teas which the plaintiff is entitled to import within the true intent and meaning of the act and threatening to continue to do so, should be enjoined from such unauthorized acts."—*American Grocer.*

ENEMIES OF THE COFFEE TREE IN B. C. AFRICA.

H. B. writes to the *Ceylon Observer* :—

BORER No. 1

After a coffee clearing gets a year old, be on the outlook for the longicorn beetles, for they emerge from their cavity in the trees of the forest and begin to fly about from the middle of November to the middle of March (practically four months), during which time they are maturing and laying their eggs ; and as sure as fate many will find their way into a coffee estate. When they find coffee, as they seemingly do, a palatable food, they live on the bark of the plants, and the female lays her eggs, usually from five to seven in number. From tree to tree she flies and lays only one egg, be it remembered, at the bottom of each tree in the ground (not as is usually supposed on the tree itself) about the size of a small canary seed, dirty-yellow in colour The egg soon hatches and finds its way, as a very diminutive grub, to the root of the coffee and begins to nibble at the bark just at the collar of the plant. Working its way in it soon has a covering nest protecting it from birds and insects ; ants even cannot get at it. In the course of a month or two, the forceps of the grub become strong enough to tackle the wood, which it burrows into and lives upon till fully matured, boring up or down the tree, turning out saw-dust and keeping its hole open to prevent suffocation till fully matured, taking about six months before turning into the chrysalis stage ; during this time he either kills the young tree outright, or damages it so much that it never recovers or makes a healthy tree afterwards. After the first rains in November o December the borer grub flies as a full-fledged beetle and havi found a favourite feeding and breeding tree in our coffee estat sticks to it and again begins egg-laying. Some of my planti friends may say, " Oh I have found half a dozen borers in one tr This may be so, but I challenge any planter to produce more th one borer in young coffee under two or three years old. It is wh an estate becomes a nursery for the longicorn and several beetl lay eggs at the root of a tree, that a number are found, or t same beetle may lay more than one on the same ground. for it la six to seven eggs ; but this is not likely, for it flies about at nigh seldom resting more than an hour or so, on one tree, although sometimes feeds a whole day on the same tree : I judge from t amount of bark eaten. I feel almost certain eggs are only laid night and not during the day time when the beetle is at rest a feeding or basking half-asleep on the sunny side of a coffee tree.

So much for borer No. 1. I shall now describe

BORER No. 2,

which comes from the larva of a yellowish white moth with st bars across its body, not so bright and visible as the Ceylon mot This moth lays its eggs, usually only one, in a little web on t leaf of a coffee tree about the month of January usually, and t egg soon turns into a borer which finds its way into the coffee tr by means of a puncture it manages to make in tender green wo either in a branch or the stem of the tree and works its way in the pith along the primary and down the stem making air holes it goes along (also pushing out saw-dust the same as the longico grub) till it reaches the root: only working in the pith, be remembered, till it forms a chrysalis in four to six months' tim This borer is not very destructive, and is easily discovered as t branch or top of the tree it enters by usually dies. I have nev found more than one in a tree. Both these borers I have seen Ceylon—the first called the white borer, and the other the red bore but the damage done was so trifling that they were hardly knov to casual observers. I was always fond of "poochi" catching a have caught many of the same stag beetles and moths in Ceylon.

WHITE GRUB.

This is the most common of all grubs, and perhaps does mo damage to young coffee than the borer. The beetle is chocol coloured, and the grub is white, and curls up when exposed on t surface of the ground This insect, unlike the borer, seems propagate all the year round having no set time of year for layi eggs and lying in the chrysalis stage, for I have found grub of sizes, and beetles, all in the same place, at the same time the form busy trimming the fibrous feeding roots of the coffee as fast as th are made.

BLACK GRUB.

This grub is very destructive, especially in vegetable garde It comes to the surface at night, cuts off coffee seedlings and ri larger plants at the collar and even goes the length of climbing a leaf occasionally. In the case of its feeding operations be disturbed by the break of day, it pulls the leaf into its hole und ground where it habitually descends to rest during the day ti I do not think this insect eats the coffee roots like the white gr but it does a tremendous amount of damage to nurseries and yo plants in a new clearing—this I am certain of. The moth of t grub is black with a torpedo-shaped body, prominent eyes, and f very fast; it appears just at dusk, darting about seeking food flower gardens and elsewhere and laying its eggs, but how man do not know, in November and December. The grub lives ab six months and then turns into a repulsive looking, glossy chrys with a hard shell, sharp-pointed at one end and twists about t sharp end when touched. Black soil rich in vegetable humus full of this grub and it is seldom found in poor land.

WIRE WORM.

This is the only other grub that attacks coffee to my knowl the beetle is small, about as big as an ordinary cleg-fly, and ha habit of pretending to be dead when caught. When turned on back he lies still for a short time till he thinks all danger is ov then arching his body by drawing together both ends, springs the air about a yard and lands on his feet and flies. I do not kn how long the grub of this beetle remains alive; but in one long enough. I have known one to kill out an "anona" (bullo heart) tree three years old—I should imagine about six mon He is not very destructive to coffee (in fact not at all comm but does a lot of damage to fruit trees and vegetables.

STICK INSECT.

This caterpillar cuts off the primaries and tops of coffee plants, and arranges them round its body length ways, binding them together with a strong, tough web. This house or shell it lives in, stretching itself in and out of it, according as required to enable it to walk about with its house on its back It does a lot of damage barking the coffee plants, sometimes ringing them right round, completely stopping the flow of sap; and it should be considered an enemy of our coffee and destroyed. This caterpillar lives from February to June in Nyassaland.

CRICKETS AND LOCUSTS

comprise a very large family indeed; but there are only a few that feed on and do damage to coffee and they are principally the green-backed, handsome fellows with yellow and blue rings round the body. They have stumpy wings and a hard, horny, sword-like beak. I don't think they fly, at least I have never seen them do so. These locusts do a lot of damage barking the coffee and may well be destroyed as an enemy of the coffee tree. Several others of the cricket locust family do some damage by cutting down small plants.

BLACK BUG

I have seen, but only on an individual tree or two; but it never spreads. It appears in February or March and disappears in May and June This pest, I am of opinion, is kept in check by the lady-bird beetle, which is common in the country and is seen very lively on our coffee bushes at the time black bug appears, and it is well-known it preys upon the bug family.

COFFEE LICE

I have seen covering an individual coffee bush, but like the bug it never spreads, and is probably devoured by some tiger of the insect family.

THRIPS.

During a very dry season it appears about October and disappears with the first heavy thunderstorms towards the end of November or early in December—much damage done by the sun and heat during these two months might be attributed to thrips. I don't think, however, that much harm can be done to our coffee by this insect, for the short time it is with us (and this only, to my knowledge, on two very dry years) that it can be considered very harmful or dangerous.

CEYLON TEA IN WAR AND PRACTICE.

Mr. R. V. Webster, the well-known representative of the Co-operative Tea Gardens Co., of Colombo, Ceylon, was in Toronto for three or four days this week. Mr. Webster every year makes a trip around the world in the interests of Ceylon tea, and is naturally, therefore, an interesting man to talk with, particularly as he is a good conversationalist and a keen observer of his surroundings.

He is at present making his tenth trip around the world. It was two years ago that he last visited Toronto, and since that time he has had some interesting experience aside altogether from his calling as a representative of Ceylon tea. Early last year, for instance, when he arrived in Egypt he found the British and Egyptian troops ready to ascend the Nile to crush the Dervishes, and, realizing that it might be a good opportunity to push his tea in that part of the world, he became attached to the expedition and was given charge of the civil transport service for the contractors. He subsequently became assistant to the officer commanding the army service corps, and still later was appointed by the Sirdar war correspondent for the *London Post*.

In his capacity as war correspondent he was present at the battle of Atbara, where about 3,000 Dervishes were killed and the British and Egyptian losses were 700 men killed and wounded. Mr. Webster has some very interesting snap-shot photographs taken upon the field of battle, some of which are gory and others humorous.

"I suppose some Ceylon tea was drunk by the troops?"

"Yes," said Mr. Webster, "the troops in the Soudan drank nothing but Ceylon tea."

"No coffee or spirits?"

"No coffee or spirits."

It may be mentioned that before returning home, Mr. Webster will again ascend the Nile, probably as far as Khartoum. This time his commission will be wholly commercial and not a combination of war and commerce.

It will be remembered that Mr. Webster was here two years ago. It was stated that he intended visiting, if possible, the tea estates in the Caucasian Mountains.

"I was told when I got to Russia," he explained, "that there was no possibility of my being allowed to visit these estates, as it was against the rule to allow foreigners to do so. I, however, with a great deal of persistent effort, succeeded in getting Mr. Popoff, the proprietor of these estates, to give me permission to visit them. I did so. A great deal of money has been spent on these estates by Mr. Popoff. Up to the time I was there, the amount he had expended was about $400,000. The estates are beautifully laid out in terraces."

"What do you think of the possibilities of these estates?"

"I do not think very much of their possibilities. The climate is too severe, and I noticed that the tea bushes were all stunted in growth. There is no fear of these estates producing tea in any large quantity. I tried to get them to give me some samples of leaf on the estate, but they refused my request. Fortunately, however, I had previously secured samples from Mr. Popoff, and these I forwarded to Gow, Willson & Stanton for valuation. They advised me that they placed a value of 6d. per lb upon them, which, I might state, was also my valuation. The workmen employed on these gardens are Chinese, who were imported for the purpose. The duty upon tea entering Russia is very high, but, on account of the conditions I have already noted, I do not look for any material development in the tea industry in that country."

Mr. Webster left Colombo on his present trip around the world in September last, and since then has visited many other countries—Australia, New Zealand, Samoa and the Pacific Coast States of the American Union. Among his selection of photographs is one in which he is taken with the rebel king, Mataffa. It might be incidentally mentioned that Mr. Webster considers that the quarrel of Mataffa is a just one, and that the British and American authorities are taking the wrong side.

"In your present trip, how have you found trade in Ceylon teas?"

"I found that the demand for our teas is increasing nicely everywhere, and I might tell you that six firms in Russia have appointed offices in Colombo, showing that that country is taking an increasing interest in our teas. Formerly, the Ceylon teas which Russia imported were bought in London, but now they are importing direct, finding it more advantageous."

"The tea conditions in Ceylon are becoming more satisfactory are they not?"

"Yes," replied Mr. Webster. "The year 1897 saw the lowest price touched in Ceylon tea, but now the conditions are becoming more favorable. The exports of tea from Ceylon up to April 12, 1899, were 1,248,000 lbs. short of what they were up to this time last year, and, with the increased demand from Russia, and, in fact, the Australian market and Europe, I fail to see why there can be any drop in prices."

Mr. Webster, after concluding business on this side of the Atlantic, will cross to England and will visit the continent, and, as already stated, will go to Egypt before he returns home.

Mr. Webster, who is managing-director of one of the new coffee estates in Queensland, Australia, reports that the coffee plants there are developing nicely, and that the first crop will be gathered the year after next.—*Canadian Grocer*.

TEA, &c., COMPANIES.

Cachar & Dooars Tea Co., Ld.—Profit £2.681-6-1; dividend of 3% recommended. Average prices—Silcoorie as. 5-4¾, as against as. 70- in 1-97; Matelli as. 6-8½, as against as. 7-2.

Bengal United Tea Co., Ld—Crop 26,692 mds.; profit £13,556-7-6; dividend on preference shares paid.

Lankapara Tea Co., Ld.—Outturn 696,890 lbs., average price 7½*d.*, against 7½*d.* the previous season. Profit £4,283-7-5. Dividend 8%.

Aibheel Tea Co., Ld.—Crop 311,070 lbs., average price 6¾*d.*, against 7⅜*d.* the previous year. Profit £1,075-6-1.

Jhanzie Tea Association, Ld.—Outturn 937,470 lbs Profit £2,525-9-5. Final Dividend 3%, making 5% for the year on ordinary shares.

Bargang Tea Co.—Crop 395,438 lbs., average price 9¼*d.*, against 9 1/16*d.* in 1897. Profit £3,600-14-1. Dividend of 3% recommended.

HIGHER PRICES ON TEA IN CANADA.

There has been an active movement in tea during the past ten days at Montreal, especially in China and Ceylon stock. In the latter, round quantities have changed hands around 17c., and the fact becomes interesting when it is learned that the identical lots of tea sold about three months ago at 13c., so that the sales stand for a rise in price, in the period mentioned, of 4c. per lb.

About a month or so ago, China Congous were obtainable at 9½ to 10c., but lately the same class of tea has sold at 13½ to 15c., so that this class of tea also stands from 4 to 5c. higher than it was during the winter months.

Both Ceylons and Congous are difficult to obtain at the advanced prices.

Light supplies of Pingsueys have led to appreciation in their value also, for none are now obtainable under 12½ to 14c., the same goods selling during the winter at 9½ to 10c. These prices are, of course, for straight lots between traders, but they are having their influence in leading to a firmer attitude on the part of jobbers.

Recent cables from Japan state that new crop stock is commencing to arrive, and that the opening quotations show a decline of 10 per cent., but it is considered that, as the figures refer to first garden pickings, they afford no fair criterion for the latter descriptions of Japan tea, which are chiefly used in Canada.—*Canadian Grocer, 5th May.*

EUROPE AND BRITISH GROWN TEA.

AN INDIAN POINT OF VIEW.

The *Times of Ceylon* discusses under this heading the remarks of the *Madras Mail* on "The Tea Campaign" which we quoted in our last. The Colombo paper introduces a lengthy extract from the *Mail* bysaying:—

The *Madras Mail*, in reproducing most of our editorial of the 30th May, does not like Ceylon being in a position to discuss terms with her bigger sister; but a little chaff, which we reproduce below, does not alter the fact that this Colony has more funds at its disposal for the special exploiting of tea than the whole of India combined. The Calcutta papers will probably discuss the question in a more practical spirit, for we notice that our Madras contemporary, even when it grows sober, makes the astonishing proposal that South Indian planters should conduct a campaign of their own, *i.e.*, three separate Commissions for Europe to boom British-grown teas, with the expense of a separate one for only a sixth part of the tea output of India. Unless South Indian planters are prepared to tax themselves to the extent of at least double the Ceylon tea cess they would find their funds quite inadequate. The *Madras Mail* says that what is lacking is a leader; but when one is found—and this need not occasion great difficulty in selection—we are convinced that he will point out the utter futility of such separate action. The Tea Associations of India will understand the justice of our remarks, based upon Ceylon providing most of the money spent in North America hitherto; and, as we have already our Commissioner for Europe, the fact that a basis of co-operation more favourable to Ceylon than the old one will have to be arranged for that continent must be patent to all in India who are acquainted with the details. The Madras paper would prefer India not to work with Ceylon, and favours an antagonistic attitude that hitherto has not been taken up officially on either side; but as South India is to also separate from North India, we must await something practical from the North before such a subject need be further discussed After its introductory paragraph, containing several quotations from our article, the *Madras Mail* expresses itself as follows, carefully avoiding the subject of who has met most of the cost of the American "picnic", of the past five years and taking it for granted that leaving Russia out of the combination means attempting to exclude India from Russia altogether!

The *Times of Ceylon* adds:—

Referring to a portion of the above quotation, if there is political feeling in Russia against India, that would be an additional reason why Ceylon should keep its name separated from India in Russia.

The following is our local contemporary's reply:—

THE TEA CAMPAIGN.

The *Times of Ceylon* is not pleased with our recent remarks this subject, and even accuses us of not liking Ceylon being in position to discuss terms with her bigger sister, and of "careful avoiding the subject of who has met most of the cost of t American 'picnic' of the past five years." In pleading, "n guilty" we must urge that there is no evidence to support the acc sations, which are quite unfounded. What appears to hurt o contemporary is that we should advocate independent action on t part of India. in place of co-operation with Ceylon, and particular that we should urge South India to act for herself. Now, if Ceyl has had less advantage than India out of co-operation up to t present time, why should she wish to continue a system that is n favourable to herself; if more, then why should India take t bait that is put before her? As for the "futility" of South Ind acting independently, we can only say that, in our opinion, scheme might easily be drawn up that would be within Sou India's means, and that would give a better return in proportio to the money laid out than the past efforts of either the Planter Association of Ceylon or the Indian Tea Association have don This is a bold assertion, perhaps, but, at least, the above effor have done little for this part of India. The idea that Ceylon an Indian teas can be grouped together, and offered as if they consti tuted but one series of qualities, appears to us to be fallacio There is as wide variety between some Ceylons and other India as between any Ceylon or Indian and any China teas. South India teas are, generally speaking, totally distinct from Assams or Da jeelings, at any rate from the higher grades. Such South India teas as have been offered in the London market lately have be described as "useful sorts." That is what is wanted all the wor over, and if South India makes it known in other markets tha London that she has *useful sorts* to offer, she will reap the bene of increased competition among buyers. Whatever our Colom contemporary may say, we see no reason why India should ma terms with Ceylon in respect to tea campaigns in America or el where; and we specially deprecate the idea of South India placi herself in the position of the little streetboy, who steals a free ri at the back of a passing cab. She should push her own wares, n hang on to Ceylon or India's coat-tails.

As for the *Times of Ceylon's* remark about "political feeling Russia against India," our contemporary has so completely m understood our reference to political considerations as to try to p the boot on the wrong foot! If our contemporary will but consid that there is no Consular representative of Russia in India, and he will try to ascertain or to guess the reason, he may possi comprehend our statement that "political reasons obstruct progre in regard to a direct line of steamers from Calcutta to Odessa. rivalry with that which carries cargo from Colombo to Odessa.

COMPANIES AND COFFEE CONSUMPTION.

A sidelight was thrown from the Budget speech of the Chanc lor of the Exchequer on the prosperity of places of light refres ment which supply coffee, from the Aerated Bread Company a Lyons downwards "Coffee," said the Chancellor of the Exchequ "for once shows an increase, which may be due to the fact th there are a large and increasing number of excellent temperan refreshment rooms in London, where this excellent temperan beverage is in favour" We have had the curiosity to inquir little into the sudden increase in coffee consumption, and th results of the inquiry are remarkable. Take Spiers and Pon railway refreshment rooms, for example. We learn that at Wat loo alone 220,000 cups of coffee were consumed in the year end March, 1899, against only 48,000 cups in 1898, while at some of country stations the consumption of coffee increased sixfold Th 1,200 barmaids of the Spiers and Pond railway refreshment roo served 134 tons of coffee in 1899, representing 300,160 lbs. a 6,034,000 cups; in 1898 the figures were forty-eight tons, 107,520 and 2,678,000 cups, this being an increase of 3,356,000 cups in t year This may represent a change in public taste, but we sh imagine that it must be mainly attributed to the improvement the cup of coffee supplied under the new refreshment room mana ment of the company.—*Westminster Gazette.*

INDIAN TEA ASSOCIATION.

The following extract from Proceedings of the Eighteenth Annual General Meeting of Members of the Association, held at the Bengal Chamber of Commerce, on Monday, the 29th May 1899, will interest our readers :—

The Acting Secretary having read the notice convening the meeting, the Vice-Chairman, Mr. H. S. Ashton, in presenting the annual report said :—Gentlemen, In the absence of Mr. Anderson, who, happily for himself, is at the present moment in a much better climate than we are, it falls to me to present the report to the meeting, and I regret to say I never felt more indisposed to address a meeting than I do to-day ; not only because it is most disagreeably hot, but because I have had a very bad attack of fever. I propose to draw your attention to a few of the matters which have come before the Association during the year, and which have a direct influence upon cost of production and the cost of putting our teas into the hands of consumers. There are, of course, a large number of things which do not come exactly under that category to which it would take a great deal too long to refer. I do not for example propose to say anything about labour, or communications in Assam, or matters of that description. I think the most important matters, or perhaps the matters which we have the best chance of doing something in connexion with before very long, and which come under this category, and which affect the whole industry, are the English import duty and the dock and warehouse charges in London. These two matters in some ways are connected, because I do not think until we get rid of the duty we shall have any chance whatever of making head against what is a virtual monopoly in the hands of the dock and bonded warehouse companies in London. I wish particularly to draw this point to the attention of those who are not very keen on pressing the question of the abolition of the English import duty. This committee has recently addressed the Ceylon Association on this very subject. The Ceylon Association in their last report adopted a resolution to the effect that they did not consider it desirable to press the point. We asked the Ceylon Association their reasons for thinking an agitation undesirable. We have, however, not as yet got a reply to that question, and I do not know what their reasons are for taking up this position. But it so happens that a friend of mine in London has recently explained to me what the chief objections are on the part of those whom I may call the non-abolitionists. This gentleman, who is interested in the tea trade, has explained that the following is the argument upon which they base their contention. They say Chinese teas cost in bond, say, 5d., while Indian tea costs in bond, say, 8d. They assume, for the purpose of their argument, that two pounds of Indian go as far as three pounds of Chinese tea. Consequently they say that for the same number of cups of tea without duty you would pay 15d. in the case of Chinese, against 16d. in the case of Indian. The duty in either case is 4d., making Chinese tea 9d. and Indian tea 12d ex-bond. For three pounds of Chinese tea, therefore, with duty you would pay 27d., and for the corresponding two pounds of Indian tea 24d. The non-abolitionists, therefore, argue that with the duty India beats China on price, but if you take the duty off China beats India. That is their chief objection to the abolition of the duty. Now it seems to me that this is obviously an absurd argument, because if it were correct in principle it is quite plain that the higher the duty the better we should be protected. And they leave out of account entirely the fact that the cheaper you make tea the more you foster consumption. I have no doubt myself that, if we got rid of this duty, which amounts to 50 per cent. in the case of Indian tea at its present level, we should not only get people who do not buy tea at all now to come into the market, but we should increase the consumption the whole way up the social ladder. As my friend himself puts it, "even the ladies at the top of the ladder might be induced not to water the same charge of tea twice." Having regard to the fact that abolition means a reduction of 50 per cent. on present cost of tea *ex* warehouse, and that it would put us in a very much better position to deal with the bonded warehouse companies, I think there can be no doubt that abolition is a thing to go for. I am quite sure that the increased consumption—even if some of it did go to China—would benefit us enormously. I would urge, therefore, constant attention to this matter, and I hope that both our Ceylon friends who are lukewarm, and our London Committee, who are divided in opinion, on the question, will take up a firmer attitude, and be ready for a change of sentiment on the part of even the present Government, by which tea may be given a fair chance.

The next matter I have in mind is the one of ocean freights. Here again we knock up against what may be called a monopoly. Various points in connection therewith were brought to our attention very ably by our friend Mr. Tocher, and acting on his recommendations we brought the matter to the attention of the London Committee. The London Committee had also taken up the matter, and they are still in communication with the Calcutta Steam Conference upon it. I do not know what our chances are of satisfaction, and meantime it has been suggested to me—suggested by our most bellicose member, Mr. Carter—that we should go for the Steam Conference and try to get a very big subscription out of them for the foreign market fund. This fund, as you are all aware, is not this year to be ear-marked for use in the United States. Although the London Committee have terminated Mr. Blechynden's engagement, that does not mean that we are going to abandon America, where, up to date, we have done so well, and it is only a question of modifying the programme. With reference to enquiries we have made from the London Committee as to how they are going to spend the funds they have asked us to collect this year, they telegraphed on Friday as follows: —

"Levy will work America with Ceylon subsidise firms America, Russia, elsewhere. Balance Paris Exhibition."

The levy will, therefore, be used for America and for Russia, and the balance for the Paris Exhibition. I think I ought to point out to you—especially in view of the criticisms which have been made in the newspapers, and I think also by some of our own members since they heard of the termination of Mr. Blechynden's engagement—that the London Committee, who are our executive in all matters connected with Europe and America, are not in the happy position of our Ceylon friends. They do not know from year to year that they will get all the money they will require. They have to send out a levy, and they never know whether members of the association even will respond fully to their request for funds. Obviously this is very cramping when they have to make up a programme; and I think the details they have sent us are all we can expect at this stage of affairs I desire, therefore, to appeal most strongly to proprietors, if they accept the principle of joint advertising, to trust to the London executive, and not to cavil at details. The details of a programme can never satisfy everybody, and I confess to being a little suspicious of people who tell you that they approve of a general idea, that they are the last people in the world who seek to benefit by other people's expenditure, but that they have not subscribed because so and so is done, or has not been done. I suggest to you to subscribe first. Then, if you must swear from conscientious motives do so before you stop subscribing. Good may then result, and your suggestions be given effect to; but it appears to me that to stop subscribing first, and then to swear is not only most illogical but stupid. Gentlemen, I have seen from time to time criticism upon the action of the association in spending money upon foreign markets when they have, as it is said, a vast untapped market in India itself. Sir Alexander Mackenzie is among the latest critics, and in his evidence before the Currency Committee, the one instance he gave of the want of push he declared the tea trade guilty of, was that we had never touched the trade in India. He said in reply to question 10,534:—"There is the trade in India itself that has never been touched I may say for instance if they took a leaf out of the book of the Government of Bengal they could do something," and then he described how pice packets of quinine were distributed through the bazaars of India whereby an "enormous" trade was done. He omitted to state that the agency of distribution is the Government Post Office, but he went on to explain that "these small packets are packed by the inmates of the gaols, it is an industry for the juvenile and female prisoners."

I looked up the figures of the trade and I found that they received last year about Rs. 30,000 from the sale of the pice packets—nearly two millions of packets being sold. Well it so happens that we did try to take a leaf out of the Government book, and about a month before Sir Alexander Mackenzie gave his valuable evidence before the Currency Committee we wrote to the Director-General of the Post Office. We explained that the attention of the general committee had been drawn to the trade which might be done in Indian tea if there were adequate machinery for offering it at a cheap rate, and in small quantities to the masses of the population. Then we

asked whether Government would be disposed to sanction arrangements for Indian tea being sold by Postmasters throughout the country in small packets or tins in the same way as quinine and cinchona febrifuge are sold. It is needless to say that we met with a blank refusal. Had we known that the agency of "gaol industry" had been used as well as the Post Office, I think we should have asked for that assistance too. I think it is a pity that Sir Alexander Mackenzie, instead of reserving this information for the benefit of the Currency Committee—it had mighty little to do with currency—did not give us the tip when he was Lieutenant-Governor. Possibly it will still be worth while for the new committee to go to the Government fortified by Sir Alexander Mackenzie's opinion. With or without the aid of machinery of this sort it is, in my opinion, very difficult to increase the trade in India. I have often noticed in the criticisms people make on this matter, and the parallels they draw between what is done in India and in foreign markets, they leave out of sight the fact that in foreign markets we compete against beer, coffee, spirits, wine and so on. These are all very much more expensive articles than tea, and the difficulty in those markets is not one of price, but one of taste. We have to divert or create the taste of the people. In India it is quite different, because here the natives are almost entirely water drinkers, and tea, although it is cheap, cannot compete with water in price. The consequence is that whereas the important matter in foreign markets is taste, the important matter in India is price. It seems to me that to induce people—and a very slow moving people too—to spend more money on drink than they like is harder if you take profits into account than to divert taste, say from coffee to tea, when you at the same time save people's pockets. So personally I am not very much surprised that we have not been able to develop the trade quicker here. At the same time when Sir Alexander Mackenzie makes the statement that we have not touched the trade he is wrong, because we have touched it, and to a greater extent than appears in our own figures at present. This is a point which is having the attention of the committee, and we have been trying to get figures to revise the estimates so far as they bear upon local consumption. Though I put these points to you in opposition to what is the generally accepted view about the trade in India, I do not mean by that to advocate not pushing the trade. I think we ought to go on and try to improve matters. But the real question is one of educating the people to pay more for what is practically a luxury. It does not even yet pay us to sell tea at the price of water.

I suppose it would hardly be considered in accordance with the fitness of things if I did not refer to the currency question, but I confess I feel it difficult to know what to say, putting things briefly. The Secretary of State at the time of appointing the Currency Committee said the question of re-opening the mints did not come within the scope of their inquiry, and expressed the opinion that the supporters of such a policy were lunatics. Well the Tea Association ranged itself among those lunatics, and the agitation which followed brought home no doubt to the Secretary of State the fact that there were a good many more lunatics than there were asylums to put them in. For this reason, perhaps, or some other which has not been explained evidence on the question was taken, and we cannot complain that our views in this respect, and in connection with the Government policy generally, have not been heard. Our witnesses have contributed to the conflicting mass of evidence which in bulk seems to me to prove so little, but the folly of departing from free silver money and a sound metallic standard without any definite notion of what you are going to establish as a substitute. The committee appointed to find the best way out of the muddle has not yet announced its decision, but there can be little doubt as to their bias. It tends toward gold. Producers are meantime paying extra taxation to attain the end the Government have in view, and I do not see that we can do anything more now to prevent the burden being kept on our shoulders. We can only hope that this novel policy of making ends meet, which began by increasing the cost of administration, and as an afterthought turned to questions of expenditure through a commission that has existed for four years and has not reported yet, may ultimately result in something worth having. Till then India has a finance minister who, in his capacity of tax-gatherer, may be likened to the old man of the sea, who sat on Sinbad's shoulders and tightened his grasp whilst he plucked apples from the trees and eat them. Let us hope that, like Sinbad, India will be strong enough to stand the strain. (Applause.)

Mr. G. A. Ormiston said in the course of his remarks that there appeared to be a general impression that over-production is the main cause of recent depression, but if we had continued on t same currency basis as China, we would have been quite able have faced any fall in prices on fair terms. He also remarke —"It is very pleasing to notice the improvement in consump tion in America, but it is a pity that we should not have great scope for our production; although there may be opinions whic are at variance in regard to spending more money in Americ it might, and I hope in the end will be, to the advantag of the industry in seeking for other markets as America ma almost now be left to private enterprise. I think I am right i saying that if ten million pounds more of Indians had found othe markets than London we should not have seen the great slump i prices last season, and to this end we should not relax our effort in seeking for new markets. I trust, therefore, that all with n exception will come forward and contribute to the fund as hereto fore, as we have still much to do in securing new markets for ou produce. (Applause.) Russia seems a large field, and I notice the other day was put down as a consumer of 140 millions p annum, one-third of which was brick, and the Paris Exhibitio should do much good in bringing our tea more prominently befor all nationalities. We must not also forget India, to which th chairman has made reference.

Sir Patrick Playfair, *Kt.*, C.I.E., said, *inter alia*, I was particularly pleased to listen to the chairman's remarks upon th benefit it would be to the Indian Tea Industry, were the Britis duty abolished. In addition to the arguments that he has com bated, I may mention that an authority in the tea trade at hom lately represented to me as an argument in favour of the dut that it implies capitalists in the retail trade. We will all adm that the great capitalists and distributors, such as Lipton an others, have done a very great deal for the industry, but it ma not be altogether to our interest to check the number of tea me chants and distributors, and I do not think this argument hol good. The present may not be the most auspicious time to seek f the removal of the duty, as the British Exchequer has had lar demands made upon it of late in connection with Naval and Mi tary armaments But there is no reason why we should not colle our forces and be prepared to make a representation to H Majesty's Ministers when the proper time arrives.

The Vice-Chairman then moved the first resolution, *viz.*:—

"That the proceedings of the General Committee during the pa year be confirmed, the Report adopted, and the Accounts as audit be passed as correct."

This resolution was seconded by Mr. A. K. Muir, and on bein put to the meeting was carried unanimously.

The Vice-Chairman in moving the second resolution relating the engagement of a scientific officer said: Gentlemen,—T second resolution on the paper is one which the Committee decid to put before the General Meeting at a late stage, and as a matt of fact the resolution itself has not even been before the committ We only got a reply from the Assam Administration within th last few days. The reply is favorable to this extent: Mr. Cotto states that he now sees his way to give us a grant of Rs.2,5 a year for three years. This sum, together with Rs.5,000 a ye promised by the Government of Bengal, and the Rs.200 a mon which we have every reason to suppose the Assam branch w subscribe, makes a very fair sum of money—at any rate for thr years. It occurred to the committee that if they could, with t approval of members generally, devote a considerable amou of the surplus funds of the association, which are drawn from t ordinary subscriptions, to the purpose of appointing a scienti officer, it would be a good thing. As I had to get this resol tion on to the paper for the meeting to-day, I made it wi in scope, and I shall be glad if any gentleman, who has anythi to say on the subject, will bear that in mind. It is not the inte tion of the Committee (I mean the retiring Committee, and expect the incoming Committee will be of the same opinion even they get this authority) to go on with this scheme unless they s their way very clearly. The only thing I would mention now connexion with it is that Dr. Watt said in his book—"The Pes and Blights of the Tea Plant" that no man could thoroughly into the questions which had been up before him in less than t years. I beg to move the resolution which is as follows:—

"That the General Committee be authorised to make use of t surplus funds of the Association to such extent as they may fit for the purpose of employing an expert to study scientifical and report upon the cultivation and manufacture of tea."

Mr. D. A. Campbell in seconding the resolution said : Mr. Chairman and Gentlemen,—I have much pleasure in seconding this resolution. I do not think it is one which requires very much to be said in support of it, inasmuch as it is not really a new departure at all. You will all remember that not very long ago the Association employed Mr. Kelway Bamber in this capacity, and his services were unfortunately dispensed with somewhat prematurely, largely owing to want of funds. So what we have now to consider is the appointment of a really good man, and in order to appoint him we must be prepared to pay him well. There is nobody specially in view at present to fill the appointment so far as I know, therefore it is entirely a question of funds. The Chairman has reminded us that the appeals which have been made during the last few years on behalf of the American Market Fund have not been so well responded to as we might have wished. Upwards of 30 per cent of the industry still stand out. Our friends in Ceylon, as you know, were very quick to pick up Mr. Bamber's services, and I believe he is doing good work in the Island. In Java they are following on the same lines, and with regard to Indigo, our friends in Behar are also waking up to the necessity of utilising the services of science to at this critical stage of the existence of that industry. so we are decidedly behind the times with reference to this matter if we remain longer with our hands folded. I have therefore much pleasure in seconding the resolution the Vice-Chairman has proposed.

Sir Patrick Playfair said:—Gentlemen,—In connexion with this resolution it will be useful and necessary to understand whether the intention is to engage a Biologist, Entomologist, and Mycologist or a Chemist. It is improbable that, like Mrs Malaprop's definition of Cerberus, we shall find the three gentlemen rolled into one, carrying the highest expert authority. I understand that the subjects for enquiry are distinct in character and imply the study of a lifetime. Mr. Kelway Bamber, as a chemist, has provided in his investigations most valuable information. Dr. Geo. Watt, Director of the Economic Museum, has advanced our knowledge of the diseases of the tea plant by his most painstaking and scientific investigations of the insect and other blights with which it is attacked. It seems to me that it is now an important question to determine on what line further enquiry should be pursued. We should beware of the accusation that "they wanted an arithmetician and so chose a dancing master." I would suggest that the committee of this association should take the advice of the Director of the Economic Museum upon this very important question, and I do so, having myself been favoured with a very interesting and instructive communication from Dr. Geo. Watt in reply to enquiries made of him. His letter, which is dated 17th instant, I have the pleasure to place at the disposal of the committee of the tea association.

The Vice-Chairman.—The committee of course are quite aware that the expense is the difficulty about this matter. but the scheme will not be taken up before it has been thoroughly threshed out. The object of the resolution is, of course, to enable the committee to make use of the surplus funds for this special purpose. The committee did not think it right to utilise these funds without obtaining the authority of members for so doing.

The resolution was then put to the meeting and was declared carried.

Mr. N. McLeod then moved, and Mr. M. R. Quin seconded the third resolution, *viz.*:—

"That the rate of subscription for the current year from each garden belonging to the association be fixed at one anna per acre under tea cultivation."

This resolution. on being put to the meeting, was declared carried unanimously.

The Vice-Chairman then reported the result of the election for the general committee of the association for the year 1899-1900, held under rule 5 of the rules of the Association, as follows:—

Messrs. Balmer, Lawrie & Co.
" Begg, Dunlop & Co.
" Duncan Brothers & Co
" Finlay, Muir & Co.
" Jardine, Skinner & Co.
" Kilburn & Co.
" Octavius Steel & Co.
" Shaw, Wallace & Co.
" Williamson, Magor & Co.

With a vote of thanks to the Chair, the meeting separated.

MONTHLY MEETING.

The following are extracts from proceedings of a meeting of the General Committee of the Indian Tea Association, held on 5th June 1899 :—

On the motion of Mr. Begg, Mr. Ashton was unanimously elected Chairman of the Association for the year 1899-1900. Mr. Ashton, having taken the Chair, proposed that Mr. Begg be elected Vice-Chairman for the year. This was seconded by Mr. Tocher, and was carried unanimously. The Committee held on 1st May, having been approved in circulation, were confirmed. Proceedings of the Assam Branch for the month of April were laid on the table.

1 LB. DRAFT ALLOWANCE ON TEA SALES.

Mr Tye had forwarded copies of a joint circular issued in London by the Indian Tea Association and the Ceylon Association asking support to a proposal to abolish the 1 lb. draft allowance on teas sold at public auction in London. This circular had been reprinted in Calcutta and issued to all members of the Association. The proposal was strongly supported by the General Committee, and a number of favourable replies had been received. These were to be forwarded to London in due course. It was understood that support had been received in London to the extent of 83,880,500 lbs. of Indian, and 29,702,000 lbs. of Ceylon, tea up to the time of writing.

INDIAN COFFEE AT THE PARIS EXHIBITION.

Considered (1) letter of 21st May from the Honorary Secretary, Nilgiri Planters' Association, asking whether a coffee room could be run in connection with the proposed Indian tea room at the Paris Exhibition, and the probable expense of so doing; (2) letter of 26th May from the Secretary, United Planters' Association of Southern India, stating that that body had been informed by the Madras Government that the Government of India was prepared to allot space to the Indian Tea Association and to the United Planters' Association for an adequate exhibition of tea and coffee at the Paris Exhibition. The Government of India also suggested that should the two Associations desire to avail themselves of the offer the arrangements might be most conveniently carried out by a Central Committee working in London. The Planters' Association wished to act, as far as possible, in concert with the Indian Tea Association, and it was asked in the letter if any definite plan of action had been formulated. They were also desirous that a coffee room should be opened in co-operation with the tea room. After some discussion it was decided to forward copies of both the letters quoted to the Committee of the Association in London for their information in connection with the arrangements being made. It was also decided to write to the United Planters' Association to the effect that the General Committee were not yet in a position to state definitely what arrangements would finally be made for the representation of Indian tea, or whether the Committee in London could work in conjunction with the representatives of the coffee industry if the latter desired to exhibit. It was also to be suggested to the United Planters' Association that they should put themselves in communication with the Indian Tea Association, London, stating the amount of money they were prepared to spend in connection with the Exhibition and the space desired for both tea and coffee. The Nilgiri Planters' Association were to be informed in reply to their letter that the matter had been brought to the notice of the General Committee by the United Planters' Association, to which body they were to be referred.

AMERICAN MARKET FUND.

Letters of 14th, 21st and 28th April from Mr. Ernest Tye, Secretary, Indian Tea Association, London, dealing with the American Market Fund, came up for consideration and disposal after previous circulation. With these letters were forwarded copies of the *New York Herald* containing extracts from the European edition of that paper comparing Indian and Ceylon teas with those of China, and asserting the inferiority of the former. The extracts consisted chiefly of a lecture delivered by Dr. John Goodfellow in 1896, in which Indian tea was held to be inferior to China tea. Copies of subsequent issues of the *New York Herald* had also been received containing letters controverting the statements made in the lecture. Copies of the various papers had been published in the Calcutta newspapers. It was also stated in the letters from Mr. Tye that the Committee of the Association in London had arranged with Mr. Mackenzie to continue the joint advertising of Indian and Ceylon teas in the United States to the end of the year, although the arrangement was subject to the sanction of the Ceylon Com-

mittee. It did not appear to the General Committee to be necessary to take any action with respect to the matters referred to in these letters.

MONTHLY TEA TELEGRAMS FOR THE LONDON PRESS.

Considered letter of 19th May from Messrs. Williamson, Magor & Co. suggesting that an endeavour should be made to obtain greater publicity for the monthly telegrams sent to London during the tea season by the General Committee. Messrs. Williamson, Magor & Co. were of opinion that these telegrams, which give information as to whether in the tea districts, prospects of outturn, &c., might with advantage be published in the London newspapers. It would, they considered, be to the good of the industry generally if news items of interest from the producers' standpoint were communicated to the English public in the same way as information of interest in connection with tea in England is embodied in Reuter's commercial telegrams to India. The General Committee, after some discussion, agreed with the views expressed by Messrs. Williamson, Magor & Co. It was accordingly decided to draw the attention of the Committee of the Association in London to the matter with a view to the monthly telegrams referred to being published in the London newspapers An attempt was also to be made to give somewhat fuller information in the telegrams than has up to the present been customary. It was also agreed to draw the attention of the Branches of the Association; the affiliated Association and others by whom the telegrams are sent to the necessity for promptitude in giving the Committee information.

The further arrangements to be made in connection with the scheme in view of the resolution passed at the Annual General Meeting held on the 29th May were discussed, and it was decided to write to the Committee of the Association in London, and to the Local Associations interested, asking for suggestions as to the best means of carrying it out. The Associations were to be asked specially for their views upon the question of whether a Biologist or a Chemist should be engaged. The Committee had received, through the courtesy of Sir Patrick Playfair, *Kt.*, C.I.E., a letter dated 19th May from Dr. Geo. Watt, Reporter on Economic Products to the Government of India, upon this aspect of the question. This letter was ordered to be circulated to members of the Committee for further consideration. The Committee recognised that it would be necessary to obtain an expression of the opinion of the Planters interested, through their Associations before proceeding to take any steps for the engagement of an officer.

THE TEA TRADE OF INDIA, 1898-99.

The following extracts from the Report on the Seaborne Trade of Bengal for 1898-99 may prove of interest to our readers:—

The exports of Indian tea have been steadily rising every year for the past decade at least, and during 1898-99 were over four million pounds, or 2 8 per cent. above those of the previous year.

The following statement shows in detail the exports of Indian tea to each of the countries to which shipments are principally made:—

	1897-98. lbs	1898-99. lbs		Difference. lbs.
United Kingdom	133,773 679	135,396,722	+	1,623,043
Australia and New Zealand ...	6,776,795	6,292,995	−	483,800
United States ...	929.600	1,411,724	+	482,124
Germany	438,731	518,133	+	79,402
Russia	30,581	49,700	+	19,127
China	565,274	883,295	+	318.021
Canada	593,532	1,044,256	+	450,724
Aden	57,862	108,929	+	51,067
Arabia	101,179	220,724	+	119,545
Persia	112,881	456,613	+	343.732
Straits Settlements ...	37,324	34,287	−	3,037
Turkey in Asia ...	1,137,463	2,169,667	+	1,032,204
Egypt	123,008	124,663	+	1,655
Cape Colony ...	123,232	26,970	−	96,262
Turkey in Europe ...	314,481	536,594	+	222,113
Other countries ...	40,026	82,169	+	42,143
Total ...	145,155,648	149,357,449	+	4,201,801

It will be observed that all countries show an increase except Australia, Cape Colony, and the Straits The decline to these amounted to 7·1, 78·7, and 8·1 per cent., respectively. The exports to Australia were affected by largely-increased supplies bei taken by that Colony from Ceylon.

The principal countries showing an increase are mentioned belo with the percentage of increase in each case:—

United Kingdom	1·2 per cent.
United States	51·8 „
Canada	75·9 „
Turkey in Asia	90·7 „
Persia	304·7 „
China	56 2 „

The large improvement in the trade with Canada and the Unite States is satisfactory, and the increase to China is also noticeab

The actual yield of the Indian tea crop of 1898 was as follows:—

	lbs.
Assam	62,172,660
Cachar	20,363,496
Sylhet	24,155,196
Darjeeling	7,654.467
Terai	3,424,385
Dooars	25,717,446
Chittagong	887,263
Chota Nagpur	155,020
Kangra	2,070,000
Dehra Dun and Kumaon (estimate)	2,000,000
Private and native gardens (estimate)	4,000,000
Total...	152,900,233

The preliminary estimate was for a crop of 158,681,312 lbs. an the revised one reduced this to 154,167,817 lbs., but the actual resu turned out to be 1,267,644 lbs. below even this The production however, has been the largest on record, and is attributable to th steady extension of acreages and the maturing of seedlings. Th occurred in spite of drought in Cachar and Sylhet and insufficien rainfall in Darjeeling, which retarded flushes and reduced ou turns, and was likewise injurious to quality, particularly in th case of the two former districts. The majority of the teas of th past year have been of common grades, and this and the large pro duction have reduced the average sale-price per pound by fou pies as compared with the previous year. Consumers are willin to pay fair prices for good liquoring teas, but are tempted by lo rates to purchase the inferior grades and with a rapidly increa ing production low prices must necessarily result.

The average price per pound for the past ten years has been :—

1889-90.	1890-91.	1891-92.	1892-93.	1893-94.	Average of 5 years
As. p.	As. p	As. p.	As. p.	As. p.	As. p.
8 1	7 8	7 8	8 8	8 2	8 1
1894-95.	**1895-96.**	**1896-97.**	**1897-98.**	**1898-99.**	**Average of 5 years**
As. p.	As. p.	As. p.	As. p.	As. p.	As. p.
9 3	8 9	8 8	8 5	8 1	8 8

It will be observed that the price of the past year has been equ valent to the average of the five years preceding the great rise o 1894-95. The rise in exchange is not sufficient to account for th fall during the past as compared with the preceding year.

The extent to which Ceylon tea competes with Indian makes desirable to mention, as in previous years, the principal facts an statistics relating to the trade in that article also. The total e ports of tea from Ceylon during the past year amounted t 122,395,517 lbs., or 6·9 per cent. in excess of 1897-98. From th export figures of the past six years it will be noticed that the t trade of that island has been expanding steadily year by year:

1893.	1894.	1895.
lbs.	lbs.	lbs.
82,269,353	85,376,353	98,581,057
1896.	**1897.**	**1898.**
lbs.	lbs.	lbs
110,095,193	114,466,318	122,395,517

The principal shipments of tea from Ceylon during the past tw years have been to the following countries:—

	1897. lbs.	1898. lbs.		Difference lbs.
United Kingdom ...	97,500,012	99,256,127	+	1,756,115
Australia ...	12,925,876	15,137,846	+	2,211,973
Germany ...	272,046	390,134	+	118,088
Russia	347,140	2,431,577	+	2,084,437
Hongkong ...	478,211	698,946	+	220,735
New Zealand ...	156,179	128,574	−	27,605
United States ...	482,199	1,576,095	+	1,093,896
Canada	382,440	318,145	−	64,295
British India ...	1,189,481	1,266,253	+	76,772
China	122,931	252,636	+	129,7

In this connection it will be seen that the exports to Russia show the abnormal increase of 60·4 per cent. This increase is attributable to the vessels of the Russian Volunteer Fleet employed in the conveyance of convicts, railway materials, and munitions of war to Vladivostock and the Far East, having on their return voyage freighted themselves with tea from Ceylon for South Russian ports, whence it is conveyed by the Trans-Caspian Railway to Central Asia and Tartary. The palates of both the Russian and the Tartar have, however, yet to acquire the taste for the artificially-rolled and sirocco-withered teas of India and Ceylon, accustomed as they have been to the fermented leaves, hand-rolled and sun-dried, of Chinese manufacture, imported through Chinese Tartary. In connection with this subject it may be mentioned that there are now 500 acres of land north of Batoum under tea cultivation, and the manufacture has so far proved a success, but whether it can stand competition has yet to be proved.

The exports of Ceylon teas to the United States have also further increased by 226·8 per cent. and have fully justified the work of the Indian and Ceylon Commissioners, while the fact that direct steamers now leave Ceylon for New York, sailing under the American flag, is apparently having a beneficial effect on the trade of the island.

The trade in Ceylon tea with Australia has also expanded considerably, the increase in the exports in the past year having exceeded those of 1897-98 by 17·1 per cent. The increase has been much in excess of the decline in the exports of Indian tea to Australia, and the position of Colombo as a port of call on the route to that country gives the island an advantage over India.

The largest shipments of Ceylon teas have, however, been to the United Kingdom, and they have increased by 1·8 per cent. as compared with 1897-98.

The following figures represent the importations of tea from all producing countries into the United Kingdom and the deliveries during the years 1897 and 1898.

	1897. Imports.	Deliveries.
Indian	...134,886,000 lbs.	127,357,000 lbs.
Ceylon	... 93,447,000 „	95,173,000 „
China, &c. ...	... 32,400,000 „	38,602,000 „
	1898. Imports.	Deliveries.
Indian	...138,874 000 lbs.	139,089,000 lbs.
Ceylon	... 94,319,000 „	93,488,000 „
China, &c. ...	... 33,514,000 „	34,878,000 „

Imports increased in all cases, but principally from India. Deliveries of Indian tea also increased very largely, while those of Ceylon and China fell off.

The stocks in bond on the 31st December were—

In 1897	In 1898.
97,151,000 lbs.	96,403,000 lbs.

Stocks in bond were reduced below what they were in either of the two preceding years, but still remained higher than they had been since 1893.

The following figures show the consumption of Indian, Ceylon, and China teas in the United Kingdom since the year 1866, figures for Ceylon, however, not being available before 1890 :—

	Indian. lbs.	Ceylon. ...	China, &c. lbs.
1866 ...	4,584,000	...	97,681,000
1867 ...	6.360,000	...	104,628,000
1868 ...	7,746,000	...	99,339,000
1869 ...	10,716,000	...	101,080,000
1870 ...	13,6 0,000	...	104,051,000
1871 ...	13,956,000	...	109,445,000
1872 ...	16,656,000	...	111,005,000
1873 ...	20,216,000	...	111,665,000
1874 ...	18,528,000	..	118,751,000
1875 ...	23,220,000	.	122,107,000
1876 ...	25,740,000	...	123,364,000
1877 ...	27,852,000	...	132,263,000
1878 ...	36,744,000	...	120,652,000
1879 ...	34,093,000	...	126,340,000
1880 ...	43,836,000	...	114,485,000
1881 ...	48,336,000	...	111,715,000
1882 ...	50,496,000	...	114,462,000
1883 ...	59,000,000	...	111,780,000
1884 ...	64,217,000	...	110,843,000
1885 ...	65,678,000	...	113,514,000
1886 ...	68,420,000	...	104,226,000
1887 ...	83,112,000	...	90,528,000
1888 ...	86,210,000	...	80,653,000
1889 ...	96,000,000	...	61,109,000
1890 ...	101,961,686	34,416,469	57,530,337
1891 ...	98.941,631	51,227,602	52,287,304
1892 ...	109,528,169	63,102,127	34,483,408
1893 ...	108,143,602	64,218 062	35,735,722
1894 ...	116,965,653	71,570,078	25,805,313
1895 ...	116,343,316	74,023,809	31 433,014
1896 ...	122,941,098	80,294,475	24,549,936
1897 ...	124,534,194	85,493,552	21,372,030
1898 ...	133,430,351	82,471,745	19,512,009

The consumption of Indian tea in the United Kingdom has increased steadily year by year, with the exception of slight checks in 1874, 1879, 1891, 1893, and 1895. Ceylon teas have gone up without check and at a rapid rate until the past year, when they show a decline of three million pounds. The consumption of China teas went up with a check only in 1868, until 1877, after which there has been a steady decline with the exception of a check in 1879, 1882, and 1885. In the past year the decrease has amounted to 1,860,021 lbs., or 8·7 per cent., as compared with 1897, while Indian teas have gone up by no less than 8,896,157 lbs., or 7·1 per cent., and much more than counterbalanced not only the decrease from China, but that from Ceylon as well.

The shipments of Indian tea from Calcutta to other Indian ports showed a satisfactory increase from 2,192,872 lbs. in 1897-98 to 3,91×,618 lbs. in 1898-99, of which 1,899,601 lbs. and 3,629,644 lbs., respectively, went to Bombay. Shipments to Bombay had been restricted in the previous year on account of the plague, but the low prices of the year under review stimulated exports to Bombay, a large portion of the trade with which is intended for the Persian market and is confined to the low and cheap grades. At the same time, the direct trade of Calcutta with Persia also increased from 112,881 lbs. to 456,613 lbs.

COFFEE PLANTING IN SAN PAOLO.

The President of San Paolo, one of the States of Brazil, assumed office on the 10th November last, so that when he issued a "Message" on the 7th April, 1899, he was doubtless referring mainly to the administration of his predecessors. His own individuality is, however, so strongly marked in his words, and these are of such moment to the coffee industry, that we regard the Message as a very interesting document. It points out how for many years the tide of wealth and prosperity flowed in the City of San Paolo without interruption, raising the city from the rank of a small and uninteresting provincial town to that of a large and important capital. Government then was an easy task. Money flowed in and money flowed out. Roads and railways, new buildings, drainage, water-supply and sewage, new schools and higher education passed from the category of luxuries or dreams to that of necessities. The whole State appears to have received attention, especially in regard to drainage, and as a result the mortality returns show very considerable improvement. The cost of all this was heavy, however, and when the tide of financial prosperity was suddenly checked, while the pressure of population was, perhaps, at the highest level ever known, the Government naturally found itself embarrassed, and the State of San Paolo shared the many difficulties that have lately beset Brazilian finance in general.

The President asserts that the very energy and activity of the planters proved their own undoing. "The more they strove and laboured and planted coffee, the more it fell in price and proved their own damnation in years to come. Had they been content to leave their towns to the plague, and the rural population to be decimated year by year, had they sat down and refused to import more labour or to plant more coffee, it might have been better for them to-day—had they survived, or for their heirs had they too succumbed to the plague, as they probably would." Strong words do not necessarily mean forcible argument, but the above statement does not appear to be a mere rhetorical flourish. It is unquestionably a statement of facts, from one point of view. Paradoxical as the statement may seem, it is true that hard work and enterprise have brought the Brazilian coffee planter nigh unto ruin. So long as coffee kept up, says the Message, so long as the quantity increased year by year, the State might outrun the constable with impunity, for next year's surplus would surely compensate for any temporary deficit. Thus the Government went on

without seeking aid from outside, and doubtless too without sufficiently scrutinising its expenditure. Even at the best of times, it is now remarked, the strain put upon the State in time of plague must have proved beyond its resources, and when in 1895 the great fall of coffee prices commenced, "that seems not to have stopped even yet," revenue became absolutely inadequate to meet such extravagant calls. "As coffee fell in value and revenue diminished, one by one, works of the utmost importance to the health and well-being of the State were first of all suspended and then abandoned."

Owing its prosperity to coffee, owing also to coffee its embarrassments—for "ruin," though used by the President, appears too strong a term—what is San Paolo to do now? Evidently feeling that the word "ruin" is but an expression, the President himself urges the people to fight the battle out. He argues that the money spent has not been thrown away "To prevent" (disease) "is better than to cure," he says, and even if the process has proved somewhat costly and involved the State in temporary difficulties, it will be repaid a thousand-fold within very few years, if it is not so indeed already. He still looks to coffee as the controlling power, and in defiance of paradoxes he evidently expects salvation to be worked out by that very energy of coffee planters to which he attributes present disastrous conditions. In his opinion, the future of San Paolo is secure, whether coffee goes up or down. Not that the State is independent of coffee, or unaffected by fluctuations in its value; but rather because coffee is dependent on the State of San Paolo. The President's remarks on this point should be pondered by coffee planters in this country. "It is certain," he says, "that no other countries, nor even any other part of Brazil itself, can compete with San Paolo as regards cheap production of coffee. Should prices fall to such a level as to make cultivation impossible elsewhere, it will still be profitabe there. The more coffee is forced out of cultivation elsewhere by low prices, the sooner the inevitable reaction must come, and with it the revival of San Paolo's prosperity. "Placing faith in the doctrine of the survival of the fittest, and confident that San Paolo *is* the fittest for the coming struggle among coffee producers, the President expresses his confidence clearly, and throws down the gage to the world. The fittest in every way is San Paolo, he asserts. There, coffee will continue to be produced and profit to be made when everyone else has abandoned it as a losing business. "When, in this manner, the enormous production has been reduced to more moderate limits, San Paolo's opportunity will have arrived, when with a virtual monopoly of the coffee trade it will, with a proper organisation, be able to control prices and dictate conditions to the world."

There may be a good deal of bombast about this peroration, but the main points of the statement quoted are correct. The unfit will have a bad time while coffee prices are low, the fit will struggle through. Whether production will be lessened or not, remains to be seen, for unquestionably coffee can be produced at a profit even at present low figures. How India will stand the strain is the point of chief interest to us. She may continue to produce coffee of a very high class and thus maintain a separate level of prices for herself; or she may go in for cheap cultivation and competition with Brazil. Leguminous manuring has been recommended as economical; but before expressing an opinion on it we should like to know what class of coffee has resulted from cultivation of this kind, and what prices have been realised. So far we have heard of none but very low figures, and if leguminous manuring means deterioration of quality and direct competition with Brazilian coffee, we think it will hardly suit India. Following up the paradoxes uttered by the President of San Paolo, we may state that the great fall in prices does not appear to us to have been an unmixed evil to coffee planters. But for it consumption would probably have decreased, and tea and cocoa would have gained an advantage. The fact that coffee is "the national drink" in the United States may, we think, be mainly attributed to its cheapness; and we might almost say that Brazil's low prices have assisted Indian coffee by establishing a market for the article, and creating a taste, the education of which up to the standard of high quality Indian coffee should be the aim of the planter in this country. Thus, the reduction of cost to a minimum without lowering quality, and the reduction of all expenses of putting on the market are the ideals that the producer of Indian coffee should set before himself. If he can attain them, he will no doubt be able to face even the vigorous competition of San Paolo with a calm mind.—*Madras Mail.*

DISTRICT ASSOCIATIONS.

LOWER PULNEYS.

Proceedings of the Annual General Meeting held at the Dindig Club, on Saturday, 3rd June 1899. Present:—W. H. Gerrard, Es Chairman, H. Ludwig, Esq., E. Morgan, Esq., and F. B. Gerra Esq., Honorary Secretary.

Minutes of last Meeting taken as read.

Read notice calling Meeting.

Read letter from Mr. H. O. Newport, resigning his membership the Association.

The Chairman called on the Honorary Secretary to read the Annu Report.

REPORT.

Mr. Chairman and Gentlemen,—In presenting my Report f 1898-99, I regret I cannot record an altogether flourishing positio of affairs. Crops, which in the early part of 1898 we were so sanguin would be large, proved disappointing. The average rainfall on t Lower Pulneys and Siroomullay hills, during June, July, and to 20 August, 1898, did not exceed 55 cents, showing what a total failu the S.-W. monsoon was. This prolonged drought, accompanied wi a bad attack of Green-bug, resulted in serious damage to our crop For the present season, crops again will not be satisfactory, and price I regret to say, have fallen very low.

Roads and Communications—*Railways.*—From the occasional not of the *Madras Mail* of 16th May, I quote the following:—"T question of constructing a line of railway from Podanur to Dindig is again being discussed. The Agent and Manager of the Madr Railway, it is reported, has placed himself in communication wi his Board of Directors with a view to receiving definite instructio as to whether the proposed railway should be of the standard metre-gauge."

This is good news, though, I think, it would pay better, if the poi of junction were made at Palghât, instead of Podanur, as pointed o by us in the Memorial we presented to His Excellency Sir Arth Havelock in March 1898.

Roads—*The Ahtoor-Tandigudy Bridle-path.*—Little or nothing h been done. That fine trace (1 in 20) from the foot of the hills Tandigudy made by Lieutenant Close, R E., has been put aside for t reason, as I understand, of its being too expensive. The original es mate has to be revised. An Overseer of the P. W. D. has been f some months engaged in cutting short the trace made by Lieutena Close, with the object, of course, of reducing the original cost of t work. Let us hope, when the revised estimates are sent in to Go ernment, they will be sanctioned, and the work put in hand at once

Our thanks are due to the Local Fund Engineer for the good st of repair in which the Dindigul-Palakanuthu Road is kept. T bridle-path to the Siroomullays is also in fair order, though the sa cannot be said of the Punnaputhy-Ardalur path, which needs i mediate attention.

Ardalur Post Office.—This question was first brought up by o Association in 1895; and every year since the Postal authorities ha been addressed on the subject. The last communication I receiv was to the effect that, as no funds were available from the curre year's grant (1898-99), the proposal is postponed to the next year. have written again to the Postal Department reminding them of th promise.

Police.—Our request for the appointment of special constab during crop season, for the prevention of coffee-stealing, was, as y are all aware, acted on at once by the Superintendent of Police. Pa books were issued, and 14 * special constables were appointed, a stationed at all the principal out-lets to the plains from the Low Pulneys. All present will, no doubt, join me in saying that th steps conduced very materially to suppress coffee-stealing, which, previous years, was carried on with such impunity. Our warm thanks are due to Mr. Clement Smith for the able manner in wh this work was carried out, and for the good results achieved.

Lady-birds.—During the past year no action has been taken towa importing this useful insect (our only remedy for eradicating t

* Ayakudy, 2; Iyempolliam, 2; Sittyamkottai, 1: Ambaturai, 1: Kannivadi, Palakanuthu, 1; Virupatchi, 2; Buttagundu, 1; Puliyoor (Siroomullays), 2

awful pest—Green-bug). It has been suggested by the Nilgiri Association that Mr. Newport be asked to send periodical consignments of Lady-birds by post from Australia. Unless we have an Entomologist on this side to receive these insects, and subject them to a careful examination before setting them free, there would be the danger of introducing the parasite. We cannot be too careful, or the remedy may prove worse than the existing evil. As this question is to be discussed at this Meeting, I shall say nothing further on the subject.

U. P. A. S. I.—The book of Proceedings for 1898 is laid on the table. I have circulated to members all the circulars and letters received from the Secretary, U. P. A. S. I., during the year, so that you know all about the important subjects at present engaging the attention of the Central Association.

Mr. John Cameron's interesting report of his visit to Coorg, you have also read, and let us hope that this is but the first instalment of a series of useful reports to follow, and, when the investigations now being carried out by the Agricultural Chemist employed by the Mysore Government come to be published, they will, I feel sure, prove a valuable record of information to all of us.

Finance.—I am laying on the table copies of the balance sheet for the year.

I now place my resignation in your hands.

FRED. R. GERRARD,
Honorary Secretary,
The L. P. P. A., Dindigul.

The Chairman proposed the adoption of the Report.

The accounts having been examined were passed.

Seconded by Mr. E. Morgan—*carried.*

2. The report of the delegate to the U. P. A. S. I. Meeting was taken as read, and recorded.

3. **Alterations to Rules.**—The Chairman read out the rules, pointing out the alterations necessary. These were discussed by the meeting, and passed.

4. **Lady-birds.**—Mr. W. H. Gerrard said: "Mr. H. O. Newport was sent over to Australia to collect Lady-birds; the experiment, as you all know, was an utter, and to us disastrous, failure; for we are somewhat in the same position now, as so vividly described by Mr. Newport in a speech before the U. P. A. S. I. two years ago (1897). He then said: "Even if this bug spares our trees, it does not spare the crops, and, if something is not done—and that quickly,—we, on the Lower Pulneys, will have to abandon our estates, and leave the District." Of course the picture was overdrawn. No estates have had to be abandoned on account of the attacks of Green-bug; but there is little doubt that the continued attacks of this pest have had a good deal to do with the short crops of the last few years, and it is for this reason that we would welcome the arrival of Lady-birds to put an end to the bug: for it is very evident that, with present low prices, it is absolutely necessary for the trees to bear large crops, and any pest that prevents them from doing so, by destroying good bearing wood, becomes a very serious evil.

So much money has been spent over the Newport failure, that there is little left for further experiment, and how, now, to successfully introduce Lady-birds from Australia, will require very careful consideration at the next meeting of the U. P. A. S. I. I think you will all agree with me that a skilled Entomologist should receive the consignments as they arrive, for there is always the danger, I believe, in unskilled hands, of introducing with the insect, the parasite that feeds on it; and, with reference to this matter, I don't think that a Botanist can be expected to carry out the work of an Entomologist.

After further discussion, it was proposed by Mr. W. H. Gerrard, seconded by Mr. E. Morgan, and carried—

"That, as we do not intend sending a delegate to the U. P. A. S. I. Meeting this year, the Honorary Secretary write a letter to the Secretary, U. P. A. S. I., embodying our views on the subject of Lady-birds, and their introduction into Southern India, and requesting him to place the letter for consideration before the next meeting of the U. P. A. S. I.

5. **East India Coffee.**—The Chairman made the following remarks:—"We have heard a good deal lately of the low prices received for East India coffee. I think this is due, as far as the Lower Pulneys are concerned, partly to the long drought we had from May to 20th August 1898, and partly, of course, to large supplies from Brazil, which caused a glut in the market, rather than to bad pulping, and curing, and I agree with a correspondent signing himself "Wynaad," in the *Madras Mail* of 26th May, that "when the present glut in the market is over, and East Indian trees are not over-cropping, we shall hear no more of drying coffee by artificial heat," and he might have added—wooden pulpers."

The meeting agreed to these remarks and desired that they be recorded.

6. **"Planting Opinion."**—*Read* letter from the Proprietor, dated 3rd October 1898, and Honorary Secretary's reply, dated 10th November, 1898.

Resolved that the Lower Pulneys Planters' Association subscribe to the *Planting Opinion* from 1st June, 1899.

7. **Subscription to the U. P. A. S. I., for 1899-1900.**—Resolved that our Association pay the same subscription as last year.

8. **U. P. A. S. I. Annual Meeting, 1899.**—Our Association will not be represented at the U. P. A. S. I. Meeting.

9. **Stamp-fees on Crop Hypothecation.**—*Read* letter from Secretary, U. P. A. S. I., No. 63, dated 30th May, 1899.

Resolved that the Honorary Secretary write to the Secretary, U. P. A. S. I., to say that we agree with the remarks made by Messrs. Arbuthnot & Co., that immediate action should be taken to get this duly altered.

10. **Petty Coffee Theft Cases.**—*Read* letter from the Honorary Secretary to the Joint Magistrate, Madura District, dated 25th January, 1899, and the reply from the Joint Magistrate, dated 30th May, 1899.

After discussion, it was resolved that this matter be postponed.

With a vote of thanks to the Chairman and Honorary Secretary for the work of the past year, and a request that they continue in office for the current year, the Meeting closed.

W. H. GERRARD,
Chairman.

FRED. R. GERRARD,
Honorary Secretary,
Lower Pulneys Planters' Association.

MARKET REPORT.

By Mail advices of 26th May, 1899.

COFFEE.

The *London Commercial Record* says:—The public market reopened yesterday after the Whitsun recess, the supplies at auction chiefly consisting of Costa Rica and Central American descriptions, and formed part of the sales postponed before the holidays. The demand was very irregular, colory qualities as usual commanding attention at firm prices, whilst the less attractive grades were only partly sold at rather lower rates. A small parcel of Ceylon realised fully valuations. Mysore dull of sale, only about one-third being disposed of; prices, however, showed no alteration. A flat tone has prevailed for "futures," and closing prices are rather in favor of buyers, viz.:—

London	... Santos	... July delivery	... 28s. 6d.
New York	... No. 7 Rio	... „ „	... 5.10 cents.
Hamburg	... Santos	... „ „	... 29¼ pf.
Havre	... Santos	... „ „	... 35 francs.
Holland	... Good ordinary Java	..	... 27¾ cents.

Imports, Deliveries and Stock of Coffee in London are as follows:—

		Stock.		Imports.	
		1899.	1898.	1899.	1898.
West India ..	tons	982	700	1,153	1,397
Ceylon	„	143	105	246	152
East India ...	„	4,847	3,073	6,635	4,692
Mocha	„	511	464	347	330
Brazil	„	4,480	3,213	1,723	1,758
Other Foreign ...	„	11,544	8,113	13,946	13,922
Total tons ...		22,507	15,668	24,050	22,251

		Home Consumption.		Export.	
		1899.	1898.	1899.	1898.
West India ...	tons	138	193	433	834
Ceylon	„	55	76	113	85
East India ...	„	1,046	1,107	1,667	1,618
Mocha	„	289	301	54	63
Brazil	„	410	504	492	916
Other Foreign ...	„	4,849	3,962	6,434	6,568
Total tons ...		6,787	6,143	9,193	10,084

The preceding figures exhibit—

In the Imports an increase this year of 1,799 tons.
Home Consumption an increase of 644 „
Export a decrease of ... .. 891 „
Stock an increase of ... ... 6,839 „

Auctions yesterday passed off as under:—

Ceylon.—*Plantation.*—5 casks 1 tierce 8 barrels 1 bag sold, smalls 45s, low middling 80s to 92s, bold brownish 96s to 99s, pea-berry 54s to 60s.

East India.—361 bags partly sold as follows: *Mysore*, smalls 49s 6d, pea-berry 105s. *Neilgherry*, smalls 41s.

Jamaica.—Of 11 barrels 20 bags offered only one lot sold at 32s

Nyassaland.—Of 289 bags offered 50 bags sold, smalls 32s 6d, good ordinary 40s, good middling dull colory 63s, pea-berry 45s.

Costa Rica.—2,295 bags mostly sold, ordinary to fine ordinary 35s to 40s, fine fine ordinary brownish 45s, middling dull to bright blue 60s 6d to 67s 6d, good to fine middling 69s 6d to 82s 6d, good to fine bold 83s to 103s, pea-berry 39s 6d to 81s 6d.

Guatemala.—Of 434 bags catalogued about 300 bags sold, low middling to middling at 47s to 48s 6d.

Salvador.—642 bags about half sold, good to fine ordinary foxy greenish 34s to 40s 6d, fine ordinary dull grayish 40s, middling dull colory 50s, pea-berry 56s 6d.

Nicaragua.—77 bags mostly sold, low middling to good middling greenish colory 45s 6d to 58s, pea-berry 61s.

Colombian.—513 bags offered and about 300 bags sold, good ordinary to low middling greenish 40s to 44s, middling to good middling colory 52s 6d to 60s 6d, bold dull colory 66s, pea-berry 55s to 61s.

Mexican.—859 bags practically all sold, smalls 30s 6d to 33s, fine fine ordinary 47s, low middling 49s to 50s, good middling greenish 53s 6d, good middling grayish 55s 6d to 56s, bold 70s to 73s, pea-berry 61s to 73s 6d.

Auctions to-day offered 466 bags East India, 109 bags Haiti, 10 half-frazils Mocha, 5 casks 126 barrels 63 bags Jamaica, 117 bags Costa Rica, 2,192 bags Guatemala, 345 bags Salvador, 236 bags Columbian, and 31 bags Nicaragua. The sales went of at irregular prices—demand very slow.

Receipts in Rio and Santos.

Since July 1	1898-9. Bags.	1897-8. Bags.	1896-7. Bags.	1895-6. Bags
Rio	2,908,000	4,064,000	3,312,000	2,192.000
Santos ...	5,202,000	5,958.000	4,899,000	2,873,000
Total ...	8,110,000	10,022,000	8,211,000	5,065,000
Crop	—	10,461,000	8,680,000	5.489,000

Rio Exchange—7$\frac{31}{32}$d, previous day 7$\frac{15}{16}$d.

Havre, May 25.—Santos good average May opened quiet at 34$\frac{3}{4}$f. and closed quiet at 34$\frac{3}{4}$f., July opened at 35f. and closed at 35f.

Hamburg, May 25.—Good average Santos May opened quiet at 29$\frac{1}{4}$pf. and closed quiet at 29pf., September opened at 29$\frac{3}{4}$pf. and closed at 29$\frac{3}{4}$pf.

New York, May 24.—Closing prices of No. 7 Rio were as follow:—

	May	June.	July.	Aug.	Sept
May 24	... 5.00	5.00	5.10	5.20	5.25
May 23	... 5.00	5.00	5.10	5.20	5.25

COCOA.

The market is steady, though the absence of auctions keeps sales few. Guayaquil has received some attention and a fair quantity of Caraquez has sold at secret prices, also a small lot of Ceylon.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

		1899.	1898.	1897.	1896.
Imports, B.P.	bags	77695	88936	69909	78395
Foreign	...	31340	53730	29510	28277
Home Con., B.P	...	36447	48556	38518	34040
Foreign	...	24009	25720	27315	26691
Exports, B.P.	...	22107	14073	20721	17712
Foreign	...	13372	11747	16876	9627
Stock, B.P.	...	64724	86346	88546	92497
Foreign	..	46513	49763	45538	68324

PEPPER.

Black.—Very little business is passing. Singapore on the spot has sellers at 5$\frac{3}{8}$d, May-July (s.) at 5$\frac{9}{16}$d, and July-September at 5$\frac{5}{8}$d per lb.

White is also slow. Spot Singapore is quoted at 8$\frac{9}{16}$d. and arrive at 8$\frac{13}{16}$d; Penang on the spot has sold to a small extent 7$\frac{7}{8}$d cash or short prompt, and some for July-Sept. (s.) at 6$\frac{1}{2}$ per lb.

CINCHONIDINE.

Dealers here hold out for 10d. per oz., and a bid of a fraction under 8d. has been refused for 3,000 oz.

CINCHONA.

There was a good demand for the small supply offered in auction on Wednesday, and the bulk sold at full rates to a slight advance, the average unit working out at 1$\frac{5}{8}$d. to 1$\frac{3}{4}$d. per lb., and 2d. for cinchonidine. A parcel of 99 bales East India was withdrawn upon instructions from India. The catalogues offered by the six brokers consisted of:—

	Packages offered.			
East Indian cinchona ...	290,	of which	165	were sold.
Ceylon cinchona ...	245	„	245	„
South American cinchona	120	„	47	„
	655		457	

The following are the approximate quantities purchased by the principal buyers:—

	Lbs.
American and Italian factories	41,314
Amsterdam and Mannheim factories	26,663
Messrs. Howards & Sons	12,156
Brunswick factory	9,344
Paris factory	3,220
Druggists, &c.	6,060
Total quantity sold	98,757
Bought in or withdrawn ...	40,041
Total quantity offered	138,798

The following prices were paid:—

South American.—Bolivian cultivated Calisaya quill, fair, 9$\frac{3}{4}$d. a seron of damaged soft Colombian chips, 3d.; 21 bales of fi Cartagena were limited at 4$\frac{1}{2}$d. per lb.

Ceylon.—Succirubra, good rich chips, quilly, 7$\frac{1}{8}$d, to 5$\frac{1}{2}$d. f fair; medium. 4$\frac{1}{8}$d. to 4$\frac{3}{8}$d.; and fair root chips, 3$\frac{5}{8}$d. Officinal chips and shavings, 5$\frac{5}{8}$d to 6$\frac{7}{8}$d; renewed ditto, 4$\frac{1}{4}$d. to 6$\frac{1}{2}$d. per l

East Indian.—Good rich renewed Officinalis, chips and shaving 7$\frac{1}{2}$d to 7$\frac{1}{8}$d.; fair ditto, 4d. to 5$\frac{7}{8}$d; good quilly, 6$\frac{1}{2}$d. per lb.; fa red stem chips, 3$\frac{5}{8}$d.; ordinary renewed ditto, 3$\frac{1}{2}$d. to 4$\frac{3}{8}$d.; an medium to good druggists' quill, 5d. per lb.

The shipments from Ceylon for the week ending May 2 we 12,218 lbs. only, and from January 1 to May 2 they show the follo ing decrease:—

	1899.	1898.	1897.	1896.
Lbs. ...	251,937	284.371	273,569	441,370

The total weight of the 5,456 packages to be offered at Amste dam on June 8 is 481,80 · kilos.

QUININE.

Quinine has again shown more activity, at rising prices, an when the market opened on Tuesday small transactions were p through, mostly for August delivery, at 1s. 4$\frac{1}{2}$d. to 1s. 4$\frac{3}{4}$d., an a vance of 1d on Friday's prices; October delivery also chang hands at 1s. 5d. per oz. Wednesday saw an advance to 1s. 5d. f August, and 1s. 5$\frac{1}{4}$d. for October, with a fair business. To-day has been in good demand, and as high as 1s. 5d. spot has been pai June 1s 4$\frac{3}{4}$d. and August 1s. 5d. to 1s. 5$\frac{1}{4}$d.

INDIA RUBBER.

The market for Para has been rather firmer and up to 4s 2 was paid for June-July delivery, hard cure, but closes quiet wi sellers at this and possibly a shade less. For medium kinds the is little demand, and at auctions to-day almost everything w withdrawn, though small lots of Mollendo and New Guinea so well. All Central American scrappy Rubbers are considerab cheaper, being influenced by the decline in Para scrappies.

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

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SUBSCRIPTION.—Payable in Advance: Yearly, Fifteen Rupees; Half-rly, Eight Rupees; Quarterly, Five Rupees, and Monthly, Two Rupees, cluding postage. Single Copies, Eight Annas.

ADVERTISEMENTS.—The charge for line advertisements is 4 as. line for the first, 3 as. for the second, and 2 as. for the third and succeeding insertions. Five-line (or shorter) advertisements from Subscribers will inserted for three issues for one rupee; non-Subscribers will be charged rupees.

DOMESTIC OCCURRENCE.—The fee for inserting a domestic currence will be *One Rupee* for each insertion, payable in advance.

P.B.—Remittance, should be sent to E. C. Duff & Co., Proprietors, anting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 30th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, 20*th June.*—*Weather.*—Heavy rain last week. On 14th, 1·80 in.; 15th, 2·45; 16th, 1·35; 17th, 2·50. From 11th to 17th inclusive about 11 inches. About 25 inches to date from 1st of January. Rain light on 18th, only ·60 inch; break set in yesterday, only ·03 inch of rain having fallen. *Plant Diseases.*—Coffee keeping fine. *Field Works.*—All seasonable works well forward. Some supply planting begun. *Labour.*—Plentiful. Canarese Mysore coolies coming in. *General Health.*—Continues good.

THE EXCHANGE PROBLEM IN BRAZIL.

There does not appear to be room for doubt as to the chief cause of the fall that has occurred in exchange in Brazil. In 1889 the paper currency of the country amounted to 198,815,562 milreis; at the end of 1897 it was 754,958,606 milreis. In 1889, exchange ranged between 26⅞*d.* and 28¼*d.* per milreis; in 1897, between 6⅞*d.* and 9⅛*d.* The regularity with which the appreciation and depreciation of the milreis has followed the reduction and increase of the paper currency is shown by Mr. Wileman in his book on "Brazilian Exchange." However much the amount of the paper currency varies, its *gold* value, calculated *per capita*, tends to be the same. The following

are the figures for the year previous and subsequent to the large issues of paper money in 1890 and 1891 :—

Year.	Total Paper Money in Circulation.	Exchange.	Paper Money in Circulation per Capita.		Population.
			Reis Currency.	Reis Gold.	
	Milreis.				
1885	207,861,450	$18\frac{15}{16}$	15$688	10$640	13,250,000
1886	213,582,588	20	15 809	12 086	13,500,000
1887	202,291,669	$22\frac{3}{8}$	14 712	12 186	13,750,000
1888	205,271,302	$25\frac{1}{4}$	14 662	13 640	14,000,000
1889	198,815,562	27	13 909	13 909	14,250,000
1892	555,825,964	$11\frac{15}{16}$	37 214	16 385	15.000,000
1893	646,917,750	$11\frac{1}{2}$	42 282	18 009	15,200,000
1894	703,825,960	$10\frac{1}{16}$	45 116	16 814	15,600,000
1895	789,464,096	10	49 316	18 265	16,000,000
1896	712,355,393	9	43 173	14 391	16.500,000
1897	754,958,606	8	44 409	13 158	17,000,000

This shows that the gold co-efficient of the currency in circulation *per capita* is now very much the same as it was previous to 1890. A very great reduction of the paper currency appears therefore to be essential to remedy its depreciation. Attempts are being made to apply the lesson taught by these figures. In December 1896 a law was passed, assigning the following funds to the redemption of the paper currency :—(*a*) The produce of the sale of a-third at least of the bonds which passed to the Treasury from the banks of issue, when the right of issue of private banks was extinguished and assumed solely by the Treasury. (*b*) Instalments of the debt of the Banco da Republica to the Treasury, including interest on cedulas. (*c*) Any budget surplus. (*d*) Part of the amount received from the lease of the State Railways. Owing to the Central Railway not having been leased, receipts from the latter source, instead of exceeding £5,000,000 as estimated, barely reached £200,000. The Banco da Republica only began in 1898 to pay the instalments of its debt. It has, however, paid the interest on the cedulas taken over by the Treasury, and this sum, amounting to 2,314,417 milreis, has been applied to the redemption. It has not been judged advisable as yet to sell the bonds referred to in (*a*). Part of the securities handed over to the Treasury by the bank in payment of its debt have been realised, notably the Leopoldina Railway debt to the bank, liquidated by the assignment of £700,000. These securities, it may be assumed, were not contemplated by the law of December, 1896. In any case the sum realised by the Treasury does not appear to have been applied to redeeming the paper currency, so that practically the law has remained ineffective.

Next to the excessive issues of paper currency, the balance of trade being unfavourable to Brazil has probably been the most important influence in depreciating the milreis. The official trade returns for 1897 show a balance of £5,184,564 in favour of exportation over importation, which in 1896 the balance was £9,004,125, and in 1893 the balance was £15,029,256, as shown in the following table :—

Year.	Exchange.	Value of Exports.		Value of Imports.	
		Currency.	Sterling.	Currency.	Sterling.
	d.	Milreis.	£	Milreis.	£
1893	13	606,052,000	32,827,826	328,589,000	17,798,57
1894	11	601,046,000	27,547,944	341,539,000	15,653,88
1895	10	696,360,000	29,015,000	370,087,000	15,420,29
1896	9	694,057,000	26,027,137	553,947,000	17,023,01
1897	$7\frac{23}{32}$	831,806,918	26,752,224	671,603,280	21,567,66

These figures which, though official, are probably n absolutely trustworthy, show a falling off in the value exports since 1893 of more than £6,000,000.

The Finance Minister calculates remittances in sterli to Europe for other purposes than payment of impor during 1897 at between £9,000,000 and £10,000,000, that taking the higher figure the balance against Bra for that year would be £4,815,436. These remittanc have not, probably, increased but decreased during th last few years for the following reasons :—(1) The retu of many Brazilians who lived abroad drawing the income from Brazil, on account of the fall in exchang (2) Diminution of number of Brazilians who travel Europe for the same reason. (3) Reduction in div dends of foreign companies, *e.g.*, the Rio de Janei Improvements Company, formerly paying good dividen on a share capital of more than £1,000,000, now pa nothing on its ordinary shares ; the Alagoas Railway Co pany, which has reduced its dividends from 5 per cent. 1896 to $3\frac{1}{4}$ per cent. in 1897, &c. (4) Diminution of profi of foreign importing houses. (5) The "Cabotagem" La prohibiting foreign vessels from taking in the coasti trade of Brazil.

ADULTERATED COFFEE IN THE UNITED STATE

The American authorities are looking very closely into t subject of the Adulteration of Food, and, as a natural co sequence, a good many newspaper paragraphs appear fr time to time referring to the matter. We do not think th too much credence should be attached to the most high coloured of these reports, or that Indian coffee-plante should run away with the idea that the abolition of adulte tion of coffee in the States would materially affect the value the true berry. It matters little to them, of course, whet the adulterant used is or is not injurious to health. T great aim must be to prevent the free use of materials t deteriorate quality. When we read that baked cereals a mixed with coffee, we judge that this is done in order reduce cost ; and this very reduction may possibly *help sell coffee*. Still, if coffee is to continue to be the natio drink of the States, it should be pure or only mixed with moderate quantity of such articles as chicory, and, wh mixed, it should not be sold as coffee. As the *Ameri Grocer* remarks, "Baked cereals may be a cheap a harmless adulterant of coffee, but coffee containing a lar proportion of chicory, peas, wheat, or other substa should be sold as a mixture : so designated that consume will know exactly what they buy." The same contemporary, however, regards as exaggerated the report of Ch

Chemist H. W. Wiley, of the United States Department of Agriculture, to the Senatorial Pure Food Investigating Committee, that fully 90 per cent. of the articles of food and drink manufactured and used in the country are frauds. As regards coffee in particular—which Dr. Wiley singled out as extensively adulterated—our contemporary says:—"The total imports of chicory represent less than two pounds to every 100 pounds of coffee imported. The manufacture of artificial coffee beans flourished for a few months and disappeared when coffee fell off in price; but at no time did their manufacture amount to any considerable quantity. In fact, there is little incentive to adulterate coffee, the bulk of which is sold in the bean. Ground coffee is undoubtedly adulterated with wholesome articles, but the proportion of such coffee to the total amount of coffee consumed is mere conjecture." The belief is also expressed that though, probably at some time or other, 90 per cent. of all articles of food have, to a greater or less extent, been adulterated, this is not the case to-day and that, if 90 per cent. of the *total number* were adulterated, probably less than 1 per cent. of the *total quantity* was adulterated and of this an infinitesimal quantity was harmfully adulterated.

THE DRAFT ALLOWANCE ON TEA.

Dealers in England have lost no time in declaring their attention to defend the 1-lb. draft on tea sales, if it be seriously attacked by importers. With Messrs. Densham & Sons at their head, practically all the leading London wholesale tea firms (with about three exceptions only) and over 330 provincial tea dealers, have signed the following protest, addressed to the Secretary, Indian Tea Association:—

London, May 23, 1899.

Dear Sir,—Our attention has been called to a circular and memorandum, issued by your Association, in conjunction with the Ceylon Association in London, to producers and importers of tea, containing a proposal to abolish the draft allowance on teas sold by public auction in London, and inviting support. In the memorandum it is stated that it would be to the interest of producers and importers that the proposal should be carried into effect, and that it has the unanimous approval of the Committee of the two Associations named. As this is a matter affecting, in a very serious way, the interests of the entire wholesale and retail tea trades, we feel that we cannot allow the circular to pass without entering a strong protest against the proposal which it contains. In opposition to the very trifling reasons advanced for the suggested alteration may be set a host of longstanding grievances under which those engaged in the tea trade in this country have been labouring for years, without being able to obtain the slightest satisfaction, mainly owing to the most unreasonable conditions of public sale. With regard to paragraph No. 8 in the memorandum, we submit that it is no argument to compare a duty-paid article like tea with bacon and cheese, as in the case of the former there is a very serious loss in the processes of handling, sampling and blending, and then again an additional waste in weighing in ordinary bulk form for general trade. This is accentuated when the retailer requires teas weighed out in small quantities, the total loss being much greater than the trifling and inadequate overdraft which it has hitherto been the custom from time immemorial to allow. Again, there is the regular loss through bad cooperage and broken, inferior lead, the latter resulting in the mixing of chips of wood with the tea, and the loss by percolation in transit. Another ever-present difficulty is that of extracting extraneous matter from teas, more especially nails, which results in considerable loss and inconvenience to dealers. What with cheesy teas, mouldy teas, badly bulked teas, teas smelling strongly of India rubber, apples, and other foreign substances, inferior returns in sample packages, and various other complaints with which the members of your Association must be well acquainted, if the suggestion to remove the last crumb of comfort is carried it will be the duty of the undersigned to take steps to protect their interests in a way which will very much outbalance any benefit which might be gained by the merchants in the abolition of the pound draft, *viz.*, by taking stringent measures to see that the conditions of sale are in every case followed to the letter, especially as regards bulking, so as to ensure teas being in every way equal to sale sample. United action will also be taken in an effective way to deal with Clause 5 of the conditions of sale, which in its present form is an utter impossibility to buyers. We request that you will place this letter before your Committee for their kind attention.

Here, a counter-attack is threatened, but the threat itself would appear to reflect a doubt whether the dealers are strong enough to stand against the importers this time, as they did many years ago when the same question of draft allowance was raised. The tone of the protest shows, nevertheless, that if they lose dealers will cherish resentment, and this would be most regrettable. A good understanding between sellers and buyers is essential to the success of trade operations, and it would, we think, be a pity for planters to press this draft question to an issue if, by doing so, they run the risk of setting dealers against them. The assertions of dealers about this allowance are very much to the point. One writer says:—"In 1896 we for six months carefully weighed gross and tare of hundreds of packages, and found in numerous cases that the 1-lb. draft was all but swallowed up, and in no case did any package contain one pound overweight, exclusive of draft. Nothing like 2,720,000 lbs. of tea, far less 5,000,000 lbs., is received and not paid for. We believe from our experience that in a rough-and-ready way the draft allowance does little more than square deficiencies."

Assuming the position of the impartial outsider who has looked facts in the face, "a London Jobber," writing to the *Grocer*, says "that he has come to the conclusion that the importers have justice on their side." But even he adds:—"Buyers when united can always beat the sellers. A buyer is not always obliged to buy, whereas a seller is always more or less obliged to sell; consequently buyers hold the reins, and doubtless importers will be compelled again to yield." It is hoped, we believe, that a conference will be held, and the subject thoroughly discussed by dealers, brokers and importers. We trust that by this means a satisfactory settlement will be arrived at.

THE TEA CAMPAIGN.

The *Times of Ceylon* has dragged us into the arena of its little sparring match with the *Madras Mail*, not "to see fair play," but as a supposed ally. We must disclaim the honour. Our contemporary introduces us in these terms:—"Meanwhile there is a little paper, known as *Planting Opinion*, which is produced much nearer to the planting districts of Southern India than the *Madras Mail*; and it does not back up the separation idea at all. It reproduces the first editorials on the subject; and is delighted that Travancore Associations are subscribing to the central fund." We need not go into the geographical question, as our greater proximity to the planting districts is a mere matter of yards, if not of inches. We would only say that when, some little time ago, we urged South Indian planters to push onwards, and to combine for the purpose, we were mostly in favour of *South Indian* combination. That we

approved of Travancore subscriptions to the I. T. A. is true. Better half a loaf than no bread at all. Our Colombo contemporary accuses our Madras neighbour of affecting a lack of perception after the former's statement that Ceylon wants the co-operative system revised because the present one is unfavourable to herself. But the *Mail's* question was to the point:—"If Ceylon has had less advantage than India out of co-operation up to the present time, why should she wish to continue a system that is unfavourable to herself?" It is, we think, absurd to suggest that India has reaped a greater advantage than Ceylon out of the joint efforts of their Commissioners. It is perfectly clear that Ceylon would not wish to continue co-operation, unless she saw something to be gained by it. As for South India, she is too small to help her big brethren materially, and, consequently, if she co-operates, can only expect to reap very small benefits, unless she attempts to get an unfair share on the sly. This would be a course unworthy of her. Of course, it is impossible for her to conduct a campaign on broad lines such as those of the Ceylon Planters' Association and the Indian Tea Association, but that she can quietly and at small cost bring her teas under the notice of buyers in various markets is beyond question. Hers cannot be a series of massed operations, where numerals count for nought so long as the battle is won. On the contrary, it must be the advance of a small but resolute body of men, bent upon making every shot tell, knowing that the "shot in the locker" is not over-plentiful.

TEA FROM SEED TO CUP IN SOUTHERN INDIA.

(By Thomas Brown, Glendale, Coonoor.)

III.

Felling, Clearing, Planting.—We have put the cost under these three headings at Rs.70 per acre and arrive at this figure as follows:—

	Rs.	a.	p.
Clearing and Burning	7	0	0
Lining and Cutting Pegs	3	0	0
Roads and Drains	10	0	0
Pitting 1,500 Pits	15	0	0
Planting do.	7	8	0
Nurseries	7	8	0
Covering in Pits @ 2/8	3	12	0
Cutting down secondary growth	5	0	0
Supervisors, etc., etc.	11	4	0
Total ...	70	0	0

Clearing.—Where there is heavy jungle to clear, the cost will run much higher, up to 25 rupees an acre, and such must be allowed for, but in such case the produce per acre will also be greater, and the profits a good deal higher. The felling must be begun about October, so that the burning can take place about February. If it is found impossible to open the whole 300 acres together, arrangements can be made to open 100 acres a year, and the cost divided up into three years; but it would be better, if possible, to open the whole 300 together, as the profits would then come in sooner. It is only a matter of organization and division of labour. A good maistry should be put in charge of each 100 acres and be made responsible for all the work connected with the opening of that hundred. The work after all cannot be as troublesome as the construction of a hundred miles of Railway!

Lining and Cutting Pegs.—Thousands of pegs, each 18 i long, should be previously prepared by each lining part A boy can cut 500 of these in a day if put on his mettle. W have contemplated planting 5 by 5, because the cost in eve way is lower, finer bushes are obtained, and hereafter th cost of pruning will be found to be far lower even per tre since standards and not bushes would be the rule. Th quality of leaf from bushes far apart is superior to tha from closely planted areas. For lining procure a half-inc cotton rope about 100 feet long and notch it 5 feet apa with pieces of red cloth. Run the rope as well as you ca north and south, using an ordinary magnetic compass f the purpose, and drive in a peg at each notch. Next, pla the rope east and west and check your angles by th geometric relation existing between the figures 3, 4 and *i.e.*, take three spaces on your base, four on the perpendicu lar, and close in or open out till you get five spaces on th third side Proceeding thus over the whole field, you wi have a very fairly lined field. Do not trouble to carry th line straight over a road, as this is difficult to do, causes los of time, and after all serves no useful purpose.

Coolies will not cut the pits exactly around the peg, no will it be possible in planting to get the plants in straight line. Attempts to accomplish these will break you heart; so don't try. It is quite enough if each plant ha its correct share of ground, and you will find that, after th bushes cover the ground, your lines look very correct. Th best laid out gardens we will guarantee have not the *stem* of the trees in a straight line. We have seen much valuabl time lost by attempts to get the plants in straight lines besides which the troubling of the coolies causes bad work Each plant must be hereafter put down as near the centr of the pit as possible, without reference to the others, in th same line. We have dealt thus at length with this point because it is one of those that give the young planter, anxiou to do well, endless concern and make his life a burden t him.

Roads and Drains.—These are put in at a gradient o 1 in 15 by the aid of a Ceylon road tracer, and are done b contract at the rate of 50 to 60 yards per rupee. Th roads are cut 3 feet into the solid, and so come out abou 5 feet wide. The drains are 18 inches deep on the lowe side, and all stones and roots must be carefully removed by the contractor. This removal makes the cost highe than it would be if such were not insisted on. Rocks mus be removed by blasting holes, for blasting usually cos 3 annas a foot. In tracing roads and drains, care mus be taken to avoid rocks, as the cost of opening will other wise be very much enhanced.

An acre of ground is roughly 70 yards by 70 yards, s that on the average one road through the centre and tw drains, one just above the road and one at foot (35 yard away) will give 210 yards to pay for, costing only 4 or rupees. Then probably one culvert will come in at a cos of Rs.3-12-0, leaving very little, it will be observed, fo blasting. Culverts are built for these narrow roads 6 fee wide. The excavation must first be made 6 feet by 6 fee by 5 feet deep at a cost of 10 annas to 12 annas. The bottom is flagged with flat stones, the sides builded up with walls 2 feet wide and 2 feet high, thus leaving a 2-foot waterway, then the whole is covered over with larg flat stones, the tops of which, it must be carefully noted are thus a full foot below road level. These culverts ar

usually most perfunctorily done by stone builders and cause endless trouble afterwards. The cost is As. 8 a running foot as against one Re.1 usually paid by public bodies. The total cubic contents of such a culvert is as follows :—

Basement 6 × 6 × 1	...	36 c. ft.
Side Walls 2 × 6 × 2 × 2	...	48 ,,
Top Cover 6 × 6 × 1	...	36 ,,
Total ...		120 ,,

or a little over 4 cubic yards. It has always been a puzzle to us why a man who will build you 4 cubic yards for Rs.1-8-0 in a revetment should demand Rs.3 for such a culvert. *Mamool,* unfortunately, is the plea, and we would commend these remarks to the special attention of Local Fund and P. W. D. Engineers. We have had hard work to bring the rate down to 8 annas in our early days of planting.

Pitting.—These we have always had cut 18 in. cube at Rs.10 per thousand, except on one occasion, when we tried the Ceylon plan of 9 in. by 18 in. *alavanga* holes, but found them not so suitable for a hard soil and short rainfall, although they appear to do very well in Ceylon. One never gets full dimensions at Rs.10 and shortcomings have to be winked at, if the labour is to keep on, or Rs.15 per thousand paid. The task for a roll-call cooly is 25 pits per day. The pitters all plead for expensive steel forks now-a-days for this work, and one must yield or pay a higher rate. One fork and one pitting bar to two men answers.

Covering in.—Before this work is undertaken, we should advise a good hoeing at Rs.3-4-0 per acre to be done, to clear off sods, some stumps, and to loosen the soil. The cost has been provided under a separate heading. Care must be taken not to return the same soil to the pit and that the edges of the pits are not broken down to make quick easy work. No rubbish of any sort, grass roots, stumps, ferns, stones, &c., must be allowed into the pits. A mound of about 9 inches depth must be made over each pit, to provide for shrinkage and to mark the spot.

Planting.—This is the most important work of all and it is almost impossible to have it well done. Before removing plants from nurseries, flood the beds well, then dig a trench at foot and fork down line by line of plants carefully. Allow all earth that will fall off to go, and dip the roots in liquid cowdung. Teach the women to dig a hole with a wall at further end and a sloping bank on near side. Then holding the plant with the left hand against the wall, throw in earth, so that the roots are carried downwards. Great care must be taken to see that the collar of the plant is not buried in the earth. The earth must be finally rammed well home by the feet, while the plant is held in the hand. The shading must be very light, six to eight ferns being all that is needed. On the average 50 plants per cooly can be put down and shaded. A heavier task results in bad work. Very wet days must be avoided. All plants not fit to go out can be at once put into bamboo pottles for vacancy planting the following season, and for this purpose pottles should be provided beforehand. Plant each plant in the centre of its pit, without reference to its being in straight line. As before stated, this matter need give no concern whatever, if the lining has been correctly done.

TELEGRAPHIC QUOTATIONS.

	June	16	19	20	21
LONDON.—					
Bar Silver		27 13/16	27 3/4	27 3/4	27 13/16
Bank Rate		3%	3%	3%	3%
Coffee		flat.			
Mysore, Av. (B) size.		58s.	...	58s.	...
Ceylon plant ...		...	...	105s.	...
Stock, tons ..		...	...	25,442	...
Fortnight's ldgs. ...		...	...	3,100	...
Do. del. ...		...	...	1,700	...
Cinchona Bark ...		...	...	firm.	...
Price per unit ...		...	...	1 1/16	...
Monthly sales, pkgs. ...		...	...	600	...
NEW YORK.—					
Coffee—Fair Rio ...		6	6	6	6
,, Futures, Sept.		5·90	5·87	5·80	5·66
Silver—Comml. Bars ..		60 3/4	60 3/4	60 5/8	60 3/4

NOTES.

The Calcutta Tea Sales. At the sale on 16th instant, the fifth of the season—12,000 packages were offered, and 11,000 sold. Qualities inferior, common, and medium were one to two pies lower; good teas firm.

Coffee in Italy. In 1898 Genoa imported 6,567 tons of coffee, as against 6,524 in 1897; Of the former total, 5,494 tons were from Central America. It would be interesting to know if Indian planters have ever seriously "attacked" this market.

Tea in the Philippines. Mr. T. H. Stephens, who is practising his profession as dentist in Manilla, says "he can get land cheap for anyone requiring it in the Philippines." He himself is introducing tea there; but he believes in coffee as well.

An Excess of Labour n B. C. Africa. Thus the *B. C. African Times* :— "Cholo is actually turning away labour! This in itself is an index of the state of the labour market which is keeping up splendidly. Planters should take the opportunity to keep wages to their normal level."

Colombo Tea Sale. At Colombo on the 14th instant about 11,820 pkgs. = 941,111 lbs. were offered, of which about 10,399 pkgs. = 826,802 lbs. were sold. At the auction, common teas were rather firmer. Broken Pekoes, however, were not so much sought after and declined somewhat. Among the finest teas in the sale were: Devonford, Monkswood, and Iona.

The Draft Allowance on Tea. A telegram, dated London, 13th instant, to the *Times of Ceylon,* states that a special mass meeting has been held against the proposed abolition of the 1-lb. draft allowance on tea. There was a great attendance of dealers; and the Lord Mayor Sir John Voce Moore) presided. A motion in favour of the draft allowance was carried.

Effect of Insecticides on Seeds. It is often desirable to soak seeds in some solution to prevent their destruction by such pests as gophers and the like. The Kansas experiment station finds that this soaking is in no way detrimental to the germinating qualities of the seeds. On the contrary, there was an increase in the percentage which germinated.

The London Tea Market. Cabling to Colombo on the 15th instant, Messrs. Gow, Wilson & Stanton reported a weak market, teas with quality steady. Average of Ceylon tea 7½*d.* (¼*d.* down). Reuter states that 24,000 packages Ceylons were sold out of 26,000 offered. Of Indian 11,000 sold out of 12,000 offered; average 8⅛*d.* The new season's Indian teas are said to be of poor quality.

Tea in Natal. The consumption of tea per head in England is 6 lbs. per annum. The production for Natal is computed at 1,000,000 lbs. per annum, says the *Mercury*. The white population of Natal is 50,000; at 6 lbs. per head the consumption in Natal is 300,000 lbs. per annum, leaving 700,000 lbs. for export. The average retail price for tea in Natal is 1s. 5d. per lb.; hence £21,250 is spent annually in tea by a population of 50,000.

Sale of Para Rubber Seed at Colombo. On 17th instant 250,000 Pará rubber seeds were put up for sale. Messrs. Forbes and Walker bought 12 lots of 10,000 each—9 lots at Rs.15 each, one at Rs.14, one at Rs.13, and one at Rs.12. Messrs. Geo. Stewart & Co. bought 7 lots—5 lots at Rs.16 each and two at Rs.15. Messrs. Lee, Hedges & Co. bought 3 lots at Rs.16 each. The other three were bought by Messrs. Whittall & Co. at Rs.15, Rs.16, and Rs.17 each respectively.

China Tea in the United States. During the ten years 1889—98 the imports of tea from China were 468,441,681 pounds—a yearly average of 46,844,168 pounds. The maximum import was in 1897, when it reached 56,524,546 pounds; the minimum in 1898, when it fell to 39,754,736 pounds. For the four years 1894—98 the average was 53,136,559 pounds, against a yearly average of 42,621,884 pounds for the four years 1889—92. These figures show a gain of over 25 per cent. within the nine years 1889—97.

Cinchona and Quinine. In the Dutch bark auctions to be held on the 8th instant, 5,456 packages were to be offered for sale, with an average of 5·35 per cent. of quinine. At Hamburg on the 1st instant, business was done in sulphate of quinine at 43m per kilo second-hand. On 23rd May the New York market was reported to be improving, sales having taken place to the amount of nearly 100,000 oz. at from 29 to 32 cents.; but on 11th June the market was quiet, quinine 34 cents. in second-hands, firmly held. Cinchonidine 25 cents. per oz.

Fine Coffee recommended. The following advice given by the *American Grocer* to its readers should interest those planters who have been able to maintain a high standard of quality in their coffee crops:—"A high standard is an absolute requirement if a good trade in coffee is to be won and held. It means a high-grade raw bean, fresh roasted every day. Educate customers to buy high-grade bulk coffee. Once tickle the palate and price will have little consideration with the lover of a good cup of coffee."

Tea in France. Following the desire to be up to date as in London, the Parisians are taking—rather slowly, it must be admitted,—to tea, not as a decoction for invalids, but as a drink to be taken with food. Confectioners are inviting their customers to afternoon tea, and there is at length some prospect of tea becoming popular. Now is the time, says the *Home and Colonial Mail*, for developing the French taste for tea, and pushing the Indian and Ceylon product, for most of the tea sold at present in France is indescribably bad and very dear.

Coffee in the Western States of America. Mr. C. E. Bickford, San Francisco, reports Pacific coast sales of coffee in April at 60,311 bags. The stock in first hands on May 6 was 26,944 bags Central American. Prime to fancy washed Guatemala and Mexican coffee sold from 14½ to 17 cents.; strictly good at 13 cents.; fully 7½ cents below what similar grade brought in 1895. Prime washed Costa Rica 15 cents. The prices obtained at recent sales were from 4¾ cents. for very inferior Guatemala; 5 cents. for inferior Salvador, up to 17 cents. for fancy washed Guatemala.

Coffee in the Philippines. It is reported that Mr. Donaldson-Sim finds that Benquet is a splendid place for plantations. He has over 8,000 coffee trees bearing excellently, besides some 30,000 tea seedlings and some 3,000 full-grown tea plants, bearing well and ready for picking. He has one of the best plantations in northern Luzon. He has practically no neighbours, that is to say, there is no other plantation anywhere near his, and the nearest village is about four or five miles away. His place is several hundred feet higher than the village, and is 4,600 feet above sea-level. He has done a good deal of experimental planting with other things with promising results.

The Sugar-Coffee War in America. The *American Grocer* says:—The conflict between the Sugar Trust and Arbuckle Brothers is centreing here in the East, where prior to the war package coffee had a very limited sale. Very heavy advertising is being done by the rival interests to create a demand for package coffee. The Woolson Spice Company is now operating a roasting establishment in Brooklyn, and the war never was more vigorous than at present. The profit is pretty well out of sugar refining and cut to narrow margins on coffee, with the benefits, if there are any, going to the consumers.

A living Advertisement for Ceylon-Indian Tea. Thus the *American Grocer*:—A. Nicholson, of New York, resident representative of the Ceylon and India tea growers, was a welcome visitor among the "trade" here last week. Mr. Nicholson is a worthy specimen of our English cousins, and if he has thus developed by the stimulating effects of Ceylon-India tea, he presents in his physical and social qualities a "big card" to encourage its more general use. Mr. Nicholson states that the sales of the above tea in Philadelphia are in the proportion of 500 chests as against 5 chests five years ago. Coupling the above facts, we shall certainly look for a generation of Quaker giants when our growing tea-drinkers shall mature.

Thefts of Prædial Products in Ceylon. The Planters' Association of Ceylon lately passed a resolution urging that additional protection, either on

ne lines of the Madras Act, or by extending the provisions f Ordinances No. 9 of 1885, No. 2 of 1886 and No. 4 of 891, might be afforded to cacao and cardamom planters n view of the great extent to which thefts of these pro- ucts are now carried on. His Excellency the Governor as given the matter his most careful consideration, and as now expressed the opinion that fresh legislation should ot be resorted to, until the provisions of part 3 of Ordi- ance No. 16 of 1865, relating to Police in rural districts, ave been fairly tried and proved to have failed.

ne China Tea Trade. Hankow advices of 23rd May referred to settlements of 339,000 alf-chests against 204,000 half-chests for the same number days last year. The laying down cost of common Congou as 6¼d., about 1¼d. dearer than last year." On 25th idem was reported :—The continued fine weather has enabled amen to bring their produce to market early and in good ndition. Common grades have been in strong demand at e advance noted in our last issue, and the present range prices is much higher than we have been accustomed to modern times. It must, however, be borne in mind that, late years, damaged tea has added largely to the stock of *mmon*, a source of supply which, happily, does not exist present, such variety being conspicuous by its absence.

azilian Coffee. New crop Santos was expected at port of shipment early this month. gentleman who was through the new coffee district as as Ribeirao Preto, early in April, tells the *Rio News*, t the coffee plantations are in splendid condition and loaded with fruit. The crop will be a very large one. mmenting on an estimate in the papers of two million gs, one gentleman in that locality said it was likely to be millions. Ten years ago the country was quite new and coffee trees were to be seen ; now, said our informant, whole country is covered with splendid coffee orchards, l trees are just reaching their best bearing age. Advices the same paper, from one of the interior coffee districts S. Paolo. are to the effect that the growing crop is well wn and of better quality than last year. There has n plenty of rain, not too much, and now fine weather is nted for the picking, which began April 17.

ans and Congous. A New York paper says :—"Cable advices received from Japan, dated y 13, say that there continued an active speculative nand, the settlements to that date being 32,000 piculs, inst 28,000 piculs for the same period last year. spite, however, the active demand, prices have weakened htly, but, at the lower prices, there has been no buying importance for the United States nor Canada. The an crop, according to the latest information received, be about the same as last year. Recent cable advices that the market for Congou tea at Hankow has opened that there is a good demand for the common grades, gland being the principal buyer No particulars, how- , were learned as to the amount of tea thus far settled prices paid. The North China Congou crop, according he advices received, promises to be somewhat larger last year. Locally, there was a small and uninterest- market. The volume of line business transacted was of dedly limited proportions, as jobbers generally confined their purchases to only such supplies as were absolutely needed to meet current wants. Still, as there was no pressure to sell, values held to a steady basis, particularly for the common grades."

Dirt in Tea. A quite unpremeditated support to the grocers' contention, that the pound draft on tea is needed to cover various odd defects found in that article as purchased, is afforded by the paper, *Commercial Intelligence*, which prints an article with the scare-head "Dirt in Tea." According to this authority, "large importations of very inferior goods rejected by the Hamburg and New York Customs have been passed by the English Customs and sold in London. A large amount of this tea is quite unfit for consumption, and the caper and dust teas now contain up to 20 per cent. of earthy matter and sand." The paper goes on to assert that—"Samples of tea, passed by the Customs inspectors and still stored in bond, have been analysed and found to contain mineral matter varying from 10 to 20 per cent., or sand up to 14," and that "the Tea Associations will have to stamp out those practices at once, or the Mincinglane market will be seriously affected."

The "Chemist and Druggist" on the Tea Market. Portions of the following paragraph from the last number of the *Chemist and Druggist* to hand are almost prophetic :—"The tea market has been dull and dragging all through May and prices of common leaf Assam and Ceylon show a drop of about 1¼*d.* per lb. from the highest point about Easter. It is, however, only the quietness of the country demand which keeps prices down. Retailers and blenders are only buying what they are compelled to buy under the evident impression that prices are not likely to go up much, and that if they go down they may go down a good deal The position is still a very strong one : deliveries keep up fairly well in spite of high prices, and arrivals are very moderate and cannot be heavy for another couple of months. Sound sweet leaf Ceylon for price can be bought at 7*d.*, though with difficulty, and a little extra demand would send the price up to 7¼*d.* to 7½*d.* directly. Lower grades of Assam are in very small supply, and while commonest leaf Assam would fetch 7*d.* to 7¼*d.* in sale, there is practically none offering. Better Indians are getting very scarce indeed, and buyers will be well advised to cover their requirements for the next two months fully. Ceylons about 8*d.* to 10*d.* are the only sorts that can be described as showing really good value at the present time. Fine teas with flavour, and quality, and character can be bought at this range, though they are a bit too light in liquor to be used freely."

English Imports of Honey. During the past five years the annual importation of honey into the United Kingdom has averaged 2.250,000 cwt., of the declared value of 31,000*l.*, or about 3¼*d.* per lb. Among the principal countries supplying this are the United States, Chili, and Peru, the other contributors including the British West Indies, France, Australasia, Canada, Germany, Italy, and the Spanish West Indies. From the United States we receive about one-third of the total quantity imported, and about the same proportion is furnished conjointly by Chili and Peru. No particulars are available as to the

production of honey in the United States since 1890, when the yield from the hives then in existence was nearly 553,000 cwt. in the twelve months, the production of beeswax in the same period being 10,000 cwt. Most of the honey exported from the United States is shipped to Great Britain. In France, returns relating to apiculture are annually collected by the Ministry of Agriculture. The production of honey in 1896 was estimated at 17,000,000 lbs., which was somewhat above the average. There is an average exportation of about 20,000 cwt. of French honey annually, of which the greater part is sent to Belgium and Holland. The decennial inquiries of 1862, 1872, 1882, and 1892, indicate a considerable falling-off in the French production during the past thirty years. It is estimated that the annual production of honey in Russia is about 321,000 cwt., which, however, is not sufficient for home-consumption, as that country imports wax and honey.

GENERAL ARTICLES.

EUREKA.

BACTERIA TO THE RESCUE.

Mr. J. W. Moir of Landerdale, Ulanje, has been writing on this subject in the *B. C. African Times*. In one paper he discusses the nitrifying bacteria in the soil and the useful work they do. He then refers to another class of bacteria that may be enlisted in almost more important operations. He adds:—

It has long been known that leguminous, or pea and pod bearing plants, such as beans and clover, leave a field better able than before to produce cereals, etc., even although large quantities of pulse and clover-hay have been taken from it. The scientific reason has been recently discovered. Nodules or growths, formed on the roots of such plants, are found to be highly nitrogenous. The roots with these tubercles leave the soil richer in combined nitrogen than it was before the legumes were planted. The reason is that a valuable bacterium, Bacillus Radicicola, has lodged itself in myriads in these nodules, and has there been able to absorb free nitrogen from the air which permeates the soil. Combining it with other elements it passes it on to its host as ready-made albuminoid matter, perfectly available for the plants nitrogenous tissues. Seeing that the most costly manure is thus specially provided for them by their guests, it is little wonder that the pea tribe is very rich in nitrogen: peas and beans are among the most flesh-forming of foods, while the stalks and leaves also contain combined nitrogen. There has naturally been an increase in the planting of leguminous plants: and not only so but enterprising Germans have bred and propagated the bacillus, in order to have whole families of them waiting the advent of the tiny roots of the plants sown at the same time as themselves. They further found, when breeding them, that a pea-bacillus did not take kindly to a bean or vetch or clover rootlet. So the bacilli nursery men have made separate pure cultures, commercially known as Nitragin, for each legume grown by farmers. . . .

Now, if we could induce myriads of these bacilli to labour for every coffee plant we have, we should soon see the latter brighten under the treatment; the leaves grow greener with better-fed chlorophyl; the seeds finer and bigger with more albumen. But the little wretches will have nothing to say to a coffee root; although indeed another German firm advertises a bacillus to enable cereals to assimilate free nitrogen. Later, this latter gentlemen may do us good, perhaps working in the soil in combination or even in competition with the bacteria that nitrify organic matter. Leaving him apart till his capabilities are really established we can at once try to entrap that atomic chemist the Bacillus Radicicola. We must provide a suitable dwelling-place, amply supplied and furnished, and he will soon be there with chemicals and re-agents, to start work in his diminutive laboratory. In other words we can plant leguminous trees and crops, always remembering that there must be a sufficiency of soluble mineral riches such as phosphoric acid, potash and lime, in order that the plants may be able to utilise the products of the said laboratories.

First, as Shade trees, we can try Albizzia (Moluccana, the native Chikwani) Inga, Pithecolobium Saman, Pteroc (Mlombwa), Acacia, Erythrina, with many indigenous trees. among these last a few trees exist which, if planted among coffee, would shortly do a world of good to the owners I feel cer The discoverer, or rather the discerner, of such a tree woul much to place our coffee planting on a securer and better pa basis. All our planters and the administration Botanists sho keep this constantly in view: especially because any exper dealing with trees takes so long to yield definite results.

The quickest way of arriving at helpful conclusions on important point is by leaving, when felling forest for coffee, many trees as are not known to be bad, and the trees which nati are accustomed to leave in their own gardens. Any tree with well known compound leaves (that is, leaves formed of a long s or petiole with little leaflets arranged on each side) while leaves themselves are arranged alternately, any tree with pea-flowers, should receive special attention. Careful and pati study of the effects of such trees, and of trees bordering the co would surely reveal to a body of men like the planters of B. C most useful results. In addition to the benefits of other shad subject I must not touch on at present, all leguminous t probably would, by the aid of their baccilli, be constantly add to the nitrogenous richness of the soil. At the same time m such trees may so rob the coffee of water, or of potash, phosph acid and lime, as to harm instead of helping it. Such I found pra cally to be the case with Kampone, a leguminous tree with a large tap-root. Its enormous system of far-spreading sur feeders however did much more mischief than its shade and duce did good, and all had to come down.

But there is a second and readier way of enlisting the service our little chemical friends. It is by green-manuring, by sow the leguminous crop between our coffee, to be dug into the s preferably just when in full flower. This will give to our co roots, nodules, leaves, and a large supply of the best matters cumulated for the coming embryo. Or, to be more accurate, it hand these over to the nitrifying bacteria of the soil to be m into nitrates for the coffee. Of course the mineral constituents the green manure are also stored handily for the coffee.

I have made many experiments in this direction also, bu began foolishly by sowing imported seed. I put in large acreage lucerne which with its deep-reaching roots was to bring me wea from the sub-soil. But, alas! it all came to nothing. Perhaps Central African Bacillus Radicicola had not time to be accusto to the flavour of its roots and it stands to reason that a legumi plant, that has been dependent for centuries on special laborato where part of its food was cooked for it on the premises, ca get on without this help, like a less civilised "critter" that always been accustomed to do its own catering. No, we want digenous plants that will find bacilli ready to help them. S years ago I planted the common Nandolo (or Mbelemende be cutting it down and burying it; and though unfortunately, ow to my absence at home and the death of my assistant Mr. Thomp I did not get any definite report on the crop, the boundaries of application are still traceable by the healthier looking coffee. years ago therefore I planted about one hundred acres of this b a plant between every coffee bush in the rows; but far too lat the season as experience seems to prove and it is only being down now, so that there are no definite results to report. year I planted ground-nuts, some food beans, and some of much bepraised florida velvet bean (*Mucuna pruriens*, var.)

There are three problems to be solved. What is the most fitable legume, when should they be planted, and when dug in

As to the first, we have a most abundant selection. There are beans, beans for fish-poisoning, beans in the bush. The habi the plant must be taken into account. Creepers that w throttle our coffee won't do, otherwise, perhaps, the Chitedzi, brother to the velvet bean, might do. But the Chimbamba, o Red River bean, the Nyemba, a small brown bean, the Nt ground-nut, the Nzama or ground bean, the Nkwanje (or g seem particularly promising The Ombwa a fish poison merits a trial as does the Gwingwizo to a lesser extent.

As to the second, I think now that they should be plan early as possible with the natives' early maize, although I ha tried this yet. They would thus get the full benefit of the

growing season, would contend with the growth of more useless weeds, and would help to prevent wash.

As to the third problem, I am in doubt as to whether there should be one or more cuttings and also as to the very best time. The plants should be cut down if possible when in full bloom as they are then richest in plant food. In any case it should be before the end of the rains or when there is ample moisture in the soil to ensure thorough disintegration by rotting. They should be buried with plently soil; that is they should not be crushed into little pits. Rather good large trenches should be dug and the green manure mixed with as much soil as possible when filling in.

Though the last operation would entail expense, the largely increased crops and the improvement in quality for several subsequent years should leave a very large margin of profit. For combined in the above operations, you have such cultivation of the soil as liberates its mineral riches, induces air to penetrate and retains almost a maximum of moisture to carry the coffee triumphantly through the dry season, besides providing abundance of every requisite plant food.

PRICE £1000.

Another Central African writer, Mr. Kenneth J. Cameron, of Namasi, discourses thusly, taking as his text his Bangalore namesake's report on his visit to Coorg:—

At no time since I have had anything to do with the cultivation of coffee have our prospects for the future seemed brighter. At present we have low prices, but that is no reason why they should continue so. I have read over carefully the extract "On Soil, Moisture and Irrigation," and can see nothing in it which specially refers to coffee cultivation in B. C. A. On the other hand, taking Mr Cameron's address to the planters of South Coorg, as you and a few others are already aware of my views on cultivation, I can say "Amen" to all that has been stated. You think that because Mr. Cameron has been trained as a gardener and by that training should have some knowledge of Agriculture, Horticulture, and Arboriculture. Therefore you assume that he should not have the same authority as a coffee planter who has received a special training in coffee, and is therefore a specialist. How many planters in India have served their apprenticeship on a coffee plantation? Very few. Some are farmers' sons who have served some time in a lawyer's office, a few others are gardeners, etc. It would be more favourable to the cultivation of tea and coffee if there was a special training. As a rule one of the greatest recommendations to tea and coffee cultivation is a knowledge of book-keeping, the native is supposed to look after the cultivation. Gardeners again have not all received the same training. All gardens are not alike. One may be a mere vegetable garden, another fruit, and another cultivation under glass, one may be large and include all departments, and the other small and include only a few. A gardener may serve his apprenticeship of three years and then go abroad.

Has he the same training that another gardener has who served three years as apprentice, and after that has served other three years or more as journeyman and in different gardens?

Taking the views of the few gardeners in this country they all seem to recommend trenching before and after planting coffee.

I have had a little experience in fruit tree growing as it is done in the old country, both under glass and outside, I have never seen trenching or digging among fruit trees or bushes that were established.

There are two or three inches of the surface upon which manure has been spread turned over in the winter time with the spade and in Scotland, if I remember rightly, the process is called "pointing." The spade is held almost horizontal and the surface skinned the length of the blade and turned upside down.

This work is more tiresome than digging as the gardener's back suffers more having to be always in a bent position.

In all fruit tree growing outside (that is, not under glass) the roots are trained so as to be near the surface.

This is to keep them under control, to keep them from the too damp soil underneath, and so as they may be easier fed.

Manure put on the surface does not penetrate deep, as the soil is a good filter and retains the greater part of what comes out of the manure near the surface.

Sometimes stones, slates and even pavements are constructed and placed below fruit trees to prevent the roots going direct down. Fruit trees at home do not grow in the winter time, and they can then be lifted as soon as their leaves droop so as to prune their roots, which are never allowed to go direct down or to travel too far; they have therefore numerous fibrous roots near the stem and in this way are much easier transplanted should they be too crowded, and at the same time manured or fresh soil given them.

But what is done at home or in California need not always be a guide for us here.

At home in ordinary cultivation such as vegetables, cereals, etc., the soil is dug generally in the winter time and put up rough as it falls off the spade or is turned over by a plough and never broken then. The reason for this is that there is more surface exposed to the frost and in the spring time it dries sooner, it is then forked and raked or in the field it is harrowed. In the spring time we have to wait till the sun dries the soil sufficiently before planting or sowing, and the rougher it is dug the sooner it dries. Here we have to wait until the soil is sufficiently wet, which is quite the opposite to what is done at home and perhaps in California Is the climate of California not more like the climate of Britain than it is to B. C. A.?

Now, take a plantation not far from here, which was trenched. The soil was turned over in large clods and never broken, the fact is the soil contained more clay than anything else and it would take more labour to break the clods than it would to trench it. The plantation presented the appearance of a brick field with the bricks set out to dry. Now what quantity of roots were broken in the trenching of such a plantation? Seeing the soil was stiff clay the roots would not run through but get broken as the soil was turned over. It is my opinion that if the roots are never touched that you will find in the first eight or ten inches of the surface soil more fibrous roots than you will find below that depth. To me it would appear that planters were preparing for a root crop such as carrots, parsnips, beets, or such roots that expand so much in the soil. with the large pits they make and the trenching afterwards. I should say that the larger the pit was made and the less the soil was firmed the sooner it would dry in the dry season. The smaller the pit and if made reasonably firm the greater the chance is that it would keep damp much longer.

Take two flower pots, give them equal drainage, fill them with soil, one with the soil put in loose, the other with the soil firm. plunge them for a night in water. Take them out and let them dry. The one with the soil loose represents cultivated soil, the one with the firm soil represents uncultivated. The pot with the cultivated soil holds the greatest percentage of water, the other a much less percentage. Now at the end of seven days, which pot will hold the greater percentage of water? Take any plantation in B. C. A., make a pit a foot deep and six inches in diameter, plant your seedling coffee, and I believe it will grow as successfully as others that had prepared for them much larger pits.

It is very difficult to compress water, and soil porous enough to receive water should also be difficult to compress. I cannot see what we are to gain by this digging and trenching.

I have no doubt but some soils are naturally more fertile as you go below the surface than others. I was coming down Ndirande just lately and met Mr. Walker who gave me his reasons for selecting his estate there. He lifted a piece of decomposed granite and said that he believed that soil containing it was good soil for coffee and told me that Sharrer's Estates near Ndirande, Lunzu, Chipande and Chirâdzulu, had the same soil. You will notice this excavation through decomposed yellow granite on the road before you come down to Mr. Walker's place, the native trees, with only about one foot of soil on the top of this granite, are flourishing the same as if it was pure soil. One would wonder how they live through the dry season. About a week after I met Mr. Walker I was down at Gala estate and Mr. Robertson took me to see his best coffee (the largest trees and the heaviest crop); they were growing among rocks and as I saw the pits made I know they were dug out of yellow decomposed granite, the rock just soft enough to be cut by the hoe, and what was more wonderful still the coffee had stood the drought better than any coffee in the plantation. "The nearer the bone the sweeter the flesh, and the nearer the stone the sweeter the grass."

Now I suppose you will put this down as nonsense and tell me that I have not proved that such is the case. I will tell you a few facts which I can give positive proof for. The cultivation of coffee in B. C. A, will remain a failure if we continue as we are doing. No amount of pitdigging, no amount of trenching, no amount of irrigation, no amount of rain, no amount of pruning, and no amount

of shade, will save us. What is to be done? Well, we have all this time been working in the dark. We may get a few crops off a young plantation but for a certain reason that plantation will ultimately produce light berry, chipped berry, or spotted berry, not because the soil is exhausted, not for want of manure, not for the want of rain, although the want of rain is a good bit to blame it may not be the cause of the greatest damage. What then has to be done? I am quite willing to explain this mystery upon condition that I receive a cheque for one thousand pounds. After that it shall be "Light in Darkness." You may think the sum large, but if you make a turnover of the same amount or more from your first crop after following my directions, it is then only quite a trifle and you will never miss it. It is quite a small sum in comparison to the reward offered by the North Charterland Company and it may pay us better than a gold mine. It will also save a lot of labour in the picking of the bad beans. The sooner this is settled the greater good it will do the coffee industry and B. C. A. in particular.

CANADA'S DIRECT IMPORTATION TEA TRADE.

The *Canadian Grocer* says:—Canada fairly well distributes her patronage for the various descriptions of teas, although, as every grocer is aware, increased attention is being given to the importation of Indian and Ceylon teas.

The countries from which we chiefly import are Great Britain, China, Japan and the British East Indies. What we get from the United States is very little compared with that brought direct from the countries of production or that bought in bond and imported from Great Britain.

During the last few years there has been an increasing tendency on the part of the trade to import direct from the countries of production. Two causes have chiefly contributed to this. The one is the tariff, which only permits tea to be imported duty free on condition that it comes direct from the country of production, or is bought in bond in Great Britain and is accompanied with a certificate showing that same has passed inspection there as being fit for home consumption. Tea otherwise brought in is subject to a duty of 10 per cent.

The accompanying table gives the importation of tea during the past nine years. The totals do not describe exactly all the importations for each year, but they practically do, as the figures which are eliminated relate to imports from such countries, for instance, as France and Germany, and are too insignificant to be included:

	1898.	1897.	1896.	1895.	1894.
Great Britain ...	4,133,598	7,064,333	5,487,162	6,265,409	6,218,680
United States ...	521,234	252,475	238,153	849,669	221,332
China ...	3,623,616	5,418,809	5,339,748	4,437,761	4,509,374
Japan ...	8,953,186	9,164,582	10,051,516	9,081,915	8,359,885
Brit. East Indies.	2,769,961	2,406,606	1,531,214	492,011	164,518
Total lbs. ...	20,001,595	24,306,805	22,647,793	21,126,765	19,473,789

	1893	1892.	1891.	1890
Great Britain ...	7,307,389	7,110,065	7,306,768	7,905,830
United States ...	202,428	564,916	161,123	759,170
China	2,871,466	2,766,133	2,426,123	2,195,898
Japan	7,697,545	11,961,317	7,090,461	7,462,674
Brit. East Indies ...	86,616	188,416	154,159	127,611
Total lbs.	18,165,444	22,590,847	17,138,634	18,451,183

The imports last year were abnormally small, because, during the previous year, they were abnormally large, owing to the anticipated but unrealized duty

The most striking feature in the above table is the large increase in the direct importation of tea from the British East Indies, which comprise both Indian and Ceylon teas, the returns not giving separate figures for these respective countries.

This increase in the nine-year period is over 2,000 per cent.

Although the consumption of China teas is gradually falling off in Canada, the average importations direct, according to the above figures, would rather indicate that they were being well maintained, but these figures are favourable, because we are importing more teas direct than we were even six years ago and less indirect. In other words, while our direct importations of China tea during the past five years have averaged more than during the previous fi years, shown in the table, the total importation has been less.

Unfortunately, these changed conditions in regard to the dir importation of both British East Indian and China teas have be at the expense of the exporters in Great Britain. At the sa time, however, it cannot be helped, and, with the excellent stea ship service which Canada has now on the Pacific plying betwe Chinese and Japanese ports, it is only natural. This direct stea ship service has, no doubt, also tended to maintain the uniform of the importation of Japan tea during the past five years.

There is one extraordinary fact in regard to the direct impor tion of Japan tea, and that is that the average annual proportion the total of all teas imported was the same for the two-year per of 1897-98 as for that of 1890-91, namely, 40·89.

Taking China teas, the average direct annual importation for t two-year periods was 12·98 and 20·40, an increase of 7·42 per ce in favor of the 1897-98 period. The average direct importation British East Indian teas for the two-year period of 1890-91 w slightly less than 4/5 of 1 per cent. of the total. By the two-ye period of 1897-98 the average had risen to about 11·7 per cent.

From Great Britain, the average annual importation for th two-year period fell from 42·43 per cent. in 1890-91 to 257·27 p cent in 1897-98.

We have not attempted to deal with the proportion of black a green tea imported during the nine years, but may do so in a su sequent issue.

COFFEE PROSPECTS IN SOUTH INDIA.

"Planter" writes to the *Madras Mail*:—

How Indian Planters will stand the low prices now ruling in t market is a question of interest not only to investors, proprieto and superintendents, but also to members of the outside pub who may contemplate bringing out sons or relations to earn living by planting. By way of an answer to this question, I cann do better than take a rough outline of the prices of coffee n ruling, the working expenses and the crop to be expected on place of, say, 120 acres. Taking the different items separately, have worked out below a set of figures which I am sorry to s will frighten even the most sanguine. The working expenses different estates differ so considerably that it is hard to arrive even an estimate. Whereas some planters have spent as much Rs.250 per acre, others have spent next to nothing. As a rul expenses vary between Rs.50 and Rs.150, so if I put workin expenses down at Rs. 100 per acre, it would be a fair estimat Crops differ every year, but the average of several estates publish some time ago came to about 3 cwts. per acre—of course some f estates could show five or even six cwts. per acre, but these a exceptionally favoured. The local prices now being offered ran from Rs.6-8 to Rs.7-8 per bushel, or Rs.650 to Rs.750 per t (some outturns run as low as 68 bushels per ton, notably on th Shevaroy estates, others run as high as 120 bushels per ton—aft a drought; 100 bushels may be reckoned on as a rule before curing Rs.700 would be a fair price to put per ton; the price may run high as Rs.750, but investors would not be likely to take hig prices in reckoning out profits. We thus get the followin figures:—

	Rs.
Working expenses @ Rs.100 per acre on 120 acres ...	12.000
Interest @ 7 per cent on working expenses allowing Rs.1,000 per mensem (roughly) ...	450
Total expenditure ...	12,450
Crop @ 3 cwts. per acre, 18 tons at Rs.700 per ton ...	12,600

The balance is only Rs.150, and out of this sum the interest the capital has to be paid. This certainly is not a very bright vi of the position, but it is no use blinking at the fact that co planting at the present prices is likely to spell ruin to all exc those who have large capital to back them.

Among the coffee planters of this Presidency, some are alrea being sold up, and others are trying hard to sell out before th crash comes. It is the small capitalists and superintendents wh will be most affected by the present state of things. Estates w now have to be worked in the cheapest possible way. The fo

ductions made will be in the pay of superintendents, which even w is none too good. The low prices before 1892 caused owners cut down the pay of their superintendents and managers, and hough after that coffee took a turn for the better, the superinndents and managers did not benefit by the rise in price When the old days a planter came to grief, he could as a rule get an pointment under the Government or in one of the Native States. ow most of these openings have been closed to them, as men are ought straight from Home to fill the same. Can any of your aders, whom this letter may interest, suggest any way out of the fficulty? Possibly in the near future we will see a lot of penniless anters searching for work. Good times may come again, but w the men who have brought and are still bringing "creepers" t will see the fatal results of overstocking the market with sistants, superintendents and small capitalists.

PUBLIC SALES OF COFFEE.

In matters most nearly related to its material welfare, the coffee de is, says the *Grocer*, in a fairly prosperous condition, as supplies e abundant even to excess, the assortment is wide and varied, and ces for medium or useful qualities are decidedly moderate. The lers have thus opportunities of satisfying all possible requirents for home consumption on much more advantageous terms than y had a twelvemonth ago and consumers at the same time have ced before them better qualities at lower prices than they have n able to reckon upon for several seasons past. Favourable as se circumstances undoubtedly are, however, to the development l success of the trade in general, they have nevertheless been ended by one very serious drawback, and that is a congestion of blic sales, which tends to throw everything out of gear, and eatens to bring business in landed parcels of coffee to a deadlock. nplaints, though for the moment suppressed, are not the less ent and strongly made against the defective arrangements, as y now exist, for disposing of coffee by auction; and the evils ulting from the prevailing system in occasioning delays, loss of e, and postponements of sales, have caused such wide-spread invenience to importers, exporters, and wholesale dealers that s admitted of all parties that "something should be done" to edy the existing state of affairs as speedily as may be, or a plete break-down must occur in the whole commercial machinery supplying the article to the public.

lready this year public sales of coffee in Mincing-lane have n postponed more frequently than ever, entirely because of the essive quantities put forward on certain specified days, and it always been uncertain when and at what hour such and such auction in a long series would commence and finish. The same l of chaos and confusion has been repeated during the present k, when, among the brokers' catalogues printed and issued for ee to be sold under the hammer, were included eleven that con ed particulars of parcels and descriptions which had been adised for public sale on the 12th instant, being nearly a fortnight r than the date originally fixed. At this rate of progress new season will be far advanced ere the superabundant imports offee from the British East Indies, Costa Rica, Guatemala, and r parts of Central America, will be worked off, and the nearer trade get at the wind-up of the supplies for 1899, the fewer will r chances be of securing precisely the kind of coffee they re to carry their supply over till another year. A healthy comtion has prevailed at the different auctions since the earlier of the season, which fact goes to prove that both dealers and pers were practically bare of stock at the outset; and as their ts have increased rather than otherwise, the extra buying essary to replenish the exhausted stores of bonded or duty-paid e has lent additional support to the import market. Though rates submitted to have been unquestionably low for the worst riptions of coffee, they have been reasonably cheap, if at times en, for the middling and intermediate grades; whilst for ht coloury, fancy, and attractive growths of plantation coffee, ad of a reduction, a tangible advance has in many cases been

arious remedies have been suggested for preventing one day's f public sales from blocking the way for the next batch, but no ement can be drawn up that will suit all parties and interests, and nothing definite has been decided upon. In the absence of any official meeting, only informal measures have been proposed to mitigate what some persons speak of as a "nuisance," and these have been very coldly received. It is known that mild attempts at reform would be useless, and so a few of the leading members of the coffee trade, with bolder spirits than their fellows, have hinted that Monday, which from ancient custom has been regarded as an "off" day, should in future be given up for the purpose of clearing away the arrears remaining from public auctions held in the preceding week. Some such arrangement would no doubt materially help to bring the average daily supply of coffee within a manageable compass, and greatly facilitate the sale, preparation, and distribution of the article throughout the country; but from what we have heard in influential quarters so drastic a course of proceeding on the part of brokers and their merchants would be strongly opposed by the wholesale dealers, who would resist to the utmost any encroachment on their Mondays, since that day, apart from all others, is the only one they can make sure of for valuing and revaluing the coffee, raw and roasted, conducting their correspondence, forwarding special samples to travellers, and interviewing their customers, who are usually on a visit to town. To interfere with this old routine of dealing in coffee at public sale or by private contract would be to disorganise the trade and open the door to complaints of another sort, which we forbear to touch upon while there is a probability of their not assuming a formidable shape. The grievances under which buyers and sellers equally labour must, therefore, we fear, remain unredressed, and their best motto will be to "Let well alone."

CEYLON TEA IN RUSSIA AND SWITZERLAND.

Mr. M. Rogivue has sent to the "Thirty Committee" the following letter, dated Moscow 1/13 May 1899:—

Dear Sir,—I duly received your favor of the 27th February for which I thank you, also your Committee for their kind allowance of £40 towards the cost of my advertisement-cards, in the form of Ceylon views, which I have distributed over Russia. I now beg to inform you that I have this day taken the liberty to draw these forty pounds sterling upon your goodselves at ten days' sight, to the order of Messrs. P. R. Buchanan & Co., London, which I shall thank you to kindly honour on presentation. As regards the progress of Ceylon tea in Russia, I am of opinion that the last newspaper advertisements directed by Mr. Christie, under my supervision, have done a great deal of good and the fact that more of Russian Firms' Tea buyers are establishing themselves in Colombo, and that the direct exports of tea from Colombo to Russia are increasing yearly in large proportions, also that the import of Ceylon tea in Russia, through London, and Germany is also increasing steadily,—is the best illustration one can get of the progress the article is making in this country, ——— is right enough when he says that Ceylon tea is largely used for blending with Chinese teas, but he is decidedly in error when he affirms that the Russians don't drink pure Ceylon tea. Almost all tea merchants in Russia are now selling pure tea in packets, and I am not afraid of venturing to say that a few millions of pounds are now likewise (pure) sold and consumed yearly in Russia. The bulk of the trade, it is true, being however for blending purposes, because the Russians do not care any more for the weak and tasteless China tea they are getting now. I was lately in Switzerland when I had the pleasure of meeting my old friend, Mr. Bremer of Messrs. George Steuart & Co., Colombo; he was greatly interested with the work I am doing there for the introduction of Ceylon tea in Switzerland: where (at Morges on the Lake of Geneva) I have opened an Agency of Rogivue & Co., Limited, for the sale in chests and packets of *pure* Ceylon tea, which is now gaining great favour in that country. Mr. Bremer will be able to inform your Committee about my exertions in pushing the article there, and he gave me to understand that the Thirty Committee would gladly support me and reimburse me a part of my expenditure for advertisement which I am doing on a pretty large scale by the way of newspaper publications, fine placards with Ceylon views, cards, pamphlets, and samples of pure Ceylon tea distributed *gratis* all over the country.

RUBBER CULTIVATION IN CEYLON.

E. S. G. writes to the *Ceylon Observer* :—

In reply to your enquiry as to the relative merits of Castilloa and Para Rubber cultivation in Ceylon, I think, and always have thought, that the former is adapted to a wider stretch of country than Para, and it will moreover grow and flourish at a much higher elevation; but the tree (in Ceylon at all events) is slow in developing, requires a good soil, and seed is very difficult to get: in fact unless a quantity can be imported into the country, it will be a long time before we have any appreciable acreage of this class of rubber growing here. I doubt, if there are more than 50 or 60 full-grown trees in the island at the present time, and it is only *some* of these that bear fruit. Those in the Peradeniya Gardens, for instance, though well matured, I am informed, give no seed. What Mr. Willis says about Para rubber growing in Ceylon may be briefly summarized thus:—

(1) That there is only a limited area available for its successful cultivation, probably about 10,000 acres in all; the land being situated between Kalutara and Ratnapura.

(2) If planted outside this zone, the trees, although they may grow well and develop a good girth, are not likely to yield a sufficient quantity of rubber to make the industry a remunerative one by itself.

(3) That the tree will do very much better in the Straits than in Ceylon, both as regards growth and productiveness.

As regards the area available for Para cultivation in Ceylon, I am inclined to agree with Mr. Willis that it is not very extensive if the *best* results are expected, and there is no doubt that well-grown trees in the locality he speaks of will produce very much better returns than in less favoured districts where the rainfall is deficient and the soil inferior. Experiments I have made fully bear this out: the yield from trees of varying ages in the Kalutara district being largely in excess of what would be expected in a drier climate. But when Mr. Willis implies that we must not look for a satisfactory yield *outside* this zone, I join issue with him at once and inquire how about Heneratgoda and the trees that have been tapped there?

Here we have a dry, hard, cabooky soil with a scanty rainfall,—conditions altogether unfavorable for such cultivation,—and yet the trees are well grown for their age and according to the published returns the tappings have been successful, both as regards the quantity and quality of the produce. The prospects of Para cultivation in Ceylon have been based exclusively on data supplied from Heneratgoda Gardens, and it says a good deal for the future of the enterprise that the returns should have been so satisfactory, seeing that according to Mr. Willis the trees are growing in a neighbourhood which may be described as wholly unsuited to their requirements. I have always myself thought it a great pity that the Heneratgoda Gardens were chosen as a home for the Para trees, for the reason that amidst such surroundings it seemed almost impossible that results could be otherwise than unsatisfactory. The published records of the yield, however, shew to the surprise of everybody, a very good margin for profit, even if the price of rubber were to fall considerably below present quotations; and in more favoured localities, there is every reason to be well satisfied with the prospects of the enterprise.

I agree with Mr. Willis that the tree might be planted with advantage through fields of tea, and I am of opinion also that if placed at wide distances apart, the shade would be beneficial rather than otherwise to the tea underneath, but the trees would have to be kept well lopped up.

The statement made by Mr. Willis that Para rubber can be grown to better advantage in the Straits than in Ceylon applies to many other products besides Rubber, and if we are to wait until we find something that will produce better results in Ceylon than anywhere else we shall have to wait for a very long time.

Take Rice, for instance. Is this cultivation to be discouraged because it grows better in India and Burma than it does here?

Are we to cease growing Cacao because the trees give better returns in the West Indies?

Is the cultivation of Tea to be discontinued because we cannot get the flavour of Darjeeling or the strength of Assam?

In Ceylon we have labour and transport facilities which counterbalance to a great extent the drawbacks associated with an inferior soil and, what we are chiefly concerned in knowing, is not whether tropical products can be cultivated to greater advantage in other countries, but whether there is a fair prospect of ma them remunerative here.

In the case of Para rubber the only figures that have as yet made public in Ceylon go to shew that satisfactory returns ca obtained from trees growing under all the disadvantages of soil climate, and such being the case the presumption is that very m better results may be expected when the trees that have planted in other parts of the country have reached full maturit

I have figures at my disposal which point to excellent from this cultivation; but in view of the fact that more exte tappings are now in progress it may be well to withhold t statistics in the meantime, though in due course the informa may be imparted to those interested in the cultivation of Rub in Ceylon.

The yield from Rubber trees in the Straits is considerabl excess of the best returns in Ceylon; but as a set-off against labour is twice as expensive there as it is here; and there are o disadvantages to contend with, though none that are very ser so far as I am aware.

THE CURING OF COFFEE.

A correspondent writes.—Coffee planters of South India ap to be exercising themselves a great deal recently in considering effect of the sun in the curing of coffee for the market. In loo over the proceedings of a recent meeting of the Nilgiri Plan Association, I observe that a discussion has taken place regar the appearance of East Indian coffee as compared with that other countries, particularly with that from Costa Rica. It stated that the former was dull and unattractive, while the la has a brightness which commends it to the notice of dealer. T was little information elicited as to the manner in which a provement was to be made, though it was generally acknowle there is much room for it and prominence was given to the that curers in this country are working on the old lines of 2 more years ago, while other countries have shot far ahead i appliances for preparing their produce for the market. What st one as remarkable in this age of progress, when so many artif methods are employed in developing almost every industry, is no machine has been devised to dry coffee artificially. It is known that tea should never be exposed to the action of the s the process of manufacture which imparts to the leaf a pec flavour and colour.

In this connection one might reasonably enquire why the heat is indispensable so far in the curing of coffee, and o naturally disposed to think that much the same effect mus produced in regard to it as happens in the case of tea. If artii heat were applied the natural flavour would be retained, as powerful heat of the sun has the effect of absorbing or evapor the essential original properties the article possesses. Take a mon case in practice here with petty cigar dealers. When o and mould enters their premises they have recourse frequent the expedient of drying their boxes of cigars in the sun, what result only practised smokers know. The cigar loses al original flavour, the action of the sun depriving it by absor or evaporation, of its original properties. As a matter of coffee planters know that coffee dried in dull weather is al superior to that dried under other conditions. On the other h tea-planters will tell you that the sun gives a thick liquor and dish colour to tea. It must, as a logical sequence, have a si effect on coffee. In the case of coffee, it is considered by best able to form an opinion that artificial heat would the colour of the leaf and prevent the pale, scorched appea that the sun gives it.

Manufacturers of green tea are only too well acquainted wi fact that a rich bloom is given to tea in the facing proces was at one time believed that the Chinese used "Prussian B produce this tint which could not be secured by any other of manipulation. Great objection was taken to this class o that account but it was left to Western intelligence to pro this unhealthy device was quite unnecessary. It was fu monstrated that stirring the dry tea in a hot pan for a produced the desired effect. The argument follows treated in the same way will give similar satisfactory

CENSUS OF INSECTS.

An insect census has just been taken on purely scientific lines with a view to determine, as far as it is possible, which insects are a boon and a blessing to mankind, and which are the reverse. Although the statistics quite upset the old idea, that all insects and lower animals were created solely for man's benefit, yet it is conclusively proved that while some insects are rightly termed "pests," there are others that render us considerable service and fortunately for our crops and vegetation the latter are in the majority. According to the census insects are to be classified as good, bad, and indifferent; the good insects number 116 families, the bad insects amount to 113 familes, while the indifferent insects, who could not for one reason or another satisfactorily answer all the questions on their census papers, and must, therefore, for the present be looked upon as doubtful characters, reach a total of families. No fewer than 112 families of the bad or injurious insects feed upon cultivated plants and crops, doing damage to, and devouring thousands of pounds worth of vegetable produce annually; gobbling up our spring cabbages and succulent young peas, etc., in the most ruthless fashion; while the 113th family is parasitic upon and cause much harm to warm-blooded animals. Of good or beneficial insects, seventy-nine families devote themselves to the destruction of their wicked vegetable-devouring brethren, which they accomplish in a most satisfactory and wholesale manner, while the remaining useful insects thirty-two families act as scavengers, clearing away with great rapidity all sorts of decaying vegetable and animal matter, two families aid us as pollenisers and three form food for our eatable fishes.

CEYLON ASSOCIATION IN LONDON.

The Report of the executive committee, 1898-1899, laid before the eleventh annual general meeting, on 12th June, says :—

There has been again, as in every previous year, an increase in the members on the roll, the present number being 163 as against 159 in 1898.

As foreshadowed in the last report, arrangements were made by the Committee for the full statement of the case for Ceylon before the Indian Currency Committee. Messrs. T. North Christie and H. Bois gave evidence in much detail as to the effect on Ceylon producing industries of the forced appreciation of the rupee, and have thereby earned the thanks of the Association. The Currency Committee has now finished its sittings for taking evidence, and its report is awaited with interest.

On 19th December last a General Meeting of the Association was held to consider the following resolutions:—1. "That this Association strongly disapproves of the proposed expenditure on the Ceylon Northern Railway, as being opposed to the true economies of the Colony." 2. "That a deputation be appointed to wait on the Right Honourable J. Chamberlain, M.P., with the view of urging on the Government a re-consideration of the Ceylon Northern Railway scheme, and that Lord Stanmore be asked to introduce the deputation." The immediate result of the meeting was to disclose strong Ceylon residents at home, many of them with very large interests in the Colony, a remarkable consensus of opinion adverse to the Government scheme, and the resolution of disapproval was passed *nem. con.* The deputation to the Secretary of State, it was decided, should be postponed till the views of the public bodies in Ceylon could be ascertained.

The position of this very important public question in Ceylon at the date of the Association meeting was, considering the novelty and gravity of the proposals, a singular one. It is true that early in the year both the Planters' Association and the Chamber of Commerce had passed resolutions approving of the then Government proposals; but those proposals embraced another Railway, and hence the value of the resolutions, as bearing on the Northern Railway, was rendered very uncertain.

Subsequently a change was made by the Government, both in respect of the gauge and of the provision of funds for the construction of the Northern line, a change on behalf of which no word of approval has been heard as yet from any quarter. The public bodies in Ceylon accepted the amended scheme without protest. Not so the local press; and in view of published statements as to the condition of opinion in Ceylon, statements which were left without contradiction, the Executive Officers of the Association felt it their duty to allow the question to be re-opened. Their action has been justified by the subsequent proceedings of the Ceylon public bodies.

It was most unfortunate that when for a second time the question came before the Planters' Association and Chamber of Commerce calm discussion on the merits of the Northern Railway should have been prejudiced by the introduction of personal and irrelevant matter, the more so as in the result the protest to the Secretary of State for the Colonies was thereby greatly weakened.

A deputation, representing the various interests of the Colony, waited on the Secretary of State on 16th March, and was informed that the Railway would be made, and made as a broad gauge line.

The Committee is unable to share the regret expressed by the Ceylon Chamber of Commerce and by the Chairman of the Planters' Association at the action of this Association; but, on the contrary, deems it a matter of congratulation that, at last, a formal protest has been lodged against the new Railway Policy of the Government.

The vote of thanks, accorded to Mr. J. Henniker Heaton, M. P., by the Association for his services in securing for Ceylon the benefit of Imperial Penny Postage, led to an invitation from that gentleman to representatives of the Association to attend a conference at the House of Commons to consider a scheme for the reduction of the cost of telegrams between the United Kingdom and the Colonies. The invitation was readily accepted, and it is hoped that the agitation thus initiated may prove successful.

The Committee regrets to report the death, during the year, of Mr. W. Bowden Smith, a gentleman who, for forty years, had been connected with the Ceylon planting industry, and during the year 1874–76 had represented that industry in the Legislative Council.

THE TEA AND PRODUCE COMMITTEE.

REPORT.

The Committee has held four meetings during the year.

The first subject brought under notice of the Committee was the proposal for the reduction or abolition of the duty on tea imported into the United Kingdom. A Joint Committee was appointed to consider the matter, consisting of three members of the Indian Tea Association (London) and three members of this Committee, Messrs. W. H. Anderson, H. Bois and H K. Rutherford. But in view of the opinion, expressed by the Committee of the Planters' Association of Ceylon, that it was not desirable at the present time to press for the proposed relief it was decided to postpone any action.

A correspondence took place with the Postmaster-General as to the rates of postage and the limits of weight for samples of tea posted between London and Ceylon, but no modification of the rules was obtained.

The Indian Tea Association (London) submitted to the Committee certain proposals for changing the conditions of public sales of tea. The chief of these was the reduction of the biddings at sales up to 6½d from ¼d to ⅛d., but the proposed alteration did not meet with the approval of the Committee. A new scale for deposits, payable on the purchases of tea at public sales, was approved by the Committee, but it has not yet been adopted in practice.

An attempt was made without success to obtain a reduction of the very high rates of freight ruling for tea and other produce between Colombo and the Australian ports.

In conjunction with the Indian Tea Association (London) a circular has been issued to all producers and importers of Tea, inviting assent to the proposed abolition of the allowance of 1 lb. draft on each package of tea sold at public sales. A large number of assents has already been received, and it is hoped that there may be sufficient support to enable the reform to be shortly carried into effect.

The great improvement in the statistical position of tea during the year, as giving hope of a more prosperous time in the near future, is matter for congratulation to all concerned.

HOW IT STRUCK AN AMERICAN.

[EXTRACT FROM A LETTER RECEIVED FROM GENERAL NAGLE BY MR. R. E. PINEO.]

"MY DEAR SIR,—I was quite delighted with your beautiful city, and with the evidences of prosperity which we saw on every hand.

"I have just read an article from your pen entitled 'Ceylon Tea in America.' Being an American, I was struck with the force of your suggestions concerning the most effective advertising of Ceylon tea in America.

"There is no question but that you people furnish a tea that is superior in quality and flavour to anything that comes to our shores, which, if properly advertised—its merits well demonstrated—would secure for it a very large sale indeed.

"Your Exhibit at the World's Fair in Chicago in '93 certainly must have augmented the demand for it very much, BUT A LIKE AMOUNT SPENT AS YOU SUGGEST WOULD BRING FAR GREATER RETURNS. The States are of very wide extent, filled with seventy millions of prosperous consumers. There is no way to make an impression on them in favour of Ceylon tea, but by hanging your banner on the outer wall and *keeping it there* CONTINUALLY. *The people who drink tea must see the banner*—not the jobber alone—and it will be of infinitely more advantage if they can be induced to sample the tea. In almost every case this will result in securing a new customer, which will swell the demand for the tea, and will furnish an incentive to the retailer and wholesaler alike to *push* Ceylon tea. *The advertisement in the local newspaper with the dealer's name attached will be worth far more than any general advertising you can do.*

"I have been a maker of American newspapers the greater part of my life, and feel that I know something of the subject in hand. I think I am safe in saying that, if Ceylon tea is properly put before the American people, you will have gained a permanent customer that will make the beautiful island of Ceylon, with its enterprising and interesting people, wealthy beyond expectation."—*Ceylon Observer.*

ATTAR OF ROSES.

The *Chemist & Druggist* says :—

A well-informed correspondent in Bulgaria writes to us under date, May 19, as follows :—"The distillation of the new rose crop has just begun. Compared with previous crops this year's rose-harvest is at least ten days earlier. This is due to the hot and dry weather which has prevailed throughout the entire country since the beginning of May. Should this hot and dry weather continue for the rest of month the rose-harvest, instead of lasting three or four weeks, may last only two weeks, and the yield may be just about the same as last year's. If, on the contrary, cooler weather sets in and we have one or two rainfalls, the present crop is bound to be considerably larger. Everywhere the yield of rosebuds is abundant, and the one thing just at present wanted is cooler weather to keep back the rapid opening of the roses and to enable the growers to duly gather and distil the flowers."

It having been stated that certain Bulgarian rose-growers have recognised the value of guaiacum-wood oil (so-called champaca-wood oil) as an adulterant of otto of rose, Mr. E. J. Parry, B. S., F. J C., writes:—I have not been able to find much information in regard to this oil, but have recently examined eight samples from different packages of a consignment of otto of rose, of which seven gave results which agree closely with what is known of it. The congealing-points were in all cases within the usual limits of normal rose oil—from 19° to 22°—and the optical rotation was quite normal. The sp. gr f., however, varied from 0·8·0 to 0895. The stearoptene is of a beautifully crystalline character, not closely resembling that of pure rose oil in appearance; it melts at 33°—34°, but gives an acetyl number, indicating the presence of a solid alcohol. I had not sufficient of the oil to examine the stearoptene of each in this way, but it is probable that each contained this solid alcoholic constituent, and provided one can separate about 2 grammes of stearoptene the presence of this body, which is indicative of the presence of guaiacum-wood oil, may be detected with certainty.

THE FERTILISATION OF PLANTS.

M. Guignard presented to the Academy of Science on April 4 paper on "The Processes of Fertilisation as observed in Lili Martagon." The paper is very technical, and can only be follo in its entirety by specialists. In the pollen-tube, as is now kn known, are formed two cells, one vegetative, one reproductiv In the embryo-sac also are various nuclei, one of which is call the polar nucleus, as well as groups of cells at either end. As as the pollen-tube penetrates the embryo-sac, one of the two ma nuclei unites with the polar nucleus, the other with the oosphe or egg-cell. The male nuclei elongate into the form of a hook crescent, ultimately becoming spirally twisted. Although no ci are visible, M. Guignard does not hesitate to call this an "anth rozoid" from the close analogy there is between this and the ma reproductive bodies of the higher cryptogamous plants and some gymnosperms (Ginkgo, Cycas). In summing up M Gu nard says that the essential phenomenon observed by M. Nawa chin and himself, consists in a two-fold sexual union in the embry sac, the one resulting in the formation of the embryo, the oth developing into the albumen or perisperm in which is stored up t food required by the embryo. If these results be confirmed, t gap between the vascular cryptogams and the flowering plants again bridged over. The albumen, as well as the embryo, th seems to be the result of a sexual process, which is quite a no idea. The variations in the number of the chromosomes, sugge to us a possible explanation of the phenomena of "sporting" a of variation generally. It seems that the life-history of the flowe ing plants and all that it implies, must be studied in the dev lopment of the embryo-sac and its contents. These research must therefore be made by the few, for not many can be endow with the necessary skill or material requirements.

THE DETERIORATION OF COFFEE.

Apropos of the deterioration of East India coffee, w may call our readers' attention to remarks of the *America Grocer* based on the following inquiry from a Colora correspondent :—"Will you please inform me why coffee w get now is so inferior to that of 1860? Especially is th true of old Government Java. We now pay nearly thre times the price and the quality has deteriorated one-hal Other grades have suffered in like manner, but not to su an extent. Are the best products shipped to other marke or the berry picked too green, or the want of age?"

Our contemporary remarks :—It is conceded by experts that t average quality of coffee at the present time is not equal to that former years. This is probably due to the excessive producti particularly in Brazil. It is the experience of dealers that whe large crop is to be marketed, planters do not take that care its preparation which they do when the crop is small. While th is true, it is also true that it is still possible to get as fine or fi coffee as was ever imported into the United States. But the p portion of old Government Java coffee of high grade to the to supply is less than one per cent. Brazil now furnishes nearly 80 p cent. of the total supply of coffee. A large proportion of San coffee, which is mild in flavor, is used as a substitute for E India sorts, as are many of the varieties grown in Central Amer Venezuela, and the United States of Colombia.

While you can procure as fine a coffee as in former years, it somewhat more difficult, as now-a-days the great bulk of the co sold at retail is roasted before it reaches the retailer, and therefo he is not as sure that the coffee is as true to name as when bought his coffee in the raw bean and had it roasted as wa This latter policy is the invariable rule with all high-class g particularly in the largest cities, and notably in the Eastern a Middle States.

Undoubtedly the methods of preparation on the plantations superior to what they were forty years ago, but the coffee is

d to market in steamers instead of coming by sailing vessels, and thus loses the mellowing influence of time. We must also cognize that the production of coffee, while extended in Central d South America, has declined in the East Indies and Ceylon, ere the production is not over one-third to one-half of what it as-twenty years ago. The result is that there is such a demand the fine coffee of Sumatra and Java that the price is nearly ee times what it was in former years.

At the present time there is a range in the value of raw coffee of m 6 to 32 cents per pound, and it is stated that some very fancy azil Mandheling, which is very scarce, would command 2 to 3 nts per pound more.

Age is of benefit to green coffee, and hence our leading retailers re Java coffee for a long time, in order to be certain of getting e quality and keeping their standard high and uniform. The mber of dealers doing this, however, is comparatively small, cause probably 95 per cent. buy their coffee roasted, and they never ow whether it is true to name or not, as the identity of the bean appears in the roaster, at least so far as it relates to the place growth The writer has used coffee for thirty-four years, and drinking as fine coffee to-day as he ever used, but it costs a high ce and is only obtainable from the most reliable firms in the siness. "The man at i'o'keepsie," to whom "Coffee, from Plant-on to Cup," by Francis B. Thurber, was dedicated, is serving rons with as fine a cup of coffee as he was thirty years ago.

In order to test the above expression of opinion, we sought out . William Merrall, of Acker, Merrall & Condit, for fifty-four years ealer in fine coffee, who said: "I have always taken a great erest in coffee, as is indicated by the bill which you see hang-by my desk, bearing date Albany, April 5, 1830, made by R. Morris, and calling for fifty pounds of Java coffee at 15 cents pound. To-day I am figuring for a fine old Mandheling at 35 nts per pound. We have just as good coffee to-day as in 1860, the secret of it is that we maintain our high standard by rchasing the finest mat coffee, and having such as come by sail-vessels instead of steamers, and then storing them for a long e, as age improves flavor or ripens the bean, bringing out the ightful aroma. I imagine your Colorado correspondent has d in the East and is disappointed that he cannot find in the st the same sort of coffee he used to get here. Of course, the mand for fine Java coffee is so out of relation to the supply that price is high, and dealers generally sell other sorts as Java, this firm has always maintained its high standard for half a tury."

TEA CONSUMPTION IN PERSIA.

Messrs. W. S. Cresswell & Co., circulate the following correspondence regarding the consumption of tea in Persia:—

British Legation,
Teheran, May 6th, 1899.

Messrs. W. S Cresswell & Co.,
10, Hare Street,
Calcutta.

IRS,—In my letter of February 18th last I informed you that I ld make enquiries regarding the sale and consumption of tea Persia at the various trade centres, and would communicate to the results of my enquiries. I have since ascertained that you e addressed Her Majesty's Consular Officers in Persia directly he subject, and that reports with samples of tea have already n supplied to you from Meshed, Ispahan and Bushire. I smit to you herewith a report which has reached me from Her sty's Consul-General at Tabriz on the tea trade of his district, I further enclose such particulars as I have been able to obtain rding the tea trade of Teheran, together with samples of the cipal varieties of teas sold.

sting that this information may prove of use. I remain, Sirs, obedient servant—H. M DURAND.

Her Majesty's Consulate-General, Tabriz, 16th March, 1899.

His Excellency Sir Mortimer Durand, K. C. S. I., K. C. I. E., etc., H. M. Envoy Extraordinary and Minister Plenipotentiary, ran.

SIR,—In reply to Your Excellency's Circular of the 10th February transmitting the copy of a letter from Messrs. Cresswell & Co., of Calcutta, desiring information with regard to the consumption of tea and the prospects of the trade in Persia, I have the honour to submit the following information on this subject which I have been able to gather:—

The amount of Indian tea imported from Calcutta and other parts of our Indian possessions, *viâ* Trebizonde, is some 20,000 chests, weighing from 80 to 100 lbs. each, upon each of which the charges, between India and Trebizonde, are from Rs.7½ to Rs.8.

This quantity is not totally absorbed in this province, part of it being distributed to Teheran and other places.

Tea drinking is the only solace and relaxation of the Persian native, and the leaf is to be found in every corner of the land.

Its use can only augment as the population increases, for it is used in preference to water. The decoction is, however, always taken hot and weak, and the addition of water to the first brew brings the comforting draught within the means of the lowest purse.

These teas are distinguished in Persia by the following names and prices, the pound sterling being at 52 krans.

"Shahi"—(of mediocre quality) price per lb. krans 3½.

"Galami"—(pen-like) so called owing to its being a thicker and long leaf, ordinary quality 3 to 3¼ krans per lb.

"Agh Par"—(white leaves) owing to white or greyish leavel being found in it, considered best quality, 4 to 5 krans per lb.

Natives alone are importers of these teas, and they pay 5 per cent. duty to the Customs, but are subjected to fees and dues exacted by Custom, etc., amounting to another 5 per cent.

Indian teas are transported in bulk in zinc or lead paper lined cases of the weights already mentioned (80 to 100 lbs.)

Some 383 cases, containing about 200 packets of 1 lb. of Russian (caravan) tea, are imported over the border, but is only used now and again by the wealthiest classes, for it is mostly high priced.

Carefully selected and docketed samples of the Indian and Russian teas used in these parts accompany this report.

I have, &c., (Sd.) CECIL G. WOOD.

TEHERAN TEA TRADE.

General.—All the tea consumed in Teheran appears to be imported, directly or indirectly, from India or Ceylon None is imported from China. Import, say, 600 cases monthly. The trade is almost entirely in the hands of Persian merchants, but Parsis import five to six hundred cases yearly. The trade is said to be increasing. The duty (octroi) is ten shahis per case The credit system of purchase prevails, as far as the wholesale trade is concerned.

"Kalameh."—The variety most commonly consumed is called "Kalameh," about 400 cases monthly being imported. Each case contains about 15 maunds (say 100 lbs.). There are three qualities of this tea, and the wholesale prices average 15 to 17 krans a maund, though higher rates rule occasionally. Imported *viâ* Persian Gulf.

"Sefid Kerpek."—Tea is also imported *viâ* the Persian Gulf, to the extent of about 80 cases monthly. There are two qualities. The better is packed in green wooden boxes and fetches about krans 50 per maund. The second quality is packed in tin boxes, and averages about krans 25 per maund.

"Pashmeik Sefid."—About ten cases of this quality are consumed monthly, and present price is about krans 34 per maund. Import is *viâ* the Persian Gulf.

"Tabriz" tea is of two qualities. It reaches Teheran *viâ* Trebizonde and Tabriz, packed in ten-maund cases. The best quality fetches krans 30, and the second krans 22 a maund as an average.

"Russian" tea, so-called, is imported to the extent of 50 cases monthly. It originally comes from India, but passes *en route* to Persia through the Moscow district, where it is adulterated to suit the taste of a section of the Persian tea drinkers. This tea is packed in "Gervonkehs" of 80 miscals each, to case containing 260 gervonkehs (100 miscals equal about 1 lb.). Prices about krans 3 per gervonkeh. About ten cases monthly are imported containing pictured tins of this tea, which realise about krans 5 each.

DISTRICT ASSOCIATIONS.

WYNAAD.

Proceedings of a Committee Meeting of the Wynaad Planters' Association held at Meppadi, on 7th June 1899. PRESENT:—Messrs. J. W. Hockin (Chairman), C. E. Abbott, D. Mackenzie, J. R. Malcolm, S. Robinson and E. de Fonblanque, Honorary Secretary.

Roads.

Resolved,—That Mr. W. B. deWinton, Chief Engineer, P. W. D., be addressed on the subject of the large deduction made from the Government Grant towards the up-keep of the Calicut-Choladi road by the amount diverted for the maintenance of *The Chundale*—Sultan's Battery road.

Read letter from Mr. R. K. Walker resigning his seat on the Committee and on the District Board, Calicut, owing to his leaving for England.

Resolved,—That Mr. M. Douglas Taylor be requested to act on the Committee in Mr. Walker's place.

Pudu Padi Hotel.

Resolved,—That C. Shangran's pay be stopped until the stables and bungalow be put in order.

Next General Meeting.

Resolved,—That the next General Meeting be held at the Jubilee Hall, Vayitri, at 2 p.m., on 2nd August.

E. DE FONBLANQUE,
Honorary Secretary, W. P. A.

COORG.

Proceedings of the Annual General Meeting of the Coorg Planters' Association, held at the North Coorg Club, June 1st, 1899. PRESENT:—Messrs. R. Selby Branson, H. F. Davy, T. L. Hext, J. W. Irwin, C. G. Maclean, W. G. Mackilligin, J. S. Morgan, A. W. Ogilvie, A. E. Wright, and W. H. Sprott, Acting Honorary Secretary.

The accounts for the year were submitted and showed an expenditure of Rs.1,349-13-6 and a balance of Rs.410-1-3, of which nearly the whole are outstandings. The acting Honorary Secretary then read the Annual Report.

Annual Report, May 31st 1899.

GENTLEMEN,—Owing to the retirement of Mr. Parsons from the Secretaryship on his leaving for England, I have carried on the work of the Association for the last six weeks, until a new Secretary could be appointed at this Meeting; and, in presenting to you this report, on behalf of the Committee, hope you will remember that I have only been acting as Secretary for a very short time. I am sure you will agree with me that the hearty thanks of the Association are due to Mr. H. G. Parsons for the very efficient way in which he has carried on the work of the Association and regret his retirement from the post of Secretary, which he has so ably filled for the last five years.

Crop.—The coffee crop just gathered was one of the best the country has given for some years; but, unfortunately, the poor quality of the coffee, owing to the season, and the great drop in prices, owing to the large Central American and Brazil productions, has deprived us, to a great extent, of the benefit of the good crop. The price of native coffee was also extremely low, and large areas have been abandoned by the natives and have gone out of cultivation. The official returns of the coffee crop for 1897-98 were 2,500 tons against 2,030 tons for 1896-97, and this year, in spite of the decrease of native, coffee should show a substantial increase. Next year the prospects are almost universally poor, and a great deal of damage is reported to have been done by abnormally heavy rain in April. However, we can only hope for better quality and better prices. Mr. Cameron, whose services were so kindly lent by the Mysore Durbar, made a tour of these coffee districts during November, and delivered two very interesting and instructive lectures at Mercara and Pollibetta, a report of which has been printed and circulated, and has also been sent to the U. P. A. S. I., and will doubtless form a subject for discussion at the next Meeting. Our best thanks are due to Mr. Cameron for the trou[ble] took, and for his very able and instructive lectures, and to Mysore Durbar for lending his services.

Tea.—About 50 acres have been planted by Mr. Parsons du[ring] the year, but, owing to small plants being put out, the clearing not so successful as it might have been. This industry is b[eing] watched with great interest.

Cinchona.—Owing to the rise in the price of this product, increa[sed] interest has been given to the hitherto-neglected cinchona t[rees] and several lots of bark have been sent home for sale.

U. P. A. S. I.—One of the most important matters brought before the Meeting in August 1898 was the currency question, a[nd] the policy of Mr. Acworth. Your delegates, acting under [in]wishes there, disapproved of it and were supported by South M[alabar].

There now seems little doubt that the Currency Committee w[ill] recommend a 1*s.* 4*d.* rupee, and the adoption of a gold coinage be gradually introduced into the country. This as yet has tended to ease the scarcity of money, and, until some final deci[sion] of this great question is arrived at by the Government of In[dia] money is likely to continue scarce, as no one knows whether mon[ey] brought out from England may not have to be returned at a los[s].

You will doubtless have read, in the U. P. A. S. I. Report, [a] very interesting discussion on hybridisation, which still seems promise to help us in our industry. Mr. Cameron, when he seemed to think very highly of it, and is carrying out a series experiments in Bangalore, and wrote, a short time ago, saying t[hat] he thought he had been successful in cross fertilising several spec[ies] of coffee.

The subject of an agricultural chemist was also brought up, a[nd] your delegates urged the Chief Commissioner to support us, and and get the Government to give a grant, so that Coorg should a[lso] have the benefit of the chemist whom the Mysore Durbar h[as] brought out. Unfortunately, in spite of the Chief Commissioner's support, the Government of India did not see its way to help us the matter, so that we have lost the opportunity of getting benefit of his services at a small cost, which the wise and far-see[ing] policy of the Mysore Durbar has now started for the benefit of Mysore State.

Committee of Enquiry.—The Government of India have ackn[ow]ledged that we have gained our case, and the matter has been f[or]warded to the Government of Madras to frame a Draft Act. T[his] has not been forwarded to us, though we have had certain hi[nts] of the Draft Act indicated to us, and are unanimously of opin[ion] that a deterrent fine should be imposed on all contracts rescind without notice, and that six months' notice should be given of a wi[sh] to terminate an agreement.

Roads and Communications.—These have been fairly well ke[pt] up during the year. A portion of the work on the Wynaad-Pona[ni]pett Road has been done, and it is to be hoped will be complet[ed] this year. Rs.5,000 has been granted to make a start on t[he] Hutti and Madapur Bridges, and it is satisfactory to note th[at] Government has at last listened to the representations of [the] Association, after so many years, in this important matter.

Police & Revenue.—The paragraph No. 4 in the notes by the Ch[ief] Commissioner of Coorg on the report on the administration [of] Coorg for the year 1897-98 speaks for itself, and I cannot do bett[er] than quote it, as it expresses what we have been urging on Gover[n]ment for many years.

"The administration of Coorg in this important departm[ent] must, I am afraid, be described as being in a very backward con[di]tion.

"The revenue management is only just emerging from darkn[ess] and chaos. The subordinate officials are distinctly inferior to th[ose] on whom District Officers necessarily depend for assistance revenue work in other parts of India, and the field for selection at present unfortunately limited. The Police force is underp[aid] and is, in consequence, unable to attract suitable recruits [and] besides, insufficient European control. The arrangement, un[der] which the District Magistrate combines executive police duti[es] with his magisterial work, is both theoretically unsound and pr[ac]tically disadvantageous. A high standard of work cannot, in these circumstances, be expected. The conclusion I draw fr[om] close study of the administration of Coorg is that the maintena[nce] of anything approaching the thoroughness and efficiency to be fo[und] in other Provinces in the Revenue and Police Departments impracticable of attainment so long as the existing defe[cts] allowed to continue. I hope shortly to be able to submit a sch[eme]

partial reorganization for the consideration of the Government India."

Plague.—Fortunately we have escaped the plague so far, though has broken out in the Mysore State, not far from our frontiers. l possible precautions have been taken to prevent its coming to the country, and plague rules issued. So we can only hope at it will be shortly stamped out. Luckily our officials are fully are of the difficulties of enforcing stringent plague measures, ing to the enormous loss that would be entailed on us all, if our our and food-supplies were stopped coming in.

In the event of disease appearing on the coffee estates, it will t with ourselves, in a very great measure, to stamp it out, as roughly as possible, and it is to be hoped that every planter, for own sake, will use every endeavour to do so.

General.—Coffee assessment for the year 1897-98 showed a decrease Rs.1,374-15-1, and, owing to large areas being abandoned by tives, it is probable that there will be a still further decrease s year. The total revenue of Coorg for 1897-98 is the lowest since 00-91, showing a decrease of Rs.25,500, but, owing to reduced enditure on D. P. W., the net surplus, Rs.2,65,700, is higher than the year 1896-97 by some Rs.19,000. This is hardly a satisfactory te of affairs for us who are so dependent on good roads and mmunications, and we are glad to hear that a larger grant has n sanctioned to the D. P. W. this year.

Labour has been abundant during the year. For some reason the ality of the coffee has generally been much below the usual ndard, which has seriously affected our prices, which are the est we have had since 1884.

I should like to point out to members that it very much in- ases the difficulties of the Secretary, if he is without funds, and to be continually sending out reminders that subscriptions are e.

There are 73 members from last year, of whom one, Mr. B. engappa, has died: five new members have joined and three more m June 1st, and one Honorary Member.

Your Committee, President and Honorary Secretary now der their resignation, and ask you to open the balloting papers.

Proposed by Mr. Mackilligin and seconded by Mr. Morgan, that report and accounts be passed.—*Carried.*

Balloting papers for the President, Secretary and Committee wed as the result that Mr. W. H. Sprott was elected President, A. Lambert was elected Secretary, and the following as mbers of the Committee:—

North Coorg.	*South Coorg.*
Mr. W. M. Ball.	Mr. J. Logan.
„ C. E. Murray-Aynsley.	„ J. S. Gerard.
„ E. A. Fennell.	„ H. Grant.
„ G. R. Pearse.	„ W. Davies.
„ J. T. Morgan.	„ W. G. Mackilligin.
„ H. F. Davy.	„ E. M. Breithaupt.
	„ H. G. Parsons.

he papers with reference to the Paris Exhibition of 1900 were l and the practicability of a joint coffee shop was discussed. advisability of going in for the latter and subscribing funds gone into.

roposed by Mr. Maclean and seconded by Mr. Mackilligin, the matter be left in the hands of the delegates at the P. A. S. I. Meeting, who should use their discretion on hearing t the other Associations propose to do—*carried.*

roposed by Mr. Sprott and seconded by Mr. Wright, that the ernment be written to, asking them that the notices of all land e put up for sale for arrears of assessment be sent to the ounding proprietors and owners, and also that they be published he Gazette, as well as affixed to the premises mentioned in e 97 of the new Coorg Land Revenue Regulations—*carried.*

roposed by Mr. J. Irwin, seconded by Mr. Sprott, that the Govern- t be asked to publish a detailed map of Coorg, as soon as ible, now that the survey has been completed—*carried.*

roposed by Mr. Sprott, seconded by Mr. Mackilligin, that T. Macpherson be elected a member of the Association—*carried.*

he Meeting then closed with a vote of thanks to the President Secretary.

he following papers were laid on the table:—

1. *North Mysore Planters' Association.*—Proceedings of Annual eral Meeting held at the Club, Balehanour, March 22nd, 1899.
2. *Nilgiri Planters' Association.*—Proceedings of Annual General Meeting held at the Masonic Hall, Ootacamund, May 10th, 1899.
3. *South Mysore Planters' Association.*—Proceedings of Annual General Meeting held at the Munzerabad Club, Saklaspur, April 30th, 1899.
4. *Central Travancore Planters' Association.*—Proceedings of Quarterly General Meeting held at the Carrady Goody Bungalow, April 8th, 1899.
5. *Shevaroy Planters' Association.*—Proceedings of Committee Meeting held at the Victoria Rooms, May 1st, 1899.
6. Draft of Coorg Land and Revenue Regulations, 1899.
7. Report of Mr. Cameron's visit to Coorg.
8. Report on Administration of Coorg, 1897-98.
9. Report on operations of the Department of Land Records and Agriculture, Madras Presidency, 1897-98.

W. H. SPROTT,
Acting Honorary Secretary.

TWO OF A TRADE.

That two of a trade seldom agree is a common saying. Its weakness, however, resides in the fact that it is a cavilling, sneering saying. The idea sought to be conveyed is that the disagreement is the outcome of reciprocal jealousy. While that is likely, it is not a necessary, or even a philosophical, inference. Two of a trade may easily see reasons for an honest difference of opinion to which the outsider is blind. Again, two of a trade may agree and both be wrong—on a point, of course, connected with their own industry. Some years ago there was high debate over the question whether a painting, exhibited in Paris, was an original Velasquez or a copy. Half the artists and *connoisseurs* in Europe got hot under the collar about it. It was one or the other—so they said. Later on the fact came out. It was neither an original nor a copy; it was a *replica*. The experts were mistaken. And so runs speculative judgment in everything.

Here is the case of two doctors; both, doubtless, competent men. If they were wrong, or if only one was wrong, - but let us have the story first. It comes from a reputable source, and is well corroborated.

"In March, 1891," says the relater, "I had a severe attack of influenza, which prostrated me for two months. After this I could not get up my strength. My appetite was poor, and what little I did eat gave me much pain at the chest and around the heart. Sharp, cutting pains in the region of the heart seized me every now and again, sometimes so bad I feared I was going to die. At night I got little or no sleep on account of wind, which rose into my throat until I fairly gasped for breath. During the painful attacks of my complaint perspiration would stand in beads upon my face.

"I soon lost strength to that extent, I could not stand. Indeed, I was weak as a child. I was often so dizzy I had to catch hold of something to keep me from falling. Several times these attacks have come upon me at concerts, obliging my friends to conduct me home. As time passed on I grew more and more feeble and abandoned all hope of ever being well and strong again.

"I had two doctors attending me who prescribed medicines; which, however, eased me only for a time and then I was as bad as ever.

"*One doctor said I had pleurisy; the other said I had heart disease.*

"For two and one-half years I lingered along, nearly as much dead as alive, all my relatives and friends thinking I would not recover. In November 1893, a book was left at my house in which I read of a case like mine having been cured by Mother Seigel's Syrup. My wife procured me a bottle from the Provincial Drug Stores in Westgate Street, and the first bottle gave me so much relief that I continued with the medicine. I could then eat well and the food agreed with me; the pain around the heart soon ceasing.

"In a short time my strength returned and I got back to my work well and vigorous. Since then I have been *in the best of health.* You are at liberty to publish this statement and refer to me."—(Signed) William Henry Jervis, 48, Rendlesham Road, All Saints, Ipswich, November 13th, 1897.

One of Mr. Jervis' doctors pronounced his complaint to be pleurisy; the other said it was heart disease. Were they both right, or both wrong? Or was one right, and the other wrong?

In the latter case—which one? Judging from the symptoms as set forth by Mr. Jervis the probability is that both were right—*as far as they went.*

The sac or bag which surrounds the heart (called the pericardium) and the sac in which the lungs rest (called the pleuræ), are parts of the lymphatic system; which is the especial abiding place and stamping ground of the kind of poison, produced by the diseased digestive system, and the cause of rheumatism, gout, pleurisy, and heart disease. Now, after (if not before) his attack of influenza Mr. Jervis suffered from acute dyspepsia with torpid liver, which engendered the poison that set up a mild form of both pleurisy and heart disorder When the real and underlying ailment of all—the *dyspepsia*—was cured by Mother Seigel's Syrup these supplementary or consequential troubles vanished, as might be expected

So we see that—strange as it may seem—two of a trade can differ and both be right.

MARKET REPORT.

By Mail advices of 2nd June 1899.

COFFEE.

The *London Commercial Record* says:—The auctions this week have consisted mainly of Costa Rica and other Central American descriptions, the demand for which has been slow and values irregular. Colory qualities have sold at steady prices, but the lower grades have been flat, and only partly sold at a decline of 1s to 2s per cwt. East India attracting little competition the bulk was withdrawn from the auctions, the small proportion which was sold being again rather cheaper. The market for "futures" has been flat at declining prices.

Brazil "futures" close as follows:—

London	Santos	July delivery	28s.
New York	No. 7 Rio	„ „	4.85 cents.
Hamburg	Santos	„ „	28½ pf.
Havre	Santos	„ „	34¼ francs.
Holland	Good ordinary Java		27¾ cents.

Imports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
Tons	23,301	15,941	25,624	23,618
	Home Consumption.		Export.	
	1899.	1898.	1899.	1898.
Tons	7,090	6,465	9,671	10,856

The preceding figures exhibit—

In the Imports an increase this year of 2,006 tons.
Home Consumption an increase of 625 „
Export a decrease of 1,185 „
Stock an increase of 7,360 „

Ceylon.—13 casks 5 tierces and barrels nearly all sold—small low brownish 41s. low medium 64s 6d to 80s 6d, extra bold 113s, pea-berry 60s to 73s.

East India.—1,653 bags offered and partly sold—*Mysore*, small low dull greenish foxey to fair dull greenish 33s 6d to 42s 6d, small blue 45s, low middling 60s, bold 75s, pea-berry 75s; *Pulneys*, pea-berry 74s; *Nelliampathy*, small 38s, low middling 47s 6d to 49s, bold 72s 6d to 73s, pea-berry 73s to 74s; *Neilgherry*, small dull greenish 33s, low middling 45s, bold 62s; *Peermade*, small fair greenish 38s 6d, low middling 46s.

Costa Rica.—4,650 bags nearly all sold, viz., small low greenish to fair colory mixed 32s to 39s, good ordinary to fine ordinary greenish 36s 6d to 43s 6d, fine fine ordinary pale greenish to low middling colory 46s to 6d to 54s middling to good middling blue 58s 6d to 69s 6d, fine middling 75s to 79s 6d, bold good to fine 80s to 90s 6d, pea-berry 53s to 81s.

Colombian.—1,015 bags partly sold—small low mixed to fair colory 26s 6d to 38s, low middling greenish to middling colory 46s 6d to 54s, good middling colory 56s to 61s 6d, bold good blue 70s to 70s 6d, pea-berry 52s to 60s 6d.

Guatemala.—2,111 bags offered and a fair quantity sold, small common mixed grayish to good colory 31s to 42s, fine ordinary grayish to fine fine ordinary brownish and greenish 41s 6d to 45s, middling grayish to colory 51s 6d to 56s, good middling colory to 60s, bold good colory 70s to 80s, pea-berry 54s to 85s.

Salvador.—1,085 bags offered only a small portion sold good fine ordinary grayish 38s to 43s, pea-berry 47s.

Mexican.—792 bags offered about half sold, small fair colory 6d, middling blue 52s to 52s 6d. pea-berry 75s.

Receipts in Rio and Santos.

Since July 1	1898-9. Bags.	1897-8. Bags.	1896-7. Bags.	1895-6. Bags.
Rio ...	2,964,000	4,125,000	3,362,000	2,232,000
Santos ...	5,261,000	5,998,000	4,928,000	2,912,000
Total ...	8,225,000	10,123,000	8,290,000	5,144,000
Crop	—	10,461,000	8,680,000	5,489,000

Rio Exchange—7$\frac{15}{16}$d, previous day 7$\frac{29}{32}$d.

Havre, June 1.—Santos good average June opened quiet at and closed quiet at 34f., July opened at 34¼f. and closed at 34

Hamburg, May 31.—Good average Santos May opened quiet 28½pf. and closed quiet at 28¼pf., September opened at 29¼pf. closed at 29pf.

New York, May 31.—Closing prices of No. 7 Rio were as follow

	May.	June.	July.	Aug.	S
May 31 ...	—	4.80	4.85	4.95	
May 30 ...	4.90	4.90	5.00	5.05	

Prices realized at auctions for some of the principal marks of I India:—

MYSORE.

	A	B	C	PB	
H C S Mysore	no bid	66-0	49-6	105-0	44
	1	2	3	PB	
Edwin Hunt's Mullapoor Mysore ...	85-0 bid	60-0	45-0	no bid	33

COORG.

	A	B	C	PB	
Koorghully	80-0 bid	55-0 bid	40-0	83-0	44
		1	2	PB	
Arbuthnots Kembu Kollie		no bid	44-0 bid	no bid	36
Do. Yemmagoondi ...		60-6 bid	no bid	no bid	36
Do. Polli Betta		65-0 bid	no bid	70-0 bid	36
W W F △ B		73-0 bid	48-0 bid	77-0	33
Guhya Estate Coorg		69-0 bid	48-6 bid	75-0	

NEILGHERRY.

	A	B	C	PB	
Neilgherry S&Co.◇	67-6 bid	49-0 bid	41-0	71-0 bid	3

NELLIAMPATHY.

	A	B	C	PB	
Polyampara Nelliampathies ...	82-0 bid	56-0 bid	43-6	75-0 bid	3
Nelliampathy Monkwood	73-0	49-0	38-0	74-0	3
Do. do.	72-6	47-6	38-0	73-0	3

PEERMADE.

	A	B	C	PB	
Peermade Pambanar	65-6	48-0	36-6	72-6	2
Do do.	64-0 bid	46-0 bid	—	71-0	
A Ashley	47-0	43-0	37-6	43-6	2

NAIDOOBATUM.

	A	B	PB	
Seaforth Naidoobatum	82-0 bid	53-6 bid	No bid	

TEA.

China.—At the auctions on the 31st ult., 3,311 packages offered,

On the 1st inst. 1,212 packages of Moyune and 148 boxes Suey were offered, which met with a quiet demand, and prices generally easier. Moyune, Gunpowder sold at 4½d to 10½d.

rial 3⅛d to 4⅛d, Foong Mee 8¼d to 10¾d, Sow Mee 6¼d to 1s 1d; oung Hyson 3⅞d to 7d; Hyson 3d; Ping Suey, Gunpowder 6d

INDIAN.—Public auctions were resumed on Monday, the 29th ult., hen 7,000 packages (including 281 packages of the new crop) were rought forward. There was a fair enquiry for old seasons, es-ecially for parcels with tip which may be quoted a little dearer, ut for others there was no material alteration. The New Teas hich were of ordinary type were not very briskly competed for, and ost of them were withdrawn. Catalogues contained a good lection from Southern India, comprising 1,500 packages, the ajority being of useful description, and former rates were well aintained.

The quantity printed on Importers' Account in the month was:—

1899.	1898.	1897
39,600 pkgs. (281 new season's) (Including Whitsuntide).	83,000 pkgs.	64,700 pkgs. (255 new season's) (Including Whitsuntide).

London Bonded Warehouse statistics for May were:—

	IMPORTS.	DELIVERIES.	STOCK, 31st May.
1899 ...	700,000 lbs.	9,966,000 lbs.	31,502,000 lbs.
1898 ...	427,000 „	11,671,000 „	38,213,000 „
1897 ...	494,000 „	11,232,000 „	32,235,000 „

CEYLON.—Considering that no public sales had been held since e 16th ult., the quantity offered on Tuesday was moderate, viz., ,000 packages.

Demand was principally for price. Common Pekoe Souchongs ere eagerly taken at 7d per lb, whereas decidedly better ones and koes only fetched 7¼d to 7½d per lb. Many Orange Pekoes also alised 7½d per lb., so that the range was much contracted. Low ss broken Pekoes in most cases were a little easier, selling down 7½d per lb., while in the grades above very good value was still be had under 9d per lb. Fine and finest were in short supply d occasionally commanded more attention.

The average is the same as on the 18th ulto. when it stood at 8d r lb., at this time a year ago it was 7¾d per lb.

Totals sold during the months were:—

1899.	1898.	1897.
97,600 pkgs. (Avge. 8⅛d per lb.)	92,300 pkgs. (Avge. 7¾d per lb.)	116,200 pkgs. (Avge. 7½d per lb.)

May figures are as follows:—

	IMPORTS.	DELIVERIES.	STOCK, 31st May.
1899 ...	9,327,000 lbs.	7,190,000 lbs.	19,790,000 lbs.
1898 ...	6,507,000 „	8,038,000 „	17,231,000 „
1897 ...	8,142,000 „	8,920,000 „	19,953,000 „

JAVA.—Only 144 packages of direct import were submitted which nt off steadily.

The undermentioned parcels passed the hammer in May:—

1899.	1898.	1897.
1,500 pkgs. (Avge. 7⅞d per lb.)	3,800 pkgs. (Avge. 6½d per lb.)	4,500 pkgs. (Avge. 5¾d per lb.)

Deliveries.—The clearances of all Tea (on which duty has been d) from the London warehouses, as per official returns, were:—

From 1st to 30th May, 1899	13,927,315 lbs.
„ „ 1898	16,485,323 „

During the fortnight the following have been printed for sale by blic auction:—

	Sold.	Withdrawn	Total offered.
	Pkgs.	Pkgs.	Pkgs.
India	5,690	1,252	6,942
Ceylon	23,560	1,478	25,038
Java	91	53	144
Total ...	29,341	2,783	32,124

Also 143 packages from second hands.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, 2nd June 2nd, 1899, states.—

QUANTITY BROUGHT TO AUCTION IN LONDON
FROM 1ST JUNE TO DATE.

	Indian	Ceylon.	Java.
1898-1899 ...	1,561,559 pkgs.	1,115,863 pkgs.	48,700 pkgs.
1897-1898 ...	1,582,702 „	1,177,100 „	43,918 „

205 pkgs. Indian
33 „ Ceylon
44 „ Java
} Total 32,482 packages were offered in public auction this week.

The Average Price of Indian Tea sold on Garden account during season was 8·78d., against 8·64d. for season, 1897-1898; and 9d. 1896-1897, viz:

1898-9.	1897-8.	1896-7.
Pkgs. Price.	Pkgs. Price.	Pkgs. Price.
1,153,396 8·78	1,136,837 8·64d.	1,054,954 9d.

Indian. The market re-opened on Monday with a sale of 7,205 packages, of which 405 were New Seasons Teas. The tone was distinctly firmer, lower grades being slightly dearer. The few New Seasons were of somewhat poor quality.

Week's average of Tea sold on Garden Account 1898, 4,222 pkgs. average 8·14d 1893, pkgs., av. d.

Total Tea sold on Garden Account, 1st June to date 1899, 1,153,396 pkgs., av 8·78d. 1898—1,136,837 pkgs., av., 8·64d.

The following invoices of New Seasons Tea were sold on Garden account "Castleton" 30 packages, average 9½d., and "Chubwa Tea Co., Nonoi" 36 packages, average 7¾d.

Ceylon. On the resumption of auctions on Tuesday, bidding for anything up to 7¼d, was keen with rather dearer prices. Above this figure rates were maintained, but bidding was irregular, Pekoes and even Orange Pekoes sometimes realizing hardly better prices than Pekoe Souchongs in the same invoice. The Official Wire gives exports to U. K. for May as 8,500,000 lbs., against 9,500,000 lbs. same period 1898, and estimate for June as 10½ to 11 millions. Exports to U. K. from 1st January to end of May were 39,500,000 lbs. against 40,500,000 lbs. in 1898. Average for week 7·93d.

Ceylon Tea sold on Garden Account, 1st January to date 1899 423,181 pkgs., av., 8·38d. 1898—462,171 pkgs., av., 7·65d.

COCOA.

The market is dull. The auctions on the 30th ulto. went off slowly and prices were generally in buyers' favor. Of 2,512 bags Trinidad about one-half sold at about former prices. common dark mixed 49s, barely fair to fair 67s to 70s, good to fine 71s to 76s. Of 912 bags Grenada only a lot or two sold at 65s to 67s for good to fine, also part of 360 bags Jamaica at 63s to 65s, part of 59 bags Demerara, fair dark red 64s. 9 bags Montserrat were bought in. Of 564 bags Guayaquil 196 sold, Caraquez red 70s, Arriba early Spring 70s, Arriba, 1898, wormy 71s. 514 bags African partly sold, fine red 66s, pickings 40s. 66 bags Cuba mostly sold at 62s 6d. 14 bags Nicaragua, 43 Surinam, 116 Bahia, 25 Domingo, 540 Samana, and 198 Venezuela all bought in. Of 1,110 bags Ceylon 173 sold, blacks 46s 6d, broken 50s, small 53s 6d to 58s, fair red 71s, fine red 78s. By private contract small sales of Grenada have been made at 67s 6d.

PEPPER.

Black.—The market has been firm this week, but owing to the higher pretensions of holders business has been a good deal restricted. Singapore on the spot has been sold at 5 5/16d to 5⅜d, basis fair, and Tellicherry in same position at 5¼d. Singapore June-August (s.) offers at 5 9/16d, and July-Sept. at 5⅝d. At the close the market is quiet, owing to advices of large shipments.

The shipments of Black Pepper for the month of May compare as follows:—

	1st half.		2nd half.	
	1899.	1898.	1899.	1898.
U.K.—Sing....	20	70	340	90
„ Penang...	80 } 100	260 } 330	30 } 370	310 } 400
Continent ...	110	*nil*	140	20
United States ...	20	*nil*	560	100
Total tons ...	230	330	1,070	520

White.—This market has also been firm, but is quiet at the close. About 150 tons have been sold during the week, including Singapore on the spot, May-July shipment at 8¾d to 8 13/16d, June-August and July-September at 8⅞d; Penang, May-July and June-August at 8 3/16d, August-October at 8⅝d, and September delivery at 8 3/16d to 8¼d.

The shipments of White Pepper for the month of May compare as follows:—

	1st half.		2nd half.	
	1899.	1898.	1899.	1898.
U.K.—Sing....	*nil*	20	100	40
„ Penang...	80 } 80	120 } 140	*nil* } 100	120 } 160
Continent ...	50	*nil*	*nil*	20
Total tons ...	130	140	100	180

INDIA RUBBER.

Since our last, owing to pressure to sell fine Para, the market has declined rather rapidly. Large sales were made of June delivery hard cure at 4s. 1¾d. to 4s. 1½d., but we close with sales of July-August delivery at 4s. 0½d. and rather sellers at this. Scrappy negrohead, sales down to 3s. 3d. per lb.

At auction to-day there was a very flat tone and a large part was withdrawn. Small sales of Central American and Colombian scrap and slab rubber at 3d. to 4d. per lb. decline. Peruvian all withdrawn. Mangaberia sold fairly steadily and Mollendo was 1d. per lb. cheaper.

CINCHONA.

The shipments from Ceylon for the week ending May 9 were 8,064 lbs. only. At Amsterdam, on June 8, 4,956 bales and 500 cases will be offered. The total weight is 481,800 kilos (containing the equivalent of 829,920 oz. quinine sulphate), of which 73,382 kilos. is pharmaceutical bark, and 408,418 kilos. manufacturing bark. The manufacturing bark contains an average yield of 5·36 per cent. quinine sulphate, against 5·52 per cent. in May, and 5·21 per cent. for the ten auctions in 1898. There has been a fair amount of business done in druggists' barks lately, and in many instances lower prices have been accepted. The Java shipments in May amounted to 666,400 Amst. lbs., against 672,000 Amst. lbs. last May. The total for the five months is 170,000 Amst. lbs. under last year.

CINNAMON.

The quarterly sales of this article were held on Monday. Only a small offering was put up, comprising 784 bales of *Ceylon quills* and 2,645 packages of *chips*, but there was a good demand, and prices advanced about 1d. Practically all were sold at the fo... rates: Worked, first sorts, medium to fine, 1s. 1d. to 1s. 6d.; ... sorts, middling to superior, 9½d. to 1s. 6d.; third sorts, middli... superior, 8½d. to 1s. 4d.; and fourth sorts, fair to fine, 4½d. to ... For unworked, from 4½d. to 11½d. was paid for ordinary fo... good firsts. *Chips* were not in such great demand, and onl... packages sold at 2d. for coarse bark, 2½d. for ordinary chips, a... 7d. to 9d for quillings. Since the auctions, sellers of quills ... 11d. to 11½d. for firsts, 10d to 10½d. for seconds, 9½d. for thi... and 8½d. to 9d. for fourths.

SULPHATE OF QUININE.

Has met some speculative demand this week, and on an att... to cover in on the part of "Bears" value advanced ¾d per ... Sales of B&S and HB for June delivery have been made at 1s 4... up to 1s 5d. August at 1s 4⅞d up to 1s 5¼d, and October at 1s 5... up to 1s 5½d per oz.

The shipments of Java Bark for the second half of the mo... were 441,000 Amsterdam lbs., making for the whole of M... 666,400 lbs. Amsterdam lbs., against 672,000 Amsterdam lbs. l... year. This makes a total for the five months of the year ... 3,727,400 Amsterdam lbs., against 3,897,000 Amsterdam lbs. in 18...

The improvement noted in our last has been maintained ... second-hands and prices have shown a daily gradual advance. Alt... gether a moderate business has been done this week, mostly Augu... c. 1/4 7/8 to 1/5¼d, June at 1s. 4⅞ to 1s. 5d. and October 1/5½d. T... shipments from January during March were 209 cases, of wh... 175 were for London and 34 for Amsterdam. From 1st July 18... to 31st March 1899, 1,051 cases (420,400 oz.) were shipped.

MOVEMENTS OF TEA IN LONDON (IN LBS.) DURING MAY FROM TEA BROKERS' ASSOCIATION FIGURES.

	Imports.			Deliveries.		
	1899.	1898.	1897.	1899.	1898.	1897.
Indian	699,543	426,578	493,949	9,964,886	11,671,025	11,232,2...
Ceylon	9,327,348	6,507,484	8,142,082	7,189,808	8,038,390	8,919,7...
Total lbs. ...	10,026,891	6,394,062	8,646,031	17,155,694	19,709,415	20,152,1...

FROM 1ST JUNE TO 31ST MAY.

	Imports.			Deliveries.			Stock.		
	1898-9.	1897-8.	1896-7.	1898-9.	1897-8.	1896-7.	1899.	1898.	1897.
Indian ...	136,073,465	135,376,760	131,649,920	142,645,712	129,398,604	126,165,318	31,501,541	38,213,368	32,235,2...
Ceylon ...	92,946,656	93,580,448	92,072,754	90,149,698	96,302,988	90,677,108	19,790,252	17,230,640	19,953,1...
Total lbs. ...	229,020,121	228,957,208	223,722,674	232,795,410	225,701,592	216,842,426	51,291,793	55,444,008	52,188,3...

(AVERAGE FOR ALL INDIA 8·14d.), *June 2nd.*

GARDEN.	Total.		Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust and Various.	
	Quantity		Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price.
Neilgherry ...	**714**	p	**7·72**												
Glenmorgan ...	18		7¼	...	...	4	7½	3	8¼	11	7	...	...	...	...
Hocorra ...	23		7	...	...	6	7¼	7	7½	10	6¾	...	...	...	...
Kodanaad ...	100	p	8¼	1 b	9¾	66	p 7½ 9	32½c	†9	1 b	8	...	...	...	...
New Hope ...	340	p	8¾	80½c	8 8¼	101	7½ 7¾	100½c	8¼	...	...	59	7½	...	...
Pykara Falls ...	73		7¾	...	...	28	7½ 7¾	14	8¼ 8½	24	7¼ 7½	...	...	7	8¼
Seaforth ...	160	p	7½	43½c	†8	40½c	8	...	...	43½c	7¼	26	7	8½c	7
Travancore ...	**521**	**p**	**7·81**												
Isfield T Co ...	15	p	7¾	5½c	8½	...	...	4	8	6	7¼	...	...	...	...
Kannan Dev Hill M.	205½	c	8½	...	...	102½c	7¾†8	41½c	10	31½c	7¾	...	...	31½c	8¼
Sth Trav Co Ven ...	124		7½	...	...	50	7½	40	8	28	7½	...	...	6	6¼
Stagbrook ...	80	p	7¾	22 p	8 8½	23	8	...	...	21	7½	13	7¼ 7¾	1	6
Tav T Est Bon Am..	97		7½	...	...	36	7¼	34	†7¾	6	7¼	...	...	21	7¾
Wyanaad ...	**252**	**p**	**8·16**												
Erramaculla ...	141	p	8¼	44½c	8¼	36½c	7¾	30½c	9¾	13	7¾	9	7¼	9½c	7¼
Peringodda ...	84½	c	8	22½c	8¼	20½c	7¾	17½c	9	15½c	7¼	6½	7¼	4½c	7¼ 7
Walkers Achoor ...	27½	c	8	...	...	12½c	†8	6½c	†8½	8½c	7¼	...	...	1½c	7¼

Teas marked thus † are New Seasons.

PLANTING OPINION.

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.B.—Remittance should be sent to E. C. Duff & Co., Proprietors, anting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday the 7th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, *28th June.—Weather.*—Light rain set in on Saturday last, and every day it is a series of light showers with bursts of sunshine between: ideal planting weather. *Crop.*—Berries have swollen to nearly full size and are showing up better. *Plant Diseases.*—With weather like this, leaf-rot will not have a chance of a look in, and leaf disease will be postponed to late in the season. *Labour.*—Plentiful. Canarese coming in. *Health.*—Good.

THE PROFITABLE USE OF FERTILIZERS.

Mr. E. B. Voorhees, of the New Jersey Experiment Station, lately contributed to the *American Agriculturist* an interesting series of papers on "The Profitable use of Fertilizers." Dividing his subject into four heads, he wrote a paper on the character of the crop and its method and time of growth; one on the character of the soil, and the previous treatment and cropping of the soil; and a third on the actual needs of the plant in reference to plant-food.

Many points in his remarks deal entirely with the cultivation of cereals and vegetables, and their only interest to planters in South India lies in the general theory that they enunciate. Mr. Voorhees observes that with some plants an abnormal, with others only a normal, development is wanted. In the former case crops must be supplied with a relative abundance of plant-food constituents in an available form; they must not lack food during any period of their growth, and because of the relatively high commercial value of these crops, the quantity of plant-food need not necessarily bear any relation to the amount actually contained in the crop grown. Neither is it so much a question of proportion of plant-food, as it is a question of sufficient plant-food. Where what is wanted is not the immature succulent growth, but the matured fruit or seed, the feeding should not be such as to encourage a too rapid growth, and in many cases an undue development of branch or leaf, but a normal early development and a consequent normal proportion of grain or seed. Besides, he observes, these crops growing through a long period as compared with the other may obtain a large proportion of the needed plant-food from soil sources, and because of their relatively low commercial value as compared with the others, there is a greater necessity for applying that particular element which is needed in greater amounts and thus reducing the actual cost of the application. In other words, crops are divided into two distinct classes or groups. First, those that possess a higher fertility value with a correspondingly low commercial value; and the second, those that possess a low fertility value and a relatively high commercial value.

Hence it is, says the writer referred to, that in the use of fertilizers a study of the crop from these standpoints should be made, and if it were made by the users of fertilizers there would be fewer cases in which the farmer would say, "Fertilizing does not pay." The method and time of growth of the different plants should also be taken into consideration in arranging the fertilization of the different crops. The most rapid development of many crops takes place early in the season before the conditions are favorable for the rapid changing of organic nitrogen into nitrates; they are therefore more specifically benefited by early applications of nitrogen in quickly available forms than by applications of fertilizers rich in minerals. Root and tuber crops also cannot make ready use of the insoluble mineral constituents, hence they must be supplied with a greater relative abundance of the phosphates, particularly in their early growth, than the cereals, and must not suffer at any time because of a lack of nitrogen in available forms, while potash must be supplied in sufficient abundance to meet their needs in this respect. This assumes, of course, that nitrogen or potash, or both, must to be artificially supplied to the soil. A very cursory study of soils will show that wide differences exist in them, both in reference to their chemical character or composition, and their physical properties, both of which characteristics have a direct influence in determining the effect of any specific application of fertilizers. A few general remarks on this point are given in the statement that sandy and gravelly soils are the poorest, both in respect to physical and chemical qualities, because particles of the soil are coarse and hard, thus permitting their very rapid drying and heating, and because their chemical composition is such as to make them strongly resist decay. Moreover, a decay, no essential mineral constituent is provided, t contain no phosphoric acid and potash, and hence on of this character before profitable returns may be exp from the use of plant-food, they must be improved in th physical character. And because they are so poor in th chemical character, their needs for added plant-food the growth of any crop are not limited to one or two the constituents, but must include all of the essential on Clay soils, on the other hand, are frequently rich in m erals containing potash and poor in those containing li and phosphoric acid, consequently with proper cultiva and management they are able to provide a sufficie abundance of potash for crops of a low commercial va for a long time. In the next place, limestone soils frequently poor in potash and rich in lime and phosphat thus fertilizers rich in potash are frequently more use than those containing the other constituents in grea proportions. Mr. Voorhees says:—"Regarding clas of soils in a general way, it may be said that potash i very essential constituent of manures for sandy soils, only because all crops require potash, but because th require it in relatively large amounts, and because sandy soils it is liable to exist in minimum amounts. the other hand, in clay soils potash is liable to exist considerable amounts, and the deficient element is m likely to be phosphoric acid, and this applied in abundan may enable the plant to secure the necessary potash. limestone soils, the lime and phosphoric acid, and perha the potash, may be in sufficient abundance to caus normal growth of plant, yet the nitrogen be so insuffici as to prevent a full development."

Previous treatment and cropping is no doubt an import matter as regards the general subject of Artificial Fe lizers, but we need not quote Mr. Voorhees on this point his remarks have only a very remote bearing, if any at on the planting of tea and coffee estates in this part of world. In his closing paper he observes that a study the amounts of the various constituents contained in different crops shows that they vary not only in the to amount, but in the proportion of the constituents contai in them. For this reason it has been urged that to sup a crop with the amounts and proportions of the constitue shown by chemical analysis to be contained in it will re in their most economical use. This method of fertiliza may result in a complete feeding of the plant, provided the conditions are perfect, but such recommendations not take into consideration that the plant that contai larger amount of one element than another may pos greater power of acquiring it than one which contai smaller amount. Neither do they take into considera that the period or time of the growth of the crop also e cises a considerable influence in indicating the capabili the plant acquiring its necessary food from the stores o soil. Here also, neither coffee nor tea planting is cially dealt with; but that is no reason why a useful hi two should not be derived from the scientific *dicta* given. As Mr. Voorhees explains, limits of space forbi detailed discussion of specific applications; but with suggestions he gives, "it is confidently believed that thoughtful farmer may apply them to his own conditi and thus secure a greater proportionate return applied to plant-food."

THE DRAFT ALLOWANCE ON TEA.

Tea and Red Herrings. By no means a combination
be despised by a hungry man. Still, when the subject
the abolition of the draft allowance on Tea is under
nsideration one does not want a red herring drawn over
ne track, even though it assumes the attractive form of a
riticism of London charges. Who started the fish on its
ay we cannot say, but the following list of the ordinary
harges on a chest of tea of 90 lbs., value 6d. per lb.,
as been given in a Home paper :—

	s.	d.
Freight and Shipping Charges	4	0
Warehouse Charges	3	8½
Calcutta Agency Commission	1	6
Brokerage and Sale Expenses	0	8½
London Agency Charges and Fire Insurance...	1	9
Total charge on a chest of tea ...	11	8

pon this it is remarked :—" Now, it is stated that the plan-
rs desire to economise; their argument is that in these
ays of competition the granting of the one-pound draft
eans that they have to give away a very large quantity
tea annually for the purposes of this draft, and that the
mpetition is now so severe that they cannot afford to
ntinue this gift to the buyers of their tea. They there-
re propose to adopt what seems to them the easiest way,
z., to dock the poor retailer of his one-pound draft. If
ey are so anxious to economise, why do they not deal
ith some of the numerous charges detailed above ? There
e certainly two items—the commissions in London and
alcutta—which ought to receive their consideration, and
would be interesting to know what the Calcutta agent
ally does for his 18d. Generally it seems that he does
t little more than allow his name to be used in forwarding
a and to collect the accounts of sale; surely 18d. is a very
rge sum for such small services, and might well be made
matter for consideration by these complaining planters.
ien there is the heavy item of freight and shipping
arges, which might also be the subject of revision.
nother writer attacks the above figures, and says he is
a position to supply some actual figures, extracted from
e 1898 accounts of a company in which he is interested "
ie company in question made in 1898 a total crop of
956,825 lbs. of tea. The number of packages was 22,930,
d the average gross sale price was 11 23-32d. per lb.
ie 1 lb per package draft was therefore 11 23-32d. per lbs.
22,930 lb, or, say, £1,119 12s. 7d. The Calcutta
gency Commission for the year was £474 13s. 1d. The
mparison in the case of the company in question is
erefore not 1s. 6d. for Calcutta Agency against 8d. for
e pound draft, but 4 31-32d. for the Calcutta Agency
ainst 11 23-32d. for the pound draft. The com-
ny in question does not pay any London Agency Com-
ssion, but the accounts show an item of £60 for rent of
ndon office, a moderate sum for office salaries, and
ditors' fees, and certain other charges, which it might
difficult to reduce.

This is interesting perhaps, and no doubt Calcutta and
me charges should be scrutinized as well as London
nditions of sale. But for the present the Planters' Associa-
ns concerned have taken the latter question in hand,
d they should deal with that before getting themselves
tangled in discussions of side issues. One argument in favour of the retention of the draft allowance is that this draft covers many losses which the buyer of the tea has to bear, and which, if the draft were abolished, would almost certainly be the subject of continual claims which would be vexatious both to the wholesale dealer and the importer. At present when these losses arise, the loser has to console himself with the allowance which he receives. It is sometimes to be doubted whether even that fully covers his losses, but it certainly goes a long way to reimburse him. Messrs. Brooke Bond & Co., Ld., define still more clearly the object of the draft allowance. They says :—" The 1-lb. draft has, from time immemorial, been allowed and sanctioned by importers to cover the losses sustained by the retailers in weighing out in small quantities from bulk, and to make up for petty leakages in transit, trifling damages in the tea itself, such as mouldiness and " cheesiness," irregularities in quality, and the inclusion of foreign matter, such as nails, chips of wood, coolies' belongings, and garden implements. It is certain, too, that such tacit and time-honoured allowance has saved the importers from being harassed and importuned, day after day, with innumerable petty complaints and claims on the above grounds, from wholesale and retail dealers—complaints and claims which would assuredly supervene if the ill-advised action of the importers should succeed, and it can only succeed through the supineness of the tea-dealers' representatives. Such possible difference between importers and dealers would not, in practice, be adjustable, and they would result in such infinite dissatisfaction that business between the distrusting, worried, and embittered parties would sooner or later become almost impracticable. Reprisals, too, obviously in the power of the dealers, but which need not be specified here, would ultimately cause the importers to wish heartily that they had let sleeping dogs lie." Again, at a meeting of grocers and wholesale tea-dealers at Manchester, one speaker said that the China trade, as they all knew, was practically abandoned by the trade, and they were almost all now selling Indian and Ceylon teas. The importers of those teas brought them over with a large leaf, and often an ugly leaf, and they who were in the trade had of necessity to provide machinery for dressing and milling to make the tea presentable and attractive as a saleable article. Then there was also the varying characters of the gardens from which the tea came, which had produced what they called expert tea-blenders, and these expert tea-blenders adopted various processes—milling, dressing, blending, and repacking—and in these processes there must necessarily be a loss in leakage. But the expert tea-blender had done something else. By his technical ability and by the aid of machinery he had produced and put before the public at a low price a tea which satisfied the public, which the importer could not have done unaided by the blender's skill. The public would not take the large leaf from the importers, and, therefore, the speaker considered that the natural result that had followed the expert tea-blender's efforts was the production of a high class tea at a low price, and a consequent marvellous extension in the sale of India and Ceylon teas. As a result of that there had been an extension of the importers' business as well as that of the wholesale dealers. In the processes of milling, blending, dressing, and repacking blenders suffered loss in leakage, and the one-pound draft

was an allowance to cover that loss. Therefore he did not look upon this one-pound draft as a gift in any sense of the term; he simply looked upon it as one of the ordinary expenses in developing the Indian and Ceylon tea trade.

It may be thought that we are dwelling too much on the buyer's view of the question, but, after all, the planter's view should be quite clear to our readers, and what has most to be studied is the arguments ranged together *in defence* of the draft allowance. Whatever the merit or the strength of those arguments, we cannot dismiss the thought that it would be most regrettable were any serious friction to occur between importers and dealers in England at the present juncture. There is no doubt that dealers have of late years been loyal to India and Ceylon, and have turned their backs on China, but they may still reconsider their position; and if they are led to do so, through any bitterness of feeling towards the importers of Indian and Ceylon teas, they may yet successfully engineer a revival of the China tea trade, which is far from being as hopeless as some people think it.

"EXCEPTIONALLY BAD" TEA.

It will be remembered that the introduction of the new Tea Regulations in the United States resulted in the placing on the market of very large stocks of tea that had previously been unsaleable, tea that might fairly be described as of a quality unfit for human consumption. The object of the regulations was to guard against and, in fact, to entirely prevent, the importation of teas of this class; but the immediate result was to give this very class a value that induced holders to pass it on as rapidly as possible to consumers. Somewhat similar evil effects appear to have resulted from the recent improvement in the demand for tea in England. The following memorandum issued by the British Customs' Board would scarcely have been sent out without good reason:—"The Board, having been informed that it is probable that, in view of disturbances in the tea trade, attempts are being made to procure admission of teas of exceptionally bad quality, think it desirable to renew the attention of the approved tea inspectors within the port to the importance of the subject, instructing them not to fail to submit samples of any tea of a questionable character within the meaning of the Sale of Food and Drugs Act, 1875, that may come under their notice in the course of their duties." Trade papers acknowledge that, owing to the competition in the tea trade, and the demand for low-priced tea, leaf of very inferior quality finds a sale. Quite recently the Chancellor of the Exchequer was interrogated on the subject. Sir J. Flannery asked whether his attention had been called to a statement in the Press that a quarter of the caper teas and half of the dust teas now imported should be confiscated under the Food and Drugs Act of 1875 by reason of their containing 20 per cent. of earthy matter and sand; whether he would explain the nature of the precautions taken by the Customs Department in London for the detection of such adulteration, and whether the number of samples analysed could be increased with advantage; and whether, having regard to the fact that the descriptions of tea above named were for the most part consumed by the humbler classes least able to protect themselves against adulteration, he would increase the staff of inspectors especially allocated to the duties of sampling and analysis of caper and dust te The Chancellor of the Exchequer, in reply, said: " attention has been called to this matter. The Boar Customs have, in view of representations made to th by certain firms and of statements in the Press, orde a full inquiry to be made. It is not easy, within t limits of an answer to a question, to explain the p cautions taken by the Board for the detection of t adulteration of tea; but I shall be happy, if the honora member wishes it, to supply him with particulars. T Board of Customs, as at present advised, do not c sider that there is any need for altering the existi regulations, but if, as a result of the investigation now progress, it should appear advisable to make such alterati or to increase the number of tea inspectors the necess steps will be taken at once Meantime a circular has b issued to the tea inspectors directing them to adminis the existing regulations with special care." This is g news, for with tea, as with coffee, planters must alw desire to push the sale of the genuine article, not that adulterants, or even so-called tea or coffee that is likely bring the genuine article into disrepute.

THE "WHOLE SECRET" OF COFFEE PLANTIN IN B. C. A.

The papers we lately quoted under the heading "Eurek have provoked discussion in the *Central African Times*, which paper we were indebted for them Some of the lett that have resulted are of a "chaffing" description, Mr. Kenneth Cameron is of a serions turn of mind. He s he did not exactly offer to reveal the secret of success coffee planting, but offered to reveal the cause of lig berry, chipped, or spotted berry, and considering he l found out this most important defect, the remedy is qu simple, although it has to be done with a little extra labo Seeing, however, that the *Times* states that, he makes offer to reveal the secret of successful coffee, well, he w be most happy to do so upon condition that he recei security of reward. Any plantation that can supply i gation in a dry season, manure, and his secret "will be most successful plantation, other things being equa Mr. Cameron asserts that when he has declared what "find" is, his brother-planters will at once admit that he l earned his £1,000—"it will not be necessary to show single estate that has benefited" by his process.

Another planter asserts that by far the majority of pl tations in B. C. Africa owe their failure to over-cropping immature trees. He says:—"A coffee tree doesn't att to full maturity till its fifth year, and if our local plant will content themselves with little or no crop the th year, and then judiciously thin out the crop on the tr so that they don't overbear in the fourth year, I am qu sure that, with a little ordinary care and attention, t will be able to pick a satisfactory crop, year after year. I have myself done, for the last six or seven years, off tr which have had the benefit of aforesaid treatment." T gentleman places his experience at the disposal of neighbours "free, gratis and for nothing," and Mr. Came has been exhorted to do likewise. Meanwhile the *B. C. Times* remarks that "a hopeful feature of the discussion s fact that we are beginning to admit that we know not about coffee culture and that it is time we were le

ng something." "That," says our hopeful contemporary, has been one of our main contentions all along, viz., that we are but learners, that in fact many of us never saw a coffee bush until we came out here. If, therefore, the past results and the present position have been attained (in a *new* country) by practically inexperienced novices, what may we not look for when, by accumulated experience, we do know something about coffee culture in Central Africa. What planter is there to-day who would not say that, had he to begin again, he would avoid this mistake here and that mistake there. Yet with all our blundering we have made hits—palpable hits—and to-day we are the richer by hard-won experience, and encouraged by a measure of success which, considering everything, is nothing short of wonderful. The prospect before us is of the best. The market is sure to recover. Freights must go down and if we are wise we will keep the wages of labour at their present level. With leaf-disease outside our borders and cheap labour, we have a margin to come and go upon which, if we only profit by experience, will yet land us at the goal of undisputed success." What would many of our readers give for a sanguine disposition such as this? "The market is sure to recover." But, *when?*

TEA FROM SEED TO CUP IN SOUTHERN INDIA.

(By Thomas Brown, Glendale, Coonoor.)

IV.

Tools.—The following tools are considered advisable for the first year:—

			Rs.	A.	P.
12	Doz. 9″ × 7″ Mamooties	@ 18/ =	216	0	0
6	„ 4-pronged Forks, Parkes' ...	@ 36/ =	216	0	0
6	„ Pitting Bars	@ 15/ =	90	0	0
3	„ Bill Hooks	@ 15/ =	45	0	0
3	„ Felling Axes	@ 24/ =	72	0	0
1	„ 6″ Blade Pruning knives	...	20	0	0
1	50-foot Metallic Tape, Chesterman's ..	...	5	0	0
2	Cross Cut Saws, 5 feet...	@ 5/ =	10	0	0
6	Pruning Saws	@ 1/8 =	9	0	0
6	Doz. Weeding Mamooties, 7″ × 5″	@ 12/ =	72	0	0
1	Ceylon Road Tracer	...	30	0	0
1	Doz. Pickaxes	... ...	15	0	0
	Set of Carpenters' Tools	... ...	50	0	0
	Measuring Chain	... ...	7	8	0
		Total Rs.	857	8	0

ving the balance of the money for baskets and contingencies. Cheaper tools are always available, but prove dear in the long run. The pitting bars should be cially ordered out of one-inch rod iron, and each bar ould be 4½ feet long. None of the bars sold so far correct. Axes should be good country-made ones, ped with steel, which are easily repaired by any village th and also by any jungle artisan. The cast-steel glish axes are a great source of annoyance, and fail in hands of the Indian cooly most lamentably. The edge ariably gets chipped, and then it is almost quite useless, ng irreparable. Mamooties are never the same after ng put into the fire. A good workman will use his nooty so that it never needs re-edging; but such men very few and far between!

Test for Value of Tools.—A good test is by weight, an wance of As. 1-6 per lb. for ordinary and As. 2 for ll tools. Very small tools, of course, run much higher. instance, £4 for 1 lb. of watch springs. To re-edge tools the usual price is one anna per tool and As. 2 for an axe. Re-tipping axe with steel, As. 2.

Measurements of Work and Rates.—Fuel is paid for by the stack of 10 0cubic feet, and the stacks are usually made 3 feet wide 8 feet 4 inches long and 4 feet high. The wood is cut into billets of 18 inches long by 4 inches wide. The cost is Rs.2 per stack. Green wood splits up easily, but dry is very difficult and expensive to split. The convenience of wood split, as here suggested, is very great indeed. Large logs of 3 feet length and any thickness cost Re.1 per 100 cubic feet, but these are useless for most purposes. Even great steam-boilers are better served with 18″ × 4″ billets than by larger wood. Light wood is best given away to coolies, or burned to make ashes.

Transport of Fuel.—The cost of transport by coolies is about Re.1 per stack per half-mile. Somewhat less by women. We have paid As.1-6 per 100 lbs. for a mile and a half down-hill (and have never had to move it up-hill) to contractors. A stack of 100 cubic feet weighs, when dry, about 3,000 lbs. as against the standard weight of a cubic foot of teak, *viz.*, 50 lbs.

Cross Cut Saws need to be kept constantly filed to do good service. A small 6-inch three-cornered file, costing As.4 will keep a saw in constant work for one month.

Consumption of Fuel.—A steam-engine usually burns 10 lbs. of dry wood per H. P. per hour. The Engineer's rule is 2½ lbs. of coal per H. P. per hour, and we have heard the statement frequently made that the same quantity of wood does the work at mills; but it has never been our experience to use less. Wood, down at Madras, is only about Rs.5 a ton, and coal, Rs.20, or four times the value; yet the Railways prefer coal to wood as being more economical, so that the low consumption of 2½ lbs. of wood per H. P. needs to be carefully tested before being accepted. Tea driers of modern make take on the average 1½ lbs. of wood per lb. of made tea. These are safe figures to work upon in reckoning out requirements.

Cooly Earth Tasks.—Contractors usually agree to cut 10 cubic yards per rupee if the earth has not to be carried far in excavations. In cutting narrow roads, where the earth can be readily moved by a mamooty, one often gets as many as 15 cubic yards per rupee. The following are tasks for a cooly per day with the approximate number of cubic yards in them:—

Roads .. 3 feet in solid, 20 yards task = $20 \times \frac{1}{4} \times 1 = 5$ cubic yards.
Pits .. 18 in. cube, 25 pits task = $25 \times \frac{3}{2} \times \frac{3}{2} \times \frac{3}{2} = 84\frac{3}{8}$ cubic feet = 3 cubic yards.
Drains .. 18 in., 15 yards task = $15 \times \frac{1}{2} \times \frac{1}{2} = 3\frac{3}{4}$ cubic yards.

In determining the cubic contents of the 20 yards of road, we have reckoned on an average depth of 18 inches, and as the cutting slopes up from 0 to 18 inches one-half of this or 9 inches or quarter of a yard is taken in the reckoning. In the drains, as the lower side is to be 18 inches, the cubic contents will be rather more than 3¾ yards. In measuring up excavations for buildings, take the length and width of the cutting in the solid in feet, and for the height take *one-half* the mean of several measurements at their highest levels, multiply the three quantities together, and divide by 27. Check your figures by taking roughly the number of yards long and wide excavated and the number of yards high of a column of earth left at about the centre of the excavation, multiply the three figures

together, and the result should nearly agree with the number found by the first calculation.

Revetment, and other rough stone work, is paid for by the cubic yard. The price usually is As.6 if the stone is near; up to Rs.1-8-0 if it has to be carried any distance up-hill. Carriage increases the cost very much. To find the cubic contents, take the length in feet, the average height in feet, and the width in feet, multiply all three together and divide by 27. In opening a very stony piece, we have found it a good plan to have the stone built into ballast walls 18 inches wide and 18 inches deep. This work costs about Re. 1 per 11 running yards or about 3 cubic yards per rupee, since in many places the depth will exceed 18 inches. The small excavation necessary for this work is made by the same man without extra cost. The road must be first traced and cut and the ballast wall so built that a six-feet roadway is left when finished. This gives a neat finished appearance to a field, but greatly enhances the cost of opening an acre, quite Rs.15 per acre being necessary if such work be undertaken. Heavier revetments, wider roads, all cost a deal of money. We have estimated at the lowest cost possible. It is for the owners to decide if they will have a more expensively opened garden. A broad gauge Railway costs Rs.1,00,000 a mile. To open a metre guage just one-half this sum. One must decide, at the onset, what he is going to have! We ourselves are inclined to the narrow gauge, as it pays best in India. In this connection, we may *record* that the Nilgiri Metre Gauge Railway, just opened for traffic, after being ten years under construction, has cost about 42 lakhs of rupees for five miles of flat country and eleven miles of Ghaut, raising mostly 1 in 12.

THE TEA CAMPAIGN.

The *I. P. G.* sides with the *Times of Ceylon* and says :—"We are distinctly of opinion that India's co-operation with Ceylon has so far been decidedly advantageous to the former. The two have worked hand-in-hand so far, and have mutually reaped the benefits accruing from the joint effort. While admitting that there is a difference in the qualities of Ceylon and Indian teas, it must be conceded that they are both manufactured on the same general principles, and are both 'pure' as distinguished from the sophisticated and 'faced' teas of China and Japan. The difference in quality is only in flavour, due to soil and climatic influences; but the particular *jats* cultivated by India and Ceylon are the same. We should certainly *not* advise South India to act for herself in the matter of finding foreign markets for her tea. There are other countries as well as South India that manufacture 'useful sorts' of tea."

We still hold to the opinion that South India should work separately. No one denies that India has reaped advantages from co-operation with Ceylon, and Ceylon from co-operation with India. But South India stands apart. If she *could* co-operate properly, we doubt if she would; and while her contribution is infinitesimally small, we hold that it is wasted. How much of the contributions have been wasted also, is a question that deserves consideration. The "campaign" has been a very *costly* advertisement, at any rate, and it would be interesting to know whether both India and Ceylon are satisfied that they have had a good return for their money. Our Calcutta co temporary has not overlooked the fact that a *Ceylon* fir has now secured the services in the United States of th late *Indian* Tea Commissioner!

TELEGRAPHIC QUOTATIONS.

London.—	June	24	26	27	28
Bar Silver ...	...	27 13/16	27 11/16	27 11/16	27 11/16
Bank Rate ...	...	3%	3%	3%	3%
Coffee		...	dull	...	...
Mysore av. (B) size		...	56s	...	...
Cinchona ...		...	firm		...
Price per unit ...		...	1 11/16	..	...
New York.—					
Coffee—Fair Rio ...		6	6	6	6
,, Futures, Sept.		5·55	5·54	5·60	5·34
Silver—Comml. Bars...		60⅞	60½	60½	60½

NOTES.

Vanilla Sales in London. In future, vanilla sales are to b held in London once a month—o Thursdays.

Tea in Brazil. In 1897 imports of tea into Rio d Janeiro amounted to 103,004 kil in 1898 to only 91·915 kilos. Practically the whole w imported from England.

The Coccidæ of Ceylon. We have to acknowledge the r ceipt of Part II. of Mr. E. E. Green valuable work on this subject published by Dulau & C London. Thirty capital plates are given.

Brazilian Coffee. A Santos Report dated, 12th Ma 1899, says:—"Picking is going in several districts, and gradually rising receipts may expected by the end of May, quality depending upon t weather

The United Coffee Growers Co., Ld. We are glad to learn that t Company has proceeded to all ment, and has acquired land Coimbatore. It will first push trade in India, leavi export business to be taken up later.

Java Coffee. The clearances of the Dutch Co pany's Java Coffee in Holland d ing May were only about 17,450 bags, against 18,5 bags last year, and 23,500 bags in 1897, making the to amount for the five months 77,400 bags, in comparis with 84,600 bags and 86,500 bags in the two preceding yea

Good Reading. "The depreciated value of cof which is not only the great sta export of this district . . . but also of the entire count has suggested to those interested in the prosperity of Bra the necessity of developing other industries as sources national income." This is from the Consular report on t trade of Rio in 1898.

Coffee in Ceylon. The *Observer* says:—We learn fr a very experienced Ceylon plan that coffee in Udapussellawa at 5,500 feet elevation i more or less under dense shade, is cropping well this ye There is hardly any "bug" to be seen on this coffe

one at all where the shade is very dense, although the rop is just as heavy as in the open—indeed heavier.

olombo Tea Sales. At Colombo on the 21st ultimo about 11,009 pkgs. = 858,718 lbs. ere offered, of which about 9,054 pkgs. = 718,322 lbs. ere sold. Quality of teas offering at the sale showed a ight improvement. Competition was brisk throughout, nd prices for all grades were very firm, common teas owing a slight advance. The *Times of Ceylon* states that ood invoices were offered from Maskeliya, Monkswood, igh Forest, and Queensland.

aweed as Manure. Mr. J. Hendrick concludes from certain investigations and analysis at, weight for weight, seaweed is about equal in value to rn-yard manure, but differs from the latter in its higher ntent of potash and lower content of phosphoric acid. is claimed that seaweed must undergo decay before its trogen (rarely less than 0·5 per cent.) is available for ants or even ready for nitrification. The potash in aweed is in a very available form.

Quoque. In a letter to the *Mail* about Coffee prospects, Mr. John Logan, Sidapur, asks where were another correspondent of that per "and the hundreds of his brother planters" when the rrency matter came up? Surely, they have a right to ask o where was Mr. Logan? We do not remember that he ok any active part in the discussion of the subject by the P. A. S. I., and he can scarcely expect occasional letters the newspapers to influence Government's financial licy.

e Chundale-Sultan's attery Road. Wynaad planters will have learnt with pleasure that Government has sanctioned an estimate amounting Rs.88,600 for metaling the Chundale-Sultan's Battery ad. Possibly the cost of the work may be less than imated, for the Chief Engineer remarks that "the rate vided for collection of material is high." He observes t great care should be taken to section the road pro- ly before laying metal, and the consolidation should thorough.

iral Dewey at olombo. Liptons' have 'gone one better' than the P. A. of Ceylon. They have taken the occasion of the visit Admiral Dewey to present the whole of the officers and w with a five-lb. box of tea each. Mr S. P. Jeffery, the l head of the firm, seeing the Admiral at the Galle e Hotel on Saturday last, obtained H. E.'s permission ake the presentation. There are thirty-one officers on rd, including the Admiral, and 451 men; and each box bear the recipient's name.

Advertisement. Ceylon planters have been trying to turn Admiral Dewey to ac- t. They have presented to him, his officers and his 1,000 lbs. Ceylon tea, and have expressed the hope the recipients and all other Americans may learn to Ceylon teas. They have even given the gallant Admiral nt that as General Kitchener and his troops took on tea with them on their expedition along the Nile obtained a noble victory over their foes—who are doubtless coffee-drinkers—the virtues of tea (*Ceylon* tea, that is) must be beyond question.

Calcutta Tea Sales. At the Tea sales on the 23rd ultimo, 16,000 packages were offered, and 15,000 were sold. The sale was chiefly composed of medium teas, which showed a falling-off in quality from last week. Generally the sale lacked animation. Teas of all descriptions under eight annas were quoted a quarter to half an anna easier, the least affected kinds being teas for price Broken pekoes, between five to seven annas, were most neglected. A few invoices of Darjeeling teas, showing much improved quality, were keenly competed for, fetching full prices.

Sierra Leone Coffee. Early this year the Agri-Horticultural Society of Madras distributed a bag of coffee seed from Sierra Leone among planters and others. In expressing thanks for the Stenophylla seed thus sent to him Mr. R. Lamb, of Vyitri, wrote:—"I have a couple of 3 years' old trees of magnificent growth and free from disease (rust), but as yet they have borne little crop. They are now, however, showing spike in abundance and may do better during the coming year. *Arabica liberica* hybrids are doing very well with me, and if you would care to have half a dozen seeds I would send them to you with pleasure."

The London Tea Market. From Reuters' telegram of 22nd ultimo to Colombo, we learn that at the London tea sales prices were generally rather easier, but fine sorts realised full rates. Of 19,000 packages Ceylon offered, 18,000 were sold and of 12,000 Indians 10,000 changed hands. Quotations—*Ceylon* F. P. Souchong 6¾d., average of the net 7¾d. week; *Indian* average, 9½d. Cabling the same day, Messrs. Gow, Wilson and Stanton reported that demand was running on low priced teas, and that good liquoring Pekoes were in improving demand, Pekoes for price easier, average 8d. Contrast the two reports:—*Reuter* fine sorts realized *full rates*; *G., W. & S.* Pekoes for price easier!

Young Plants. The Honorary Secretary of the Agri-Horticultural Society of Madras announces:—We have now a nice stock of young *Cola acuminata* plants from 2 to 2½ feet high ready for distribution to Members. The following plants are also available to Members:—

Erythrina lithosperma.	Myristica moschata.
Artocarpus incisa.	Ochroma lagopus.
Erythroxylon coca.	Couroupita guineensis.
Theobroma cacao.	Albizzia sphærocephala.
Dillenia indica.	Spathodea stipulata.
Aristolochia gigas.	Swietenia mahogany.
Cordia sebestena.	Swietenia macrophylla

Dejected Coffee. In his report for 1898 the British Consul at Rio describes coffee as having been in "a most dejected state" ever since 1896, when prices commenced to fall, dropping from 63s. per cwt. to 29s. per cwt. at the present day. On more than one occasion, he says, the current price did not cover the cost of transport from distant districts in the interior. It is, he observes, fully expected by those interested that, owing to

neglect in clearing the trees, and the abandoning of the many new plantations opened up several years ago, every year will show a gradual diminution in the production of this article. Would that the same news came also from Santos!

Bulgarian Rose Crop. Following up the letter quoted in our last, the Kezanlik correspondent of the *Chemist and Druggist* writes on May 25 as follows:—"The danger apprehended from the late excessive heat has been averted, as, during the last two days, we have had copious rains throughout the entire rose districts, which means that we shall have a substantial crop of the very richest quality. In the place of the former hot-and-dry weather, it is now delightfully cool and fresh, and the distillation is progressing under exceptionally favourable conditions, so much so that the present harvest is likely to last three weeks at least. Nothing definite can be said regarding the fixing of prices until the final result of the crop is made known."

Camphor Plants. In the last Quarterly Proceedings of the Agri-Horticultural Society of Madras, we read:—Of the twenty-four plants received from the Royal Botanic Gardens, Calcutta, twenty-two plants have been distributed to Members and others. Those planted out in our gardens two years ago are now two to three feet high. Mr. Winterbotham, of Meppadi, Wynaad, reports that the two plants we sent him in October, 1896, are doing remarkably well; four feet high. Mr. S. M. Pritchard, of Yercaud, in his letter of the 18th March, says that the one plant sent to him in August 1898 made little progress till a month ago, when it began to make a vigorous growth. The elevation of Yercaud is not quite 4,000 feet; soil a virgin black, and the temperature never goes above 89° in the hot weather and the rainfall averages 50 inches.

Coffee Tabloids. A process has been invented and patented at Rio for preparing coffee in tabloids by a system of compression. It is argued that not only will there be less expense in exporting coffee in this form, but the consumer will be more certain of thus receiving for his use the pure unadulterated article. It has been estimated that some £100,000,000 of British capital is employed in public funds and enterprises in Brazil. This may be a liberal estimate, but no doubt the amount is very important, and it is perhaps somewhat surprising that so little of it has been invested in so profitable an industry as coffee planting. Probably the explanation lies in the fact that a certain feeling of insecurity exists as to the protection afforded to the property of foreigners in the interior of Brazil.

Coffee Shade. Writing to the Agri-Horticultural Society of Madras, last February, Mr. J. W. Minchin, Honorary Secretary, Nilgiri Agri-Horticultural Society, Ootacamund, wrote:—"I am desired, by the Committee of this Society, to thank you for the 200 seeds of the *Coffee stenophylla* which are to be distributed among the planting members of this Society. Mr. Rhodes James, of Coonoor, writes me that he wishes to obtain more seed of the *Pithecolobium polycephalum* which, he says, promises to be a very valuable shade tree for coffee. He reports that one tree from the seed, received through me from your Society in 1897, has grown well and is ap rently a faster grower than even the *Albizzia molucca* Can you assist Mr. Rhodes James, of this Society, in g ting any more of this seed?"

Tea Prospects in Assam. *Capital* says:—In the Cac District the weather is now v cold and unfavourable for the grow of tea, as 16·94 inches of rain fell in the district dur last week, and about four times the amount of rain us at this time of the year has fallen. Red spider is r disappearing, but mosquito blight is appearing. In Syl it has also been unusually wet, 22·59 inches of rain falli last week, and the low temperature induced thereby unfavourable for the manufacture of tea. In parts of t district over 100 inches of rain have fallen against 35 the previous year, and in Sylhet town 72 inches against in the previous year. In Darrang, Sibsaugor and Lakhi pur also too much rain has fallen for the tea crop, a unless the present stormy weather is succeeded by a per of sunshine, the quality of tea will suffer materially.

An American Tea Industry. The U. S. Secretary of Agric ture has been making a pilgrim through the Southern States, a in the course of his trip made an address to the Louisia Sugar Planters' Association, in which he announced it his purpose to push the cultivation of the tea plant in United States. He said: "I might say that during visit to South Carolina I became well satisfied that th is a new industry that you can take care of in this count and that is tea. You have all the conditions necessary produce fine teas under your latitude and under latitude of South Carolina. How much farther north I not know. There they have a fifty-acre tea farm wh was originally encouraged by the Department of Agri ture, and I propose to push that. I would like very m to have this industry developed. I know that Dr. Stu will give it some encouragement here, and I have no do it will become as successful as the best industry of United States."

Ceylon Enterprise. The *American Grocer* says Mr. Alex. Thomson, London, E land, representing Whittall & Co., Colombo, Ceylon, arri here last week, and left on Friday for Chicago, from wh city he will start for a trip through Canada and N England to Boston. It is the intention of Whittall & to open a New York office, in charge of Mr. Rich Blechynden, late Indian Tea Commissioner. It is purpose of Whittall & Co. to manufacture tea to meet requirements of the American market, so that jobbers m secure tea exactly adapted for any particular section matter whether it is fermented or unfermented. Besi this, Whittall & Co. will pay careful attention to marketing of straight Ceylon tea cured, as has been fashion for some years past. In short, it is the aim of firm to furnish American dealers with exactly that desc tion of tea that their trade demands. This step is tak in view of the steady increase in the trade in Ceylon in this country and in the belief that a branch in N York City which will put dealers in close touch with primary markets and obviate the necessity of dea

rough the London market, will be advantageous to all ncerned. The advantage of such a move is greater now at there has recently been established a line of steamers ading direct between Colombo, etc., and United States rts. The firm of Whittall & Co. is one of the largest of e kind in the world, and in the year 1898 handled one-nth of the enormous tea crop of Ceylon.

A Slander refuted." Referring to recent remarks of the *Morning Leader* about adulterated tea, Mr. S. Granthan writes that competition is too keen owadays, and the public too well educated to allow of the tail trader selling tea adulterated to such an extent. There he thinks the public place themselves in a false position—especially the working classes—is by purchasing the w-price canister tea, thereby contributing a so much rger percentage to the revenue than they would do with e better and higher price teas. The following table, blished by a leading firm of wholesale tea merchants, he inks, clearly proves this: If you drink tea for which you y 10d per pound, you are paying taxes at the rate of per cent. on the value of the tea, and so on in the following proportions:—

Common ...	1s.	...	33⅓ per cent.
Medium ...	1s. 2d.	about	28½ ,,
	1s. 4d.	,,	25 ,,
	1s. 6d.	,,	22 ,,
Fine ..	1s. 7d	,,	21 ,,
	1s. 10d.	,,	18 ,,
	2s.	,,	17 ,,
Very Fine ...	2s. 4d.	,,	14 ,,
	2s. 6d.	,,	13⅓ ,,
	2s 8d	,,	12½ ,,
	2s. 10d.	,,	11½ ,,
Choicest ...	3s. ..	,,	11 ,,
	3s. 4d.	,,	10 ,,
	4s. ...	,,	8⅓ ,,

course, tea adulterated to some extent does find its way London, but it is again exported to Holland and the lonies. Regarding tannic acid in teas, the peculiarity Indian teas is that the higher the grade the larger ount of tannin there is. It is evidently the result of ne quality in the soil, as China tea, no matter how coarse d old, does not contain it.

NOTICE TO CORRESPONDENTS.

"Planter."—Kindly authenticate your letter, and we will blish it.

GENERAL ARTICLES.

MANURING FRUIT-TREES IN HOLSTEIN.

A method of fertilising fruit-trees in vogue in Holstein is suggtive, and not unworthy of a trial. The trees, it is said, receive cultivation. and the fruit is large, sound, and produced in ndance. Every two years a few holes a re dug in the ground ut 4 or 5 feet from the trunk of the tree and about 1 foot deep, er and shallower in the case of young trees. These holes are d with liquid-manure about four times during the winter nths, and for young trees this is diluted with water. If there more liquid-manure than wanted, it is distributed over the surs of the orchard, using an old street sprinklingwaggon for the pose. There is no reason why manure water should not be d once or twice after it is seen what the crop islikely to be; of rse, not affording any at that season to treesnot bearing a crop, which are carrying only a few fruits, as to dose them would be ncourage, probably, an unnecessary growth of shoots. But in matter, the cultivator must be guided by the condition of the m, and of the soil.

TEA AT THE PARIS EXHIBITION.

We learn that our Indian friends are bestirring themselves about a better position than they had prescribed for themselves at the Paris Exhibition This is not the first occasion on which Ceylon has had to set them the lead. Our representatives had arranged for space, not only for a Tea House, but for tea tables; and now India complains of the small space she has for her tea, as compared with what Ceylon has But whose fault is that? We are by no means unwilling that India should increase her space; but it must not be at our expense; and we trust and believe that our representatives, both here and in England, will see that there is no curtailing of the space allotted to us We may even want more! —*Ceylon Observer.*

THE DEVELOPMENT OF COFFEE MARKETS.

Indian coffee-planters are not the only people who want to push coffee into consumption. A London firm, in the Brazilian coffee trade, said in a recent monthly circular:—

According to the data which we have published in our last two reviews it appears that, although the consumption of coffee has been increasing of late years, it has been, in ratio, disproportionate to the production. From this it has resulted that the markets have been congested during the past three years with heavy stocks, which had a disastrous effect upon prices. The total visible supply is at present 6,000,000 bags, and as the production of the year beginning 1st July next is estimated 15,000,000 bags, the market will have to deal with the prodigious stock of 21,000,000 bags, whereas last year, which was that of the greatest demand known, the total consumption was 14,328,800 bags. The probability is, therefore, that prices will go lower instead of higher.

As this product is of so much importance to the countries where it is grown that most of them are now passing through a severe commercial crisis, principally caused by the fall in its value, we believe, as we said in our last review, that the Government of the countries interested ought to make some effort in order to stimulate and extend consumption.

From a statistical article recently published upon this subject, we observe that the average consumption of coffee, in ounces, per head of population per annum, in various countries is as follows:—Holland, 370; Denmark, 347; Belgium, 176; United States, 155; Switzerland, 112; Germany. 78; France, 53; Austria, 32; Italy, 17; Great Britain, 11; Spain. 9; Russia, 3.

It is remarkable to see by these figures what a small consumption of coffee there is in some countries. If, by means of an intelligent effort, the average consumption could be raised to 32 ounces per head per annum, which is a very small amount, in the four last-mentioned countries alone, that would mean a total increased consumption of 4,00 ,000 quintals (cwt.), which would at once restore the equilibrium of prices.

We believe that a small levy of 5 or 10 cents gold per bag of coffee exported, imposed by the various Governments, would produce £12 ,000 or £250,000 per annum, which, if well employed, would be sufficient to obtain very important results in this direction.

It is to be observed that in the greater part of Europe the retail price of roasted coffee is now almost at the same rate as before the fall in wholesale prices. If large coffee-roasting establishments were established in various parts of Europe, similar to those existing in the United States, which would give consumers the benefit of the decreased prices, this would probably have the same effect in generalising and augmenting the use of coffee as it has done in that country.

By judicious advertising, by distribution of pamphlets showing the great merits of coffee as a beverage, directions for preparing it, and by other intelligent means of popularising it, much could be done. The Exhibition at Paris next year will be a good opportunity of inaugurating this work. The subject is too vast to be treated summarily in a market report, but it is of such importance as to well merit the attention of the Government interested, principal amongst which is that of Brazil.

Commenting on the allusion to a levy the *Brazilian Review* observes:—

Coffee is quite enough taxed already! Another straw will break its patient back. If anything is to be done for Coffee in the way of *propaganda*, it must be by private not Government initiative, as was done by tea planters in India and Ceylon.

HYBRID COFFEE IN THE STATES.

FREEDOM OF COORG COFFEE TREES FROM LEAF-DISEASE.

Mr. E. V. Carey writes from Selangor to the Editor of the *Tropical Agriculturist*, Colombo:—

In the year 1895, I got some Coorg Arabian seed over here and planted eight acres, in two patches of five and three acres each, on hills in the middle of large Liberian clearings.

From an economic point of view, this result was not a success, though at first the trees came on splendidly; but grown at sea level in this latitude, a satisfactory result could hardly have been expected: blossoms mostly brushed, owing perhaps to insufficient shade, and the trees have never at any time up to the present yielded more than 50 to 60 berries each. But the experiment has not been altogether without interest, inasmuch as plants raised from the seed of these trees are showing distinct hybrid characteristics, taking more after the Arabian parent, but being fuller in the leaf and with their primaries further apart At present the few hundred plants I have growing are only about six months old from seed, so it is impossible to say how they will turn out; but in view of Mr. Cameron's extremely interesting report upon coffee in Coorg, I need hardly say they will be watched most carefully.

Perhaps the strangest feature of this small experiment has been the fact that I have never seen a spot of leaf-disease on one of the Arabian trees yet, although the two small clearings are surrounded with Liberian, scarcely a tree of which is free from it. When the surplus plants were very thick in the nurseries, two or three, certainly not more than half a dozen, were attacked with a spot or two, and I then rooted up and destroyed the nursery, but though I have often examined the two clearings very closely, being struck by the strange phenomenon, not a sign of *Hemileia* have I ever detected.

RUBBER IN TRINIDAD.

The following interesting notes are from the Annual Report of the Royal Botanic Gardens, Trinidad:—

(*Castilloa elastica, Cerv.*) Rubber cultivation has been taken us with considerable energy during the year 1898. The principal kind used for planting was *Castilloa elastica, Cerv.* Auction sales of seeds and plants of this Rubber were well attended and good prices were realised, as there was considerable competition.

At the experiment station a small area was planted in July. Among the *Castilloa* has been planted at wide intervals the larger and slower groving *Hevea brasiliensis*, with the view to their becoming permanent occupants of the ground; it being the intention to bleed the *Castilloa* trees very hard for certain experiments, under which many may succumb.

Another area has been planted out under the shade of standing trees, in what is called the old cottage grounds. It has been found that where *Castilloa* is well shaded their growth is much more rapid and vigorous than in the open. To grow *Castilloa* without a certain amount of shade and shelter, would, in my opinion, be to invite a succession of slow and stunted growths. In its native countries it is always found in sheltered and protected lands and always becomes stunted in the open vega. Trees planted in Trinidad under standing shade have been found to thrive well, and soon become the picture of healthy growth. At the experimental station it was necessary to shade the Banana, Cassava, etc., and under these conditions, the plants have also grown well. In the Nurseries of St. Clair are several thousands of *Castilloa* plants in bamboo pots; a large proportion of which are already ordered for the next planting season. *Castilloa*, under favourable conditions in Trinidad, makes rapid growth and is probably better suited to the climate than any other class of Rubber, as it comes to maturity earlier, and can be handled with a minimum of previous planting experience. Specimens of the Rubber sent to England for valuation prove that our *Castilloa* trees are the best kind in cultivation. The large crops of seed now obtainable from *Castilloa* will make it possible at an early date to grow stems for the purpose of extracting Rubber from them in their young state. Stems of a year old have been found to contain some 8% of their dry weight in Rubber, and this amount has been extracted in the Laboratory. Whether the same percentage can be extracted in actual practice remains to be seen.

Hevea Brasiliensis, "Para Rubber."—This tree produces Rub of the finest quality, for which the demand is very regular. A tree, it is of slower growth than *Castilloa*, but, grown for a per nent crop, it will probably exceed that tree in value. The proves itself to be hardy, it can be handled with ease, and gro freely, although it takes a number of years before the trunk comes large enough to bleed regularly. Growing at the old gard the tree is seen to make itself at home on the hard and barren which there obtains; showing that, although it is a tree fond water and delighting frequently flooded valleys, it will also grow other situations. Specimens of Rubber made from these trees h been examined in London and valued at high rates.

I have noted that seeds of this kind of Rubber are being off in France at a rate of over £40 per thousand or 10d. each; and Ceylon rates of £3 per thousand on the spot—packing cases, freight extra—are being charged. The vitality of *Hevea* seed that of *Castilloa* is very fugitive, and great risk is run by plant in obtaining seeds from a distance. Our seed harvested in Nov ber was of excellent quality and fully 99% germinated.

A tree of *Hevea confusa, Hemsly*, formerly known as *Hevea spru* also bore fruit. The distinguishing characters of the seed ar large size, its angular form, and the softness of its outer cover when compared with those of *Hevea brasilinesis*.

What is apparently another *Hevea* has been presented to the periment Station by His Excellency the Governor, who obtai it from Dr. Carl Bovallius, who was recently exploring the terri of the Amazon, S. A.

These, when handed over, were in bad condition, as I proved cutting a sample lot before sowing. Out of 170 seeds, only s five seeds germinated, and only two plants promised to surv This *Hevea* has seed not more than half the size of those of *He brasiliensis*, and of much darker color.

Kickxia africana or *Iré Rubber* is obtained from a newly in duced African tree. A small section was planted out in Novem and so far as we can judge in so short a time, promises to do w This rubber has been seen in the African forests by Mr. Millen, acting assistant, who states that our plants are quite true to na Mr. Millen has shown me samples of material collected by him from trees in the African interior, which shows this rubber is li if at all inferior, to the best "Para." A parcel of seed sent to by Kew did not germinate so well as did the first lot received, but few plants were obtained from it. Every endeavour will made to extend the culture of this species, as it appears to b great promise and well suited for growth in Trinidad.

A report reached us from German sources to the effect that *K sia africana* does not produce rubber at all. Mr. Millen's evide however, satisfies us upon this point. In addition, however, it be recorded that we have trees sufficiently large to bleed on a sm scale, and from these trees we have recently procured latex, f which a small piece of excellent rubber was produced, which pro the report to have been a mere trade rumour.

Manihot Glaziovii or *Ceara Rubber*.—Some demand has se for seeds of this rubber. These demands we have had to refer e where, as we have no supply. There is one tree in the ga which is said to be some 25 years old, which bears a few s annually; but, although of this age, its stem is but barely six in in diameter. Some of our correspondents, however, are q sanguine as to its value for culture in Trinidad. Some few were planted a few years ago at the Chaguanas Convict Depôt. their condition is far from convincing proofs of its suitability our climate My own experience, the Ceylon records, and var other sources of information tend to convince that *Castilloa*, *H* and *Kickxia* are also preferable to *Ceara* for cultivation in Island. *Ceara*, when young, grows rapidly, and induces the vator in many cases to believe in a continuous run of gro which often proves disappointing. It has been reported by s who have visited the *Ceara* districts that the trees never grow large size. It may possibly be grown with economy in some mountain lands, unsuited for other products, but as a rubb producer I cannot undertake to give it a high recommenda The rubber produced is, however, of good quality.

Landolphia and *Ceropegia*.—African and Ceylon rubbers. T are both under cultivation, but at present there does not appe be sufficient inducement to plant them extensively.

Tabernaemontana crassa.—This tree is a reputed rubber-pro and was grown on trial in these gardens for the past few Having a tree which had attained a large size, it was bled

the latex was treated in different ways with a view of producing gulation without success. Eventually a substance was pro- ed which resembled in appearance a lump of chalk, or compact ch, quite brittle in character and certainly not rubber.

apium acuparium.—This is an indigenous tree which produces e quantities of mercilessly sticky gum or latex. This mate- can be handled, when immersed in water, or with wet hands tools and is scarcely likely to become a competitor with the er classes of rubber. So far we have been unable to coagulate uccessfully.

THE INCREASING POPULARITY OF TEA.

With the ups and downs of the tea-planting industry one fact is ceable, and that is that tea-drinking is on the increase. In e of the open hostility of the medical profession, tea conti- s to grow in popularity in countries where tea-drinking recognised institution, while it is gaining favour else- re. This is largely due to the enterprise of Indian and Ceylon ters. Tea has been "pushed" in recent years as it never was n China controlled the market, and the result is seen in the ving demand on the European Continent, in, the United States. in the British Colonies. Referring to this, we notice that the e pays tribute to the work of popularising tea. It says: ter a long and costly struggle, Indian and Ceylon teas are fast quering the whole world of consumers by their now recognised eriority. Australasian prejudice was the first to succumb; then wed South Africa; the United States and Canada made a ler fight, but they, too, have given way; while Russia, the test market of all, is largely and continuously increasing its ortations." The *Globe* then refers to South America as a for tea, and alludes to the consumption of maté. In some s of South America, Paraguay tea is popular; but there is ty of scope for pioneer work in the introduction, or rather pushing, of Indian and Ceylon tea in Brazil, the Argentines, i, Peru, and the other South American States, where up to the opportunity for purchasing good tea has been very ted.

E PRESENT POSITION OF THE TEA INDUSTRY.

he following is from a "Communicated" article in the *Planter*:—

the present stagnant state of the tea-share market is any rion to go by, and is any indication of the trend of affairs, e can be no doubt as to what expectations have already been ed, by the investing public, of the prospects of the season h has been entered upon. I will quote from Calcutta share- ket reports: "*June 7th.*—Tea has been neglected for the most during the past week, and quotations are hardly so strong as were a short time ago; they will doubtless get a turn again n the bazaar finds time to turn its attention to them." "*June* —The tea sales having gone rather flat to-day, and prices being ewhat easier. there are more sellers than buyers of tea scrip afternoon, with the effect that quotations are hardly so strong ey were a few days ago." "*June 12th.*—Tea is quiet with noth- loing." "*June 14th.*—Tea shares are for the moment somewhat nd prices are at rifle easier. Tea is neglected for the moment." *ne 15th.*—Tea shares are taking a rest." "*June 17th.*—In tea, have only been a few casual transactions this week."

ese reports, representing as they do, the true state of tea-share market, show that tea shares at present are a drag e market The serious part of the business is that, notwith- ling the attempts of interested parties to bolster them up, they ot likely to "boom" again for some months to come The in- ng public have gauged the fact that the roseate hues which d the horizon a short while ago have now faded away. The nt state of the tea market does not warrant over-pleasant an- ations. Only a few months ago tea prospects were held out as most encouraging, brighter, in fact, than they had been for ; stocks had been reduced to a minimum; "in spite of larger oduction in India, the supply to the country (United Kingdom) hown very little increase, outside markets having developed iently to absorb nearly the whole surplus," etc., etc. Such the assurances contained in the home brokers' reports; but what said the Board of Trade Returns for April 1899? "Tea—The receipts were quite normal, but the duty payments, in anticipation of a higher impost being levied, were puffed out far beyond the immediate requirements of the trade, and the bonded stock was made to look very small." A rose of another colour, putting quite a different complexion on the state of affairs as presented to the public. Taking into consideration the last two tea sales and the present state of the tea-share market, what do the indications point to? A boom or a collapse? If, as has been stated, buyers in the Calcutta market have lost from 1d. to 4d. a pound over their purchases when reselling in the London market, will they not have to recoup themselves by certain manipulating of their further purchases? Does this not mean that there is bound to be a drop in the prices realised at the local sales? Again, in spite of the repeated warnings of the Calcutta tea brokers relative to the absolute necessity that exists for the proper regulation of the shipments of tea to the London market, what has been done? Why nothing more or less than the adoption of the most suicidal policy that could possibly have been followed. An excess of 4,526,629 lbs. of tea over the corresponding period last year has already been exported: in other words, up to the 16th of June 1899, the glut of the home market has already been taken in hand by about five million pounds of tea being shipped in excess of last year's supplies to same date. Can any other than an immediate drop in prices be the inevitable result? What is the reason furnished for thus rashly rushing forward these teas home?—"to catch the rates ruling for low priced teas." Will it not be a case of the exporters being "hoist with their own petard"? But this, unfortunately, will be the least part of it; down will go the prices, never to rise again this season.

A correspondent "Seller," writing to a contemporary, on the 4th of June, 1899, commenting on the Report of the General Committee of the Indian Tea Association for the year ending the 28th of February, 1899, says, among other things:—"There is one other matter I would like to refer to, and that is, *the collapse of the tea market last year.* I am somewhat surprised no reference is made to this in the report before me. Surely *the question of how to get a fair return for our produce is the all-important one to us growers*? What where the causes that led to prices falling lower than we have ever seen before? I know the unfortunate estimate had a deal to do with it in the first half of the season, but rates did not rise until long after it was quite apparent that the crop would be a short one. Prospects for the present season seem bright just now, but is the position one of security? Cannot the same influence in Mincing Lane that last year forced prices down to starvation point and hurried many concerns into liquidation come again into operation, and turn our morning into night? We are an Association of Growers—is it not a fact that at present we are practically entirely at the mercy of a Mincing Lane ring of buyers? Our brokers have gone to some trouble to enlighten us as to *the causes that brought about last year's collapse*, and our best thanks are due to them for doing so. Messrs. Cresswell and Co. state these to be:—"Too rapid transit from garden to London; concentrated buying power in Mincing Lane; forcing of the under 1s. canister; quantity of unsuitable tea shipped on garden account to London; together with the paucity of quality." I do not know whether Messrs. Cresswell and Co. have hit the right nail on the head or not. I do not think it fair that we should have to rely entirely on the statements of our brokers. It seems to me a matter that should engage the earnest attentions of the Committee of this Association. Where shall we be if the "under 1s. canister," to which Messrs. Cresswell and Co. refer, is rated lower for this season by the gods who rule us in Mincing Lane? Possibly some of your readers will smile at the ignorance of the position displayed in my remarks. If so, I make bold to say it is ignorance shared by other producers. and we look to our Committee for 1899 to put us in possession of the facts and to devise some means of protecting our interests. As growers, are we unreasonable in asking this Association during the present year to concentrate its energies in helping us to deal with our produce to the best advantage, and to lessen some of the burdens that now oppress us. There is, I am sure, amongst our Committee more than sufficient talent if put forth, to form a 'scientific expert for the tea district' who will successfully combat the Mincing Lane mosquito and the spider of the London Warehouse." The writer places the blame for the present unsatisfactory state of affairs, more or less, on the shoulders of the Indian Tea Association. In his opinion it holds the talismanic panacea-

which is to remedy all existing evils. But does the "Open sesame" of a possible future millennium for the tea industry lie with it? I think not; certainly not entirely; for the Indian Tea Association is composed of the members of various tea-agency and tea-brokers' firms, who are more or less subject to higher authorities—Boards of Directors and Shareholders. The members of the Association and the firms which they represent have, however, most responsible duties to perform, to which I will refer further on. In the performance of these duties they have been somewhat slack, and have been "called to book" in the public prints. Climatic conditions, such as depressing heat, should not be put forward as an excuse for ennui, when important business matters have to be transacted. There appears, further, to be a certain want of combination among the members. But the Association is now waking up to a sense of its responsibilities, and doubtless before long, "sellers" and planters (who form the "Association of Growers") will have no cause to complain of want of energy on its part, for it is now quite alive to the seriousness of the present position of the industry in this land; and as some of its members have a large stake in the industry, all questions relating to it affect their own pockets.

MATTE TEA.

Brazil.—Curityba is the centre of the "matté" industry, which employs nineteen mills in the town and suburbs. The preparation though simple, is all done by machinery. The raw material arrives in sacks of about 1 cwt. from the interior At the mill the leaves and finer stems are separated and ground to dust of various fineness. The thicker stems serve as fuel. The Argentines prefer dust "matté," and as they suck it through a "bombilla" are not inconvenienced by the floating particles; but there is no reason why it should not be prepared in the leaf like tea. The decoction has a greenish colour. The taste is agreeable, but not so aromatic as tea. It is stated that "matté" is peculiarly sustaining; that it is a digestive nerve tonic and cure for sleeplessness. The "Gauchos" of Rio Grande, Uruguay, and Argentina are the chief consumers, and will do a hard day's work with no other nourishment. Mr. David Carneiro, whose mill we visited, employs about thirty men, and when in full work the daily output is between eighty and ninety barrels of about 250 lbs. The dried leaves and twigs, as they arrive unprepared from the interior, cost on an average 13 milreis, or 8s. 8d. a cwt., and the price prepared at Curityba averages 23 milreis, or about 15s. 6d. a cwt. The retail price at Buenos Ayres varies from 20s. to 50s. a cwt Mr. Carneiro is endeavouring to create a market for "matté" in Europe, and stated that duties, freight, &c., paid, it can be sold in France at one fr. a kilo. An agent has already been secured at Paris, and another in London. If "matté" drinking ever becomes popular in Europe, it will be more probably among the labouring classes, on account of its cheapness and sustaining qualities.—*British Legation Report from Rio de Janeiro.*

TEA CULTURE IN ASSAM.

ANNUAL REPORT.

The official report on tea culture in Assam for the year 1898 states that as in previous years, the greatest number of tea gardens, 190, is in the Cachar district, Sibsagar comes next with 173 gardens, Sibsagar has the largest area under tea, 75,945 acres, and Sylhet stands second with 71,660 acres. Sibsagar gave the greatest outturn during the year, closely followed by Sylhet, Lakhimpur shows the best average outturn with 450lbs. per acre. The total number of gardens at the end of 1898 was 818, against 822 in 1897, showing a decrease of four gardens. The number of gardens closed was thirteen, as compared with two in the preceding year, and six gardens were amalgamated with other gardens against two in 1897. The decrease of 12,293 acres in the area of tea gardens in Cachar is apparent only, and due to the exclusion of the areas of abandoned gardens, which were erroneously included in the returns of previous years. Out of 818 gardens, statistics have been furnished in respect of 734 gardens, against 755 in 1897, and estimates had to be framed for eighty-four gardens, as compared with sixty-seven in the preceding year. This increased reluctance to supply information is to be regretted, but the Chief Commissioner's thanks are due to those managers and agents who have furnished the required information. There was an increase in the number of persons employed both permanently and temporarily by 23,191 and 3, respectively. The increase in the number of persons permanently employed was general throughout all the districts in the province except Kamrup, and is attributed to importation of labourers. The increase of 14,987 acres, which is distributed among all districts except Kamrup, is due partly to the opening of new gardens and partly to extensions of cultivation in existing tea gardens. The decrease in Kamrup is due to several gardens having been closed during the year. The decrease of 20,027 acres, in the total area of land taken up for planting, but not yet planted, as compared with the figures of the preceding year, is due partly to the extension of cultivation and partly to the revision of the figures previously returned for the Cachar and Nowgong districts. The total outturn of tea during the year was 109,071,367 lbs., against 107,266,332 lbs., showing an increase of 1,805,035 lbs. The decrease of outturn in Cachar, Sylhet, and Nowgong, which was the result of insufficient rainfall, is more than equalised by the large increase in Darrang, Sibsagar, and Lakhimpur, due partly to favourable weather and partly to extension of cultivation. The yield per acre for the Surma Valley, the Brahmaputra Valley, and for the whole province, according to the district returns, is shown below:—

	1897.
	lbs.
Surma Valley	440
Brahmaputra Valley	384
For the whole Province	408

The Indian Tea Association expressed their inability to furnish any information this year under the above head. Only 1 maunds of tea seed were returned as imported from Manipur against 8,484 maunds in 1897. This result was due partly to failure of the crop and partly to a falling-off in the demand. It is said that much of the seed inported in the previous year from Manipur proved unsuccessful, having been plucked before it was fully ripe. There has been a general and steady fall of prices since 1894. The rainfall was generally below the average. In Cachar and Sylhet it was specially deficient and less than in any of the previous five years. The causes which affected the season's crop are noticed by the Deputy Commisioners as follows:

Cachar.—The long drought, which practically lasted from October 1897, to June, 1898, and the cold weather in August and September affected both the quality and the quantity of teas produced. Blights were rather less prevalent than usual. The season generally was a deplorable one for Cachar, and prices for Cachar teas both on Calcutta and London are said to have been lower than they have ever been before.

Sylhet.—The rainfall was insufficient, the total recorded at Sylhet station being the lowest for at least twenty-five years past. The fall was also badly distributed, and, although the latter part of the season was more favourable, the improvement came too late to enable gardens to make up ground cost earlier in the year. Blight was not at all prevalent.

Sibsagar.—The rainfall was far below the average of the last five years, and was not fairly distributed. The weather was favourable for quick flushing in the early part of the season, but constant rain in July and August, and the absence of sufficient sunshine checked manufacture during what ought to be the busiest part of the season. The Sub-divisional Officer, Jorhat, remarks that "it is generally agreed that at the outset it promised well, but the drought occurring in May and June produced in some gardens various kinds of blight and generally checked the outturn of tea. This was followed in July and later months by continuous spells of wet weather with a consequent reduction of temperature alternating with short periods of hot dry weather, the coldness of the former and the dryness of the latter periods being equally favourable to the growth of leaf."

Lakhimpur.—The year on the whole was a favourable one for tea as regards output, but prices did not rule high. The spring and summer months were favourable, and the bushes flushed freely, but the autumn was too cold and the season closed early. During the last week of August there was a very heavy fall in some parts of the district which checked yield on low-lying gardens. Rain in some parts was badly distributed. On the whole, there was not more blight than usual, though on some gardens thread blight interfered with the yield. Taken all round the year was a healthy one for the labour force, but as far as concerns the class of labourers imported, from famine districts in particular, was not so good as usual.

LANTS STARVED BY EXCESSIVE NOURISHMENT.

There is an experiment well known in physics which consists in parating a receiver into two equal parts by means of a porous mpartment, into one of the parts putting plain water and into e other sugared water. After a certain time the plain water ab-rbs all the sugar and leaves the other impoverished. A double irrent has been set up between the two liquids; the one more pid and more abundant, from the less dense to the denser liquid, called endosmosis; the other of the denser to the less dense liquid exosmosis, or the weaker current.

Plants assimilate their mineral nourishment through the free rtions of their roots, which are composed uniquely of cells. Now e vegetable cell contains in itself a living substance called pro-plasm, which has the consistency of a thick liquid. The envelop-g part is a membrane called cellulose, which is traversed by all quids that come into contact with it. So when we water a plant th ordinary water, as the water is less dense than the liquid in e cell. the two currents, endosmosis and exosmosis, are set up. hich current is the stronger, the more rapid? The less dense to e denser—that is to say, the water towards the interior of the l. For ever so little the water dissolves some nutritive elements its way through the soil to the roots, it transmits those elements the protoplasm. But should some inexperienced gardener, in e hope of imparting more nourishment to his plants, add to the ter a too strong proportion of soluble manure, he increases so the density of the external liquid, that the liquid within the l becomes the less dense and acquires a more rapid flow from the erior to the exterior. The result is impoverishment of the cells d loss to the plant of more than it gains, resulting in starvation. e question, therefore, how much manure to add to the water in tering, so as to avoid making the water heavier than the liquid thin the cell is one of importance to gardeners. Given the fact at the sap once it enters the roots contains about four grammes soluble matter to the litre, it is easy to decide that the water ould contain less than four grammes of soluble water in order to up the more rapid current. A gardener, therefore, who wishes nourish his plants will take care to add less than four grammes such matter to the litre in watering.

Another question is, how much water or liquid manure should be ministered to each plant, especially plants in pots? It is self-dent that everything must depend on the kind of plant, its state vegetation, the surrounding temperature, etc. *Savants* by ans of experiments have been able to tell us this also, and they ree in stating the quantity to be three to five. That is to say, if plant can absorb three parts of liquid, it is necessary to ad-nister five parts to it. But what we have especially to bear in nd is the fact stated, which explains why the books never advise addition of more than two to three grammes of soluble manure the litre of water when the object is the nourishment of plants h liquid manures.—E. Courtois, in the *Revue Horticole.*

TEA PROSPECTS.

From the Annual Review of Indian and Ceylon Tea by Messrs. n. Jas. and Hy. Thompson, we quote :—

The production of large crops of low-priced tea should be left to se who can attempt it with the least hazard. It would be most rudent for those in Assam. Darjeeling, or the highlands of ylon, whose estates can yield tea of fine quality to risk their -eminence. We have behind us the evidence of many years that nand for fine tea is an assured and constant feature of the home rket, and although, for the time being, those who produce it y not be getting their due proportion of profit, this will be ad-ed when liberal supplies once more come forward and the nor-range of value between fine and common tea is re-established. n ideal crop would be one containing the widest possible variety haracter and value, with enough of the best to meet the home land and to maintain the reputation of British-grown tea all r the world, and with a sufficiency of such as growers could rd to sell at low rates, in order to increase our trade abroad by planting the produce of other countries. New markets can her be opened nor kept open with short supplies and high prices. ecognizing how much of encouragement there is in the present tion, we feel there are too many uncertain factors of the problem atify the very sanguine forecasts in which some have indulg-ed:—the quantity that may possibly be drawn from China by the prices now ruling is unknown; Ceylon, as well as India, is liable to suffer, and has suffered from drought and blight; in India the difficulty of getting coolies increases; and though freights may be lower. an exchange at 1s. 4d. has still to be reckoned with. On the other hand, the Home Trade is in a strong position, abundantly supplied with capital; the advance in quotations was a genuine movement, entirely due to the fact that supply had fallen short of demand and not to any artificial manipulation of the market; stocks are lower than they have been since 1886, when the annual turnover was 50 million lbs. less than it is now and the price of tea 50 per cent. higher; and, although an increase in the importation from India may be expected, very little more will come from Ceylon; there is consequently not much reason to expect to total supply from these sources will be larger than we require here. provided that a free consumption at home and abroad is not hindered by very high prices at the outset.

As regards home requirements for the coming season, it should be safe to take the year 1898 as a criterion. The Board of Trade returns show that in that year we used at home or sent abroad 141 million lbs. of Indian, 94 million lbs. of Ceylon and 36 million lbs. of China and Java tea:—total 271 million lbs. We should, therefore, be able to handle here without much difficulty during the season ending the 31st May, 1900, about 145 millions from India, 95 millions from Ceylon, and 35 millions from elsewhere—say, a total of 275 million lbs.

We refrain from details relating to manufacture, assortment and so on, respecting which managers must already be in possession of the information they need: but inasmuch as it is desirable that the requirements of Continental and American buyers should be studied by those who can produce the sort of teas they take, it may be useful to mention that the *desiderata* for those markets are —an even leaf, not broken or dusty; flavour rather than strength; aroma on the dry leaf: large breaks and sound packages made of the best material.

HEPBURN'S COFFEE ROASTER.

A meeting of those interested in the Queensland coffee industry was convened at Cairns for the purpose of hearing Mr. Hepburn demonstrate the advantages of his patent roaster. Unfortunately, the time named for the meeting did not allow many growers to be present, as the train to Kuranda left at 4.30.

The *Cairns Argus* says:—Those few who were present expressed themselves as well pleased with the apparatus, and Mr. Mayers, President of the Kuranda Coffee Growers' Association, invited Mr. Hepburn to pay them a visit at Kuranda, where he was sure a large number of growers would attend and listen to his description of the use of his roaster.

Mr. Hepburn in explaining his system of sun-drying coffee said: The chief improvement that I claim on other systems is the rake that I use. It is so constructed that it fits the tray, thus rendering it a quick and easy matter to turn the beans, so that they are exposed to the air. My rake can be adjusted to suit any make of tray. I have handed over to Mr. Newport (the coffee expert) 6 trays with stands and 2 rakes. and Mr. Newport has sent them out to Kamerunga Nursery which I understand is to be the place where coffee culture experiments are to be made. You know, gentlemen, the amount of work, and valuable work at that, which lies before Mr. Newport, as coffee expert, not only for this district but for Queensland generally, and I am sure that if he expresses approval of my apparatus, you may rest satisfied that it is a good article. The trays that Mr. Newport has, have been specially constructed to bear extra handling, with the idea of their being sent to different farmers as samples. I would like to say a few words as to the deputation to Mr. Chataway last year, at which Mr. Mayers represented the coffee growers. Mr. Harper, who represented the merchants, stated that the coffee grown in Cairns was not up to the desired standard. Gentlemen, I am sure that all that is wanted is more careful attention to the curing of the coffee. From enquiries made by me, I am satisfied of the great productiveness of the coffee tree in this district, and I am fully satisfied that it is an industry that will become a great success in this neighbourhood.

Mr. Hepburn then gave a practical demonstration of the use of his apparatus, and ended by presenting a complete set to Mr. Mayers as President of the Kuranda Coffee Growers' Association.

TEA, &c., COMPANIES.

The Dooars Tea Co., Ld., has declared a dividend of 7 per cent. on the preference shares; a dividend on the ordinary share capital of 10 per cent. and a bonus of 2½ per cent. for the same period; and that an *ad interim* dividend of 5s. per share having been made on account thereof, the balance—*viz.*, £1 per ordinary share—shall be payable on and after June 1.

The Southern India Tea Estates Co., Ld.—The fourth annual ordinary general meeting of the Southern India Tea Estates Company, Limited, was held at the offices of the Company, 16, Philpot Lane, E. C., on Wednesday, the 31st May, Mr. W. Forbes Laurie presiding.

The Secretary having read the notice convening the meeting, the Chairman, in moving the adoption of the report and accounts, said:

The report, I think, clearly shows our position, and I do not think that I can add much to what you will find in it. As the report tells you, prices were very low last year, being much lower than those for the previous year, and not only for Southern India, but for the whole of India and Ceylon. It was also an exceedingly dry year, and we suffered a great deal from drought. The estimate for the coming year, so far as one can see, is almost sure to be attained, and if only the present prices continue, I do not see why we should not have a very good year indeed. I may mention that a great deal of land we possess is not yet in bearing, and the outlay, of course, for bringing it into bearing has been going on. This year 197 acres will bear, and afterwards we shall have an increased crop from year to year. I am certain, as far as one can be certain, that this year will show a very great reduction in the average cost of our fine tea land. That which is now in bearing costs about £40 per acre, but when this land I have told you of comes into bearing, it will reduce the cost to £32, without deteriorating the quality of the tea. This will, of course, greatly improve our position as regards our property, although we shall have to wait to secure these good results. I shall be glad to answer any questions put to me, with relation to the accounts, before moving the adoption of the report. You will see we provide for a dividend of 2½ per cent. and I think, under the circumstances, we must rest content with that.

In reply to a question from Mr. Walthew, the Chairman said the average nett price for tea was 6·04, and the gross price was about a penny more.

Mr. Walthew then asked why the Company. instead of carrying forward so much, had not paid a little higher dividend. Last year they had only carried forward £207, and as they expected a much better year this year, why should they carry forward a sum of £475?

Mr. T. C. Owen, in reply, said that it was really a question of funds. There had been a great increase of capital expenditure, there was a certain amount of money due for the capital during the year, and there would have to be more during the next year. They had also been unsuccessful in their endeavours to place preference shares, only securing £250 out of the £2,000 they had hoped to raise for the increased expenditure on the estate. The cash position of the Company was not a very strong one, and they did not think it advisable to divide the dividend up to the hilt. Mr. Owen also mentioned that they had £300 to write-off for preliminary expenses, and they had only paid £80 off this last year, and £60 the year before. In fact last year they had excused themselves for paying off so little by promising to write-off a couple of hundred this year. Under these circumstances, he did not think the £113 carried forward for this purpose at all too much. Indeed, it was the usual thing to wipe off the preliminary expenses in three years.

Messrs. Whyte and Austin strongly advocated the advisability of paying a slightly higher dividend, the former remarking that it would give a much better appearance to the Company's affairs. It was at last formally moved by Mr. Whyte that with the approval of the auditor, a dividend of 5 per cent on the ordinary shares be declared.

This was seconded by Mr. Walthew, and carried.

The Chairman, in reply to a question from Mr. Whyte, said that they hoped, with anything like ordinary weather, to attain the estimate for the crop. As regards prices, he might mention that ¼d per lb. made a difference of 1 per cent. to them. He also mentioned that the income-tax in the report was both for the previous year and this year.

The re-election of Mr. T. C. Owen as a Director of the Company was then proposed by Mr. Austin, seconded by Mr. Walthew, and carried unanimously.

Mr. Walthew then proposed the re-election of the Auditor, Mr. J. D. Stewart Bogle, which was seconded by Mr. Whyte, and carried unanimously.

A vote of thanks to the Chairman concluded the meeting.

Great Western Tea Co., of Ceylon, Ld.—Outturn 313,425 lbs., average 48·15 cents. Cost for Colombo 35·98 per lb., including 3·56 cents. for manuring. Dividend 6½%.

Ceylon Tea Co., Ld.—The working of the Company during the past year was satisfactory, and the accounts would have shewn a credit balance, but for R2,877 having been written off as a loss through the failure of the New O. B. C. This left a debit balance on the year's working of R778.

The Directors hope to declare a dividend next year.

The Claremont Estate Co., Ld.—An extraordinary general meeting of shareholders in the Claremont Estate Co., Ld., was held at Colombo on 17th inst. The minutes of the extraordinary general meeting, held on the 3rd March last, were confirmed; and the financial position of the Company, and propositions as to the method of meeting the present liabilities were considered, when it was decided to sell the property. Theestate is said to be in a very flourishing condition, and the prospects of a good profit during the coming year favourable.

The Malay States Coffee Co.—The report states that Mr. W. P. Metcalfe visited the Company's property in March last, and a copy of his report has been circulated amongst shareholders. Further funds being required for the upkeep of the Estate, a fourth call has been made, bringing the amount called on upon each share to R75. The Directors propose the opening up of 40 acres of land with rubber, which will be brought up for discussion at the general meeting.

Borjan Tea Company (Limited).—The report for 1898 states that the crop for the season was 155,283 lbs., and the average price obtained was 9d. per lb. The extensions made since last report to 31st December, 1898, amount to 103 acres, since when some 20 acres more have been put out, and the balance, making up the total area under plant to 600 acres, will probably all be out in another month, thus making a total extension of about 240 acres. The total outlay on this account to 31st December, 1898, has been £3 752, to meet which 2,000 new preference shares have been issued. The result of the season's working shows a net profit, after deducting the manager's commission, of £1,003. Adding amount brought forward after adjustments of 1896, £18, and deducting interim dividends of 3½ per cent. on the preference shares and 2 per cent. on the ordinary shares, £351, there is a balance of £670. This balance the directors recommend should be disposed of as follows:—Final dividend of 3½ per cent. on the preference shares, less income-tax, £137; final dividend of 4 per cent. on the ordinary shares, free of income-tax, £480, leaving a balance to be carried forward of £53.

Priory Tea and Coffee Company (Limited).—The report states that the trade done by the Company for the past year has been satisfactory and progressive. The profit is £4,777, from which has to be deducted the following amounts:—Managing director's remuneration and directors' fees, £650; depreciation of leasehold buildings, plant, fixtures, horses, carts, and effects, £103; interim dividend paid November last, less income-tax, on preference shares, £190; capital reserve account, being amount earned prior to incorporation of Company (26th April, 1898), £1,077, making together £2,020, and leaving an available balance of £2,758. The directors recommend that this should be appropriated as follows:—To pay the dividend of 5½ per cent. per annum for the past half-year on the preference shares, less tax, £278; to pay a dividend of 6 per cent. per annum on the ordinary shares for the period ended 6th May, less tax, £1,509; to write off goodwill, £750; and to carry forward to next account £221. The sum of £1,077, being profit from 1st January, 1898, to 26th April, 1898, the date of the incorporation of the Company (less the interest on purchase price during the period, £513), has been carried to capital reserve account.

Tower Tea (Limited).—Mr. T. Lough, M. P., presided at the third ordinary meeting. He stated that the value at which the premises, plant, &c., were taken was considerably less than it was last year, although over £1,000 had been spent on the item, and the outfit of the Company was more complete than it had ever been before. In the past three years £4,000 had been provided to meet depreciation. In connection with plant and premises he might mention that since the accounts were prepared a sale had been effected of a warehouse which was not used by the Company, and this would enable a reduction of £4,000 to be made in this item. During the current year no serious expenditure was contemplated. The reserve fund

now stood at £5,317. The consumption of the three articles dealt in by the Company—tea, coffee and cocoa—continued to increase. The demand in England during the season 1898-99 for Indian and Ceylon teas exceeded the supply by 3,750,000 pounds, but estimates already to hand with respect to next year's crop enabled them to anticipate that the temporary scarcity of lower-grade teas would soon pass away. The amalgamation contemplated when their undertaking was formed had now been completely effected, and he trusted that this step would result in securing a continuance of the prosperity which had attended the Company for many years. He moved the payment of a dividend of 11½d. per ordinary share, making, with the interim distribution of 7½d. already paid, a total dividend at the rate of 8 per cent. per annum.

The Bogawantalawa District Tea Company, Ld.—This Company has declared a final dividend of 5 per cent., which, withthe 2½ per cent. *ad interim*, makes 7½ per cent. for the year onordinary shares. [The dividend in 1897 was 6 per cent.]

The Dimbula Valley Co.—The Dimbula Valley (Ceylon) Tea Company has made a gross profit on the year of £16,783. The preference shares get 6 %; and the ordinary shares 10 % for the year. £500 is placed to reserve; and £716 is carried forward. The average price realised for the Co's. tea was 10d., against 8d. in 1897.

Mungledye Tea Co., Ld.—Crop 390,984 lbs.; average price 9 5/16d. Profit £1,434-3-6.

British Indian Tea Co., Ld.—Outturn 741,640 lbs.; average price 6.89d. Loss £1,913-13-4.

Jokai Tea Co.—A final dividend of 6 per cent., making 10 per cent. for season 1898, has been declared.

Moran Tea Co.—Outturn 459,251 lbs.; average 11.57d. The balance at credit of profit and loss to 31st December, after paying the *ad-interim* dividend in December, 1898, of £1,275, leaves a net balance of £1,073 17s. Acting under the special resolution passed on the 22nd September, 1898, the capital of the Company has been reduced to £25,500, making the shares, £4 5s., fully paid.

CAMPHOR CULTIVATION IN CEYLON.

A correspondent of the *B. & C. Druggist* reports that extensive experiments in camphor cultivation are being made in Ceylon, and as it is hoped to make the exportation of the stearoptene one of the staple industries of the island, extensive orders for distillation apparatus have been entrusted to an English firm. It is thought that the result of the experiments may considerably modify our present views with regard to the best time to extract the stearoptene from the wood. The paper itself does not accept the above statement as unreservedly as it did the assertion that "Roses of all varieties grow readily all over India," suggesting that Attar of Roses might be profitably manufactured in any part of the country. It remarks:—Is camphor going to repeat on a small scale and on broad lines the history of cinchona? This question is suggested by the news that has been arriving recently from Ceylon regarding the successful cultivation of camphor trees in the island. One of our Indian correspondents this week says on a previous page that operations have now gone so far that extensive orders for stills have been placed with British houses. We are afraid he has been a little misled as to the size of these orders. Our belief is that, so far, little more has been done than to send for distilling apparatus for experimental purposes, but on this question of exactly how far planters have proceeded we are daily expecting more information. Meanwhile we may observe that new attempts at camphor-tree cultivation make themselves much sooner felt than do similar steps in the case of cinchona, with which we have suggested a parallel. In the Government gardens at Hakgala in Ceylon the cuttings that have been planted two years have been found at the end of that period to be vigorous trees, and the superintendent of the gardens has found, says the *Times of Ceylon*, that the twigs and leaves are as full of camphor as the maturer parts of the trees. It is at these gardens that the officials are anxious to make distillation experiments, and from them that the planters have been supplied with cuttings of the camphor trees.

These proceedings come at an appropriate time. With the talk of Government monopoly of the present sources of camphor a very favourable opportunity for entering the market seems to be offered to new sources of supply. There is also the further possibility to be considered—one that is important and establishes another analogy with cinchona—that by scientific cultivation and distillation a much larger yield of camphor from the tree may be obtained than has been the case in Japan and Formosa. It is probable, too, that the last step in the history of bark and quinine may come very much sooner in that of camphor trees and refined camphor. We mean that the manufacture of the fine product at the seat of production from the crude substance may be taken up early in the connection of East India with camphor. It would be a much easier thing for a factory abroad to turn out a refined camphor that is almost indistinguishable from the best English make than it is to do the same thing in the manufacture of quinine. Japan has been very successful in selling her refined camphor in the United States against American and European makes, and we may see Ceylon making similar progress in this country before many years have passed.

The question here arises whether there will be a sufficiently extended use for the extra supply of camphor that may thus come forward. On this score we do not think there is much ground for fear, if the cultivation of the camphor tree is really going to work a revolution in the price of camphor at all comparable with that in quinine. A considerable cheapening of camphor would have much more effect in increasing the use of this article than a similar process had on the consumption of quinine, for camphor would then become a powerful rival of some of the cheaper vermifuges and disinfectants. But this is all speculation until we hear more of what Ceylon planters are doing and can do. Perhaps even yet the synthetic production of camphor may forestall them in the matter of price.

DISTRICT ASSOCIATIONS.

NORTH MYSORE.

PROCEEDINGS of the Annual General Meeting of the "North Mysore Native Planters' Association" held at the Chickmagalur Club on the 1st of June, 1899.

PRESENT:—M.R Ry. C. Veerathe Gowda, *President*, in the Chair, C. Vasudeva Rao, *Honorary Secretary*, also C. Sreenivasa Rao, S. U. Chokanna, B. Ranganna, K. Hanumantha Rao, N. Shama Rao, T. Puppanna Shetty, Abdul Khader, Sivaji Ramachandra Rao, Veerabhadrappa, M. Ganesh Rao, P. Jagannatha Rao, and C. Jaffer Sahib.

After the notice calling the meeting was read, the Honorary Secretary announced his report as follows:—

GENTLEMEN,—I have much pleasure to say that the coffee crop last year has been pretty satisfactory—at any rate better than the past two crops; but, unfortunately, the prices have fallen off so low as Rs 8, and even less, in cases where small quantities were presented for sale. From the reports we have been hearing, I regret to tell you, Gentlemen, that a large quantity of coffee will be put in London and other markets for some time to come, and consequently there will not be any rise in the value of our coffee. But there is one hope for Mysore coffee, which is, that it has been fetching good prices if the bean is bold and of good color, and some of our neighbouring planters have, I am glad to say, got very good prices in the London market. We have to congratulate ourselves that the "leaf-disease" and "borer" have not been doing so much havoc as they did during the last two seasons. With a little more care to shade and good cultivation, we might soon get rid of the pest. The standing crop this year is fair, although there is some failure here and there on account of the rain falling heavily on the blossom.

Plague.—Our best thanks are due to our popular Deputy Commissioner Mr. Carr, for keeping the dire disease out of the district by his strict, popular and vigilant measures.

Labour Law.—The resolution of the Government of India on the Labour law in question has been sent to us by the Secretary to the U. P. A. S. I., which I have laid on the table for your information and perusal. I think we can put our trust in the U. P. A. S. I., which will do its best to get as good a law as possible.

Roads.—The Bababudan road is nearing completion, and I hope it will be opened for the traffic from Lingadhally side to Chickmagalur next year. The roads generally in this district have been tidy and in good repair.

Railway.—I regret to say that Messrs. Sreenivasa Rao and Veerathe Gowda have not as yet sent the statistics of traffic between Kadur and Chickmagalur, which they promised to collect to

enable me to request the Government to give their best consideration to open a Railway line from Kadur to Chickmagalur and on to Hassan. Our benign Government will, I hope, think of opening a line in this part of the Malnad and give us an easy and cheap transit for the produce of this part of the country. *To illustrate*:—We grow a large quantity of lime which simply rots owing to there being no transport. We can produce plantains (banana of all kinds) and export in large quantities which, if preserved, can be stored up and used in times of scarcity; and there are many other products which can be grown with profit if there is an easy and cheap transit.

Medical.—The European planters at Manjerabad have proposed, in their annual general meeting, that "the matter of European Doctor in Chickmagalur should be taken up as soon as the authorities are less occupied with Plague." It would be much better for them if they request the Government to give them one for themselves. But as there is a very large number of natives, solely depending upon the local Hospitals and the Civil Surgeon, it will be a very great hardship to the people in the district if the present arrangement is disturbed. Indigenous medical men have died out after the advent of native gentlemen to the Medical Department The difficulties experienced in not having a doctor of our own kind are the same both for Europeans and us. I hope the Government will not disturb the present arrangement, but grant a European doctor, in addition, to meet their requirements.

Accounts.—It will be seen from the accounts on the table that only a small balance is at our credit. It is hoped that the members will show more regularity in the payment of their periodical subscriptions

Four copies of Mr. Cameron's "Report on the Prevention of Leaf-disease in Coorg" were kindly sent to us by Mr. B. K. Vencatvaradiengar, our Deputy Commissioner, and they are under circulation.

Attigundi.—I am glad to inform you that on the 24th April, the new *Santhe* was opened at Attigundi. Mr. Sreenivasiengar, the In-Charge Deputy Commissioner, and the Amildar Mr. Ramaswamiah having been present on the occasion. This was a long-felt want and our best thanks are due to the Government.

Agricultural Chemist.—This officer, recently nominated by our Government, visited some of our estates during his last tour in the district, and I hope he will be a source of great help to our industry.

With the above retrospect of the year, I have great pleasure in laying before you the accounts of the current year. In conclusion I have to say that the President and myself have tendered our resignations and I must ask you to elect office-bearers for the next year.

PROCEEDINGS.

I. Proposed by Mr. Ranganna, and seconded by Mr. Hanumantha Rao, that the Report and Account be accepted and passed with a vote of thanks to the President and Secretary, and that they be requested to again accept the offices for the coming year. Carried *nem. con.*, they agreeing.

II. Proposed by Mr. Sreenivasa Rao, and seconded by Mr. Jagannatha Rao, that the Government be addressed to establish an Hospital at Attigundi.

III. Proposed by Mr. Chokanna, and seconded by Mr. Puppanna Shetty. that a request be made to Government to appoint one of our members to represent us at the Local Fund Board.

IV. Proposed by Mr. Ganesh Rao, and seconded by Mr. Chokanna, that the Government be moved to ask Mr. Cameron, Superintendent, Government Botanical Gardens, to visit the Coffee District of Mysore, at his earliest convenience, and furnish a report on the Coffee industry, &c., here as was done with Coorg.

V. Proposed by Mr. Abdul Khader, and seconded by Mr. Sreenivasa Rao. that the Government be requested to open a road to Pandravalli, as graciously promised by our late lamented Highness Sri Chamarajendra Wodayar Bahadoor during his last tour in 1885-86, after the completion of the Bababudan Hill road.

Before the close of the meeting, Mr. Sreenivasa Rao, in reply to the Honorary Secretary's remarks *re* Statistics for Railway, stated that, owing to the prevalance of plague, he did not think it advisable to press upon local authorities to address the Government on the subject, and promised to do so soon. After a vote of thanks to the Chair, the meeting terminated.

C. VASUDEV ROW,
Honorary Secretary.

KANAN DEVAN.

Annual General Meeting held at Munaar, 3rd June, 1899.

PRESENT. Messrs. J. A. Hunter, G. Nicoll Thomson, W. M. Taylor, A. Angus, A. H. Mead, Dr. Kerr (*Honorary Member*), L. Davidson, E. Harley, and C. Burn Murdoch.

Mr. Mead was elected to the Chair.

The minutes of last meeting were then read and passed.

Office Bearers.—The following office-bearers were elected for the year *President*—L. Davidson, Esq., *Honorary Secretary*, C. Burn Murdoch, Esq. *Committee*—H. M. Knight, Esq., W. D. Martin, Esq., W. R. G. Hickey, Esq., Ralph Hedger, Esq., T. W. Schmid, Esq., M. S. Milne, Esq., A. Angus, Esq., T. A. Hunter, Esq., and G. N. Thomson, Esq.

Cardamom Leases.—Proposed from the Chair that copies of the old and proposed cardamom leases be sent round to the members interested for suggestions, and that the Committee meet and frame a letter to Mr. H. M. Knight, and that he be thanked for the trouble he has taken in the matter.

Sanitary Condition of Bodinayakanur.—Proposed from the Chair that His Excellency the Governor of Madras be thanked for the steps he took last year to improve the sanitation of Bodinayakanur and be informed that, in the opinion of Dr. Kerr, the direct result has been the stamping out of the cholera, and that whereas there were hundreds of deaths from this cause at this time last year there has been an entire absence of the disease since the cleansing of the town.

Roads—Western Outlet.—Proposed by Mr. Mead, that the Travancore Government be communicated with on this urgent work. That it be pointed out to Government that the road is an Imperial mail road connecting an important district with head-quarters, and is of the same class as the Peermaad Ghât road and the Anamalla Ghât Road in British India, the latter now in course of construction although the district is only in its infancy. Seconded by Mr. A. Angus and *carried*.

District Roads.—Proposed by Mr. W. M. Taylor that the Honorary Secretary be instructed to address the Madura Local Fund Board and the Travancore Government, P. W. D., with a view to having the votes for the minor roads for the district increased, as the amount at present allowed is inadequate, owing to the greatly increased traffic. Seconded by Mr. G. H. Thomson and *carried*.

Medical.—Proposed by Mr. G. Nicoll Thomson, that the Honorary Secretary call the attention of the Travancore Government to the fact that not only have they failed to pay the grant-in-aid for the past year, but also that their own medical staff is insufficient necessitating repeated appeals to the planters for the loan of their own private apothecaries, one case in point being, when the Government apothecary was absent in the low country on Government business and no substitute provided, a planter's apothecary was requisitioned in a murder case taken a 600 mile journey and is now stranded at Parur without any means to bring him back to his station. Seconded by Mr. A. Angus and *carried*.

Labour.—In this connection the Honorary Secretary was instructed to send round circulars inviting opinion on two proposals with reference to coolies who have left one estate with their account not settled up and receiving advances in their village and going up to another estate in the same district.

Proposed by Mr. Mead, that no manager take on a kangany without previously corresponding with the said kangany's former employer. Seconded by Mr. C. Burn Murdoch and *carried*.

Game Laws.—Proposed by Mr. Harley, that a Rs.10 game license be imposed and that the proceeds of such licenses be expended on a Rs.10 reward per head for jungle dogs, which pests are rapidly exterminating the game on these hills. Seconded by Mr. C. Burn Murdoch and *carried*.

Proposed by Mr. A. H. Mead, that it be pointed out to Government that the close season for bison and ibex and most of the feathered game has been drawn up under a misapprehension of their breeding times, and that Messrs. Harley and Burn Murdoch be appointed to draw up a table showing the breeding times of all game, and that the Government be asked to modify the close season according thereto. Seconded by Mr. T. A. Hunter.

Delegate.—For the annual meeting of the U. P. A. S. I., Mr. H. M. Knight was appointed delegate, and a sum of Rs.100 voted for his expenses.

Annual Report of Committee.

In presenting the Annual Report, the Committee congratulate you on the absence of cholera from the district, largely due, they believe, to the steps taken by His Excellency the Governor of Madras to improve the sanitary condition of Bodinayakanur

The success of last year's planting in the district, coupled with improved prices both for tea and cinchona, make the outlook for the future satisfactory. Coffee prices are unfortunately low, but crops all round have been exceptionally good this year.

The absence of the Chairman on a well deserved holiday and the departure of the Secretary, Mr. Sharp, to another district leave blanks in the Association, which are felt by all.

The improvements in Post and Telegraph service are greatly appreciated, and it is to be hoped that the improved postal facilities between these hills and Madras may very shortly be extended to Ceylon.

The Committee regret that the inadequate medical grant of the past was entirely withdrawn last year, but trust and believe that this district will be put on an equal footing with the other districts in His Highness' territory in the near future.

The Committee regret that, while all other South Indian planting districts have had or are having cart-roads cut to them, the prospects of a cart-road to this district are no nearer than they were a year ago.

Your Committee are thankful that plague has practically disappeared from Southern India.

Your Committee are also thankful to see that the Government of India have under consideration a labour ordinance, which will meet the requirements of planters and also give some security for advances in the future.

There has been an abundance of labour in your district during the past year, and now, with better facilities for procuring foodstuffs, there seems every likelihood that this satisfactory state of affairs will continue. Another marked feature with regard to the labour-supply is the increased number of old Ceylon trained coolies now coming in from their villages to work on these hills for small advances of under Rs.10 per head. These coolies, to a young district with a large acreage of tea coming into bearing necessitating trained factory hands, will be very acceptable. This result has undoubtedly been partly brought about by the recent gratuitous advertisements in the Ceylon papers, for which the Committee desire to thank those who are responsible.

The proceedings then closed with a vote of thanks to the Chair.

C. BURN MURDOCH,
Honorary Secretary.

MARKET REPORT.

By Mail Advices of 9th June 1899.

COFFEE.

The *London Commercial Record* says:—Continued flatness prevails and a large proportion of the supplies at auction had to be withdrawn for want of adequate offers. Only about one-third of the East India was disposed of, chiefly Mysore, and for desirable quality fairly steady prices were paid, but the bulk presented little attraction to buyers and was not sold. Home trade grades of Costa Rica met with fair competition, but the less desirable samples were only partly disposed of at lower prices. There was very little demand for Guatemala, which was chiefly bought in. "Futures" have been quiet, and prices are again easier, closing as follows:—

London	Santos	Sept delivery	28s.
New York	No. 7 Rio	„ „	4·95 cents.
Hamburg	Santos	„ „	28½ pf.
Havre	Santos	„ „	34¼ francs.
Holland	Good ordinary Java		27¾ cents.

Imports, Deliveries and Stock of Coffee in London are as follows:—

			Stock.		Imports.	
			1899.	1898.	1899.	1898.
West India	...	tons	966	652	1207	1452
Ceylon	...	„	128	95	252	155
East India	...	„	5,321	2,770	7,606	4,848
Mocha	...	„	491	441	363	343
Brazil	...	„	4,452	3,195	1,759	1,935
Other Foreign	...	„	12,189	9,927	15,580	16,860
Total tons	...		23,547	17,080	26,767	25,593

			Home Consumption.		Export.	
			1899.	1898.	1899.	1898.
West India	...	tons	156	214	486	922
Ceylon	...	„	66	80	123	94
East India	...	„	1,167	1,254	2,043	1,930
Mocha	...	„	313	331	66	69
Brazil	...	„	442	537	524	1,078
Other Foreign	...	„	5.273	4,322	6,999	7,283
Total tons	...		7,417	6,738	10,241	11,376

The preceding figures exhibit—

In the Imports an increase this year of	1,474	tons.
Home Consumption an increase of	679	„
Export a decrease of ...	1,135	„
Stock an increase of	6,467	„

The week's auctions have gone off as follows:—

Ceylon.—*Plantation.*—8 casks 3 tierces 5 barrels 2 bags sold—smalls 50s, low middling to middling 84s to 94s 6d, bold 94s to 100s, pea-berry 96s to 97s.

East India.—4,402 bags partly sold as follows: *Mysore*, smalls 38s to 55s, middling grayish 60s, good middling colory 70s 6d to 77s 6d, good to fine bold blue 88s 6d to 98s 6d, pea-berry 94s to 97s. *Coorg*, smalls 36s to 48s 6d, middling dull to good middling 61s to 71s 6d, good to fine bold blue 76s 6d to 91s 6d, pea-berry 75s to 104s. *Neilgherry*, smalls 47s 6d, middling 60s, bold greenish foxy 64s, good dull colory 75s, pea-berry 70s. *Wynaad*, smalls 38s, low middling pale grayish 40s. *Nelliampathy*, smalls 36s.

Jamaica.—Of 435 bags offered a small part sold, fine ordinary greenish 39s, good to fine blue 57s 6d to 75s 6d, fine middling 91s 6d to 92s, fine bold 104s 6d to 106s, pea-berry 92s.

Costa Rica.—5,007 bags about half sold, small 38s to 41s 6d, good to fine ordinary brownish 37s to 44s 6d, low middling 46s to 51s 6d, middling to good middling colory 56s to 72s, fine middling blue 74s 6d to 75s, good bold 77s to 88s, pea-berry 50s to 89s.

Guatemala.—3,113 bags offered, about 400 bags sold, smalls 35s to 36s 6d, fine ordinary greenish foxy 41s to 42s 6d, fine fine ordinary 44s, middling bright grayish 55s, pea-berry 45s to 64s 6d.

Nicaragua.—548 bags partly sold, smalls 36, fine to fine fine ordinary 42s to 44s, low middling to middling colory 47s 6d to 50s, good middling 59s 6d, good to fine bold and extra bold 86s to 109s, pea-berry 53s 6d to 95s.

Salvador.—3,447 bags half sold, fine ordinary foxy greenish 35s to 35s 6d, fine fine ordinary 44s, low middling colory 45s to 45s 6d, middling 52s, bold pale greenish 61s, pea-berry 61s to 73s.

Coban.—161 bags sold, good middling hard blue 73s 6d to 76s 6d, pea-berry 64s to 93s 6d.

Vera Paz.—574 bags partly sold, smalls 41s 6d, good middling greenish colory 68s, bold good blue 84s, pea-berry 85s 6d.

Colombian.—1,420 bags partly sold, ordinary greenish 27s to 30s 6d, low middling blue 45s to 54s, good bold 66s 6d, pea-berry 63s 6d.

Mexican.—1,162 bags partly sold, smalls 28s 6d to 35s 6d, fine ordinary greenish 41s, fine middling blue 70s to 71s, fine bold blue 90s.

Ecuador.—199 bags bought in.

Porto Rico.—44 bags withdrawn.

Offerings at auction to-day consisted principally of 2,797 bags Costa Rica, 2,483 bags Guatemala, 102 bags Columbian, 720 bags Salvador, and 1,008 bags New Granada, &c. The auctions went off flatly and a large proportion was bought in. The small quantity sold embraced some common Costa Rica which was quitted in buyer's favor.

Receipts in Rio and Santos.

	1898-9.	1897-8.	1896-7.	1895-6.
Since July 1	Bags.	Bags.	Bags.	Bags
Rio	3,025,000	4,177,000	3,401,000	2,268,000
Santos ...	5,335,000	6,033.000	4,952,000	2,942,000
Total ...	8,360,000	10,120,000	8,353,000	5,120,000
Crop	—	10,461,000	8,680,000	5.489,000

Rio Exchange—8 1/16d, previous day 8⅛d.

Havre, June 8.—Santos good average June opened steady at 33½f. and closed quiet at 33½f., July opened at 33¾f. and closed at 33¾f.

Hamburg, June 8.—Good average Santos June opened steady at 28pf. and closed quiet at 27¾pf., September opened at 28½pf. and closed at 28½pf.

New York, June 7.—Closing prices of No. 7 Rio were as follow:—

	June.	July.	Aug.	Sept.	Oct.
June 7	4·80	4.80	4.90	4.95	5.00
June 6	4.75	4.80	4.90	4.95	5.00

Prices realized at auctions for some of the principal marks of East India:—

MYSORE.

	O	A	B	C	PB	T
O Hospet △ Mysore ...	70-0	52-0	42-6	—	77-0	36-6
P H & Co ◇ J Santawerry Mysore .	—	—	—	—	—	36-0
P H & Co ◇ do. do. ...	84-0	70-0	55-0	—	—	—
Do. do. do. ...	103-0	—	—	—	—	35-0
Do. do. do. ...	99-0	—	—	—	—	32-0
B M M ◇ Bellagode Mysore ..		88-6	61-0	44-0	88-0	35-0
Sumsay Mysore		no bid	43-0	42-0	no bid	28-6
F G ◇ I Mysore		no bid	no bid	45-6	no bid	32-6
H M B Mutt Mysore		82-0	62-6	42-6	80-0	39-0
H M B Hoshully Mysore ...		90-6	70-0	49-0	94-0	37-0
Mockett G ◇ Mysore		98-6	70-6 70-0	50-0	95-0	41-0
Mocket S & L ◇ Mysore ...		98-6	76-6 77-6	48-0	97-0	40-6
J P & H B ◇ Guntanaik Mysore .		62-0	41-0	35-6	65-0	27-6
Do. Bibbenluke Mysore ...		no bid	49-6 bid	38-0	74-0 bid	30-6
Kulhutty W D ◇ Mysore ...		no bid	no bid	no bid	— no bid	no bid
Do. W D s ◇ do. ..		no bid	no bid	no bid	— no bid	no bid
Elliot's Mysore	—		38-0	—	—	28-0
Barguai Estate A (O) Mysore. ...	—	98-6	73-0	53-0	97-0	44-0
Do. do. do. ...	—	90-0 bid	—	50-0	88-0	29-6
Hossully Mysore	—	no bid	no bid	38-6	no bid	25-0
Harris's Chick Mysore	—	no bid	no bid	38-6	no bid	25-0
Harlay Mountain Mysore ...	—	no bid	no bid	40-0	no bid	27-6
Jeccan U ◇ Mysore	—	no bid	no bid	38-0	65-0 bid	26-6

COORG.

	A	B	C	PB	T
Irwin Jumboor	85-0	62-0	48-0	90-0	31-6
East Coorg Cavery	62-0	43-0	30-6	no bid	27-6
Jacques Arnoldine	no bid	44-6 bid	36-0	68-0	24-6
B P U Coorg	50-0	40-0	32-0	50-0	20-6
Meemootie...	62-0	47-0 bid	36-0	no bid	25-0 bid

	1	2	3	PB	T
Matheson's Coorg Cotta Betta ...	89-0	71-0	—	—	—
Do. Ghatted Hulla	91-6	71-6	48-6	102-6	41-0
Do. Koring Kadoo	88-0	69-0	48-0	104-0	40-0
Do. Mattada Kadoo	—	68-6	46-0	78-0	37-6
Do. Woshully	83-0	61-0	45-6	—	39-6
Do. Polli Betta ...	86-0	64-0	46-0	87-0	35-6
Hamilton's Peramboo Betta Coorg ...	76-6 bid	53-6	—	75-0	37-6
W □ Alicado	76-0	—	—	75-0	32-0
Abial Mountain G M M △ Coorg ..	93-6	68-0	—	95-0	42-0

	A	B	C	PB	T
I M Balakadoo	89-0	63-0	45-0	95-0	41-0

NEILGHERRY.

	A	B	C	PB	T
Devan Nilgiris	62-0	45-0	33-0	55-6 bid	29-0
Marvuhulla	75-0	60-0	47-6	70-0	35-0
Mullanoor	65-0 bid	51-6 bid	41-6 bid	no bid	35-0 bid
Sophia...	70-0 bid	52-0 bid	44-6 bid	70-0	35-0

WYNAAD.

	A	C	B	PB	T
Kadalat	no bid	43-0	33-6	no bid	27-6
Moyaar Estate	75-0	52-6	35-0	75-0	30-0
Walker's Estates Touramulla... ..	52-0	40-0	30-6	50-0	26-6
Wynaad Plantation Coffee Nelli Munda	62-0	45-0	38-0	no bid	29-0

PEERMADE.

	A	B	C	PB	T
Twyford ...	57-0	46-0	38-6	56-0	28-0

NELLIAMPATHY.

	A	B	C	PB	T
Nelliampathy Monkwood	60-0 bid	40-0 bid	36-0	60-0 bid	—

TEA.

Indian. The sales were larger, comprising 14,300 packages, of which 1,050 were New Season's, contrasted with 7,900 packages (281 New Season's) in the preceding week and 9,500 packages (473 New Season's) a year ago.

For the 1899 crop, which did not present a very attractive assortment, there was fair competition, though a comparatively low range of prices was established, the result for the 1,000 packages sold on garden account being 7¾d per lb. Last year's growth was taken up at firm rates for all grades below 8d per lb., but for others the enquiry was somewhat limited.

Ceylon.—Public auctions were much heavier, totalling 34,400 packages against 25,000 packages in the week before and 20,800 packages at this time in 1898. Common to fair Pekóe Souchongs were steady, very few being obtainable under 7d per lb., but Pekoes in many invoices sold easier, often only bringing the same as the former, while the better lines continued to be neglected. Broken Pekoes ruled with considerable irregularity, a few lots possessing special point showing a slight upward tendency, while the less desirable parcels favoured buyers. Finest lines were in small supply and marked little alteration in value.

The average is 7¾d per lb. On the 1st inst., it stood at 8d per lb. and 7¾d per lb. in 1898.

Java.—Catalogues contained 327 packages of direct import which passed generally at about former quotations Nearly 3,300 packages are advertised for the 12th and 19th instant.

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns, were:—

From 1st to 6th June, 1899	2,868,434 lbs.
,, ,, 1898	2,911,011 ,,

During the fortnight the following have been printed for sale by public auction:—

	Sold.	Withdrawn	Total offered.
	Pkgs.	Pkgs.	Pkgs.
India	11,543	2,736	14,279
Ceylon	31,685	2,749	34,434
Java	212	115	327
Total ...	43,440	5,600	49,040

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated June 9th, 1899, says:—

QUANTITY BROUGHT TO AUCTION IN LONDON FROM 1st June to date.

	Indian.	Ceylon.	Java.
1899-1900 ...	16,063 pkgs.	35,180 pkgs.	327 pkgs.
1898-1899 ...	10,500 ,,	21,902 ,,	1,912 ,,

15,658 pkgs. Indian
35,180 ,, Ceylon
327 ,, Java
} Total 51,165 packages were offered in public auction this week.

The movements of Tea in London for the whole of the past season are given below; the total supply from India was very little above the previous season, while the deliveries were 13 millions heavier. Ceylon sent rather less Tea-but a falling off took place in the deliveries.

Indian. Teas up to 7½d showed a strong market, but medium descriptions sold irregularly with a rather cheaper tendency. The 1,105 pkgs. of New Season's Tea in auction were, on the whole, somewhat poor. The official wire gives exports to U. K. for 2nd half of May as 2,710,000 lbs., against 1,600,000 lbs same period last year; 1st April to 31st May, 5,702,000 lbs. against 2,707,000 lbs. 1898

Week's av. of New Season's Tea sold on Garden Account 1899, 1,055 pkgs., av. 7·83d. 1898, 1·950 pkgs., av. 7·27d.

New Season's Tea sold on Garden Account 1st June to date 1899, 1,121 pkgs., av. 7·85d. 1898, 1·950 pkgs., av. 7·27d.

Ceylon. The heavy auction was doubtless partly occasioned by the accumulation of Teas during Whitsuntide; the chief demand was for Teas up to 7d. per lb., anything over this price selling with irregularity and showing a weaker market. Average for week 7·73d., against 7·70d. same period 1898.

Ceylon Tea sold on Garden Account, 1st January to date 1899, 455,057 pkgs., av., 8·34d. 1898, 462,171 pkgs., av., 7·65d.

Java. The few Javas brought forward were mostly sold at steady rates.

IN AMERICA.

The *American Grocer* of 24th May says:—The tea sale of last Wednesday demonstrated that the general market is firm. There was spirited bidding for Moyune and Tienkai Greens, while

Pingsueys were not so well supported. The offering of Formosa Oolong was light, and prices obtained some what irregular. Full details will be found in the regular market report.

COCOA.

The fair supply of 4,929 bags Colonial and 1,697 bags Foreign growths (together 6,626 bags) was brought to the hammer on Tuesdays, demand for which proved very poor, only about 1,600 bags selling at an irregular eecline of 1s to 3s per cwt. Of 3,309 bags Trinidad offered barely 600 bags were quitted at 69s to 73s for fine to very fine red, 64s to 67s 6d for fair to good ditto, 56s for pickings, and 40s 6d to 50s for black, shewing a reduction of 2s to 3s in values. Of 750 bags Grenada 600 bags sold at 1s to 2s decline, viz., good to fine red 64s to 66s 6d, and common to fair 50s 6d to 63s. Of 399 bags Jamaica only a lot or two sold at 62s to 63s 6d. 36 bags good to fine Demerara found buyers at 63s to 66s, being lower. 18 bags good red Tobago realised 64s to 65s. 85 bags St. Lucia, 34 bags Surinam, and 40 bags Domingo retired unsold. Of 1,621 bags Guayaquil catalogued 265 bags were placed at steady prices, except for Caraquez which gave way 1s per cwt; early Arriba brought 70s, Tumaco 66s, good red Caraquez 70s, and greyish ditto 67s. Of 332 bags Ceylon only 50 bags common Native sold at 60s per cwt. shewing some decline Private business during the week includes 150 bags Guayaquil Caraquez at 69s to 69s 6d for gray.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

		1899.	1898.	1897.	1896.
Imports, B.P.	bags	85244	91614	74634	82418
Foreign	...	32959	57927	34127	29484
Home Con., B.P.	...	40856	52304	41638	36614
Foreign	...	26009	28572	30141	28605
Exports, B.P.	...	23922	16016	22316	18621
Foreign	...	13569	12757	17607	12227
Stock, B P.	...	66049	83333	88557	93037
Foreign	...	45955	50098	46598	66017

PEPPER.

Black.—Since our last the market has been firm and dearer, but is quieter at the close. About 300 tons have been sold, principally Singapore at 5⅜d on the spot, at 5⅝d June-Aug. (s.), 5 23/32d July-Sept., and at 5¾d Aug.-Oct.

At auction on Wednesday 54 bags Mangalore sold at 8¼d to 8⅜d for fine bold shot, and 7½d for bold brown. Of 404 bags Tellicherry, 163 bags sold at 5¼d per lb. for good fair brown. 7 bags Penang and 9 bags Lampong withdrawn,

White is also firm. About 150 tons are reported sold during the week, viz.:—Singapore at 8 5/8d to 8 11/16d for fair on the spot, at 8¾d May-July (s.), at 8 15/16d for July-Sept.; Penang at 8d to 8⅛d for fair on the spot, at 8¼d June-Aug., and at 8⅜d to 8 7/16d for Sept.-Nov.

At public sale on the 7th inst. of 331 bags Singapore offered, 177 bags sold—good bold 9d. Of 19 bags fine decorticated 9 bags realised 11¼d per lb.

GINGER.

Cochin.—Of 1,317 bags 347 cases brought forward 345 bags 180 cases sold as follows:—Bold with some medium hard brownish limed, scraped, 61s, medium ditto 39s to 40s 6d, medium and small ditto 25s 6d, bold Native cut 56s, medium and bold ditto 45s, medium limed 42s, medium and small, part boldish, roughly cut and scraped, 30s, small cut 28s to 29s, medium and small washed rough 21s, washed brown small and ends 17s 6d to 18s, and cuttings 15s 6d per cwt these prices being 2s to 3s per cwt. down for cut, rough showing no changs.

Bengal.—100 bags bought in at 20s per cwt.

Japan.—60 bags retired unsold.

Jamaica.—The large supply of 1,662 barrels, &c., was brought forward, and about 1,000 barrels, &c., sold at 2s to 4s rise for the better qualities, other grades being steady. Fair to good bright plump 69s to 74s medium to good medium 65s to 67s, ordinary to good ordinary 57s 6d to 63s, Bhatoon 50s 6d to 55s.

St. Lucia.—23 bags bought in at 60s per cwt.

INDIA RUBBER.

There has been continued pressure to sell fine Para forward, and considerable sales have been made at rather lower prices. On the spot sales of 120 cases fine Bolivian at 4s, and fine Para at 4s ½d to 4s for forward delivery. Sales of hard cure fine forward at 4s ½d to 4s, and hard or soft at 4s ¼d to 3s 11⅜d. The market for fine closes steady. Negroheads in slow demand, sellers of scrappy at 3s 2d, and small sales of Island at 2s 7d. Peruvian.—Sales of good sausage at 3s 1d, also ball; slab—small sales at 2s 8d to 2s 7½d.

At auctions to-day there was very little demand and nearly all was withdrawn, only buyers at a decline in value.

Peruvian.—Dirty and foul ball sold at 2s 11d to 2s 11¼d and slab at 2s 7½d per lb.

Para.—Coarse fine sold at 3s 10d, selected virgin, &c., 3s 4¾d to 3s 6d, low earthy negroheads at 2s 7½d

Mollendo.—20 packages retired (3s 10d per lb. bid for fine).

Columbian.—60 bales offered and 29 sold, fine crinkly strips 3s 4½d to 3s 4¾d, fair strips, little heated 3s 3d, middling, a little heated 2s 11½d, very heated 2s 3d.

Mangabeira.—7 pkgs. retired (2s per lb. bid).

Madagascar sells fairly; 46 pkgs. offered and 30 sold—fair to fine East Coast niggers 2s 1½d to 2s 6½d, very earthy ditto 1s, fair to good black coated slab 2s 2d to 2s 3½d per lb.

Mozambique rather cheaper; 130 bags offered and 45 sold, good red ball 3s 5d, fair red ball 3s 4¼d, soft white ball) 2s 9¼d to 2s 10d, mixed Lamu and soft ball part unripe 2s 7d to 2s 8½d, brown niggers at 2s 8½d.

Rangoon.—20 pkgs. Penang 127 pkgs retired.

Borneo.—9 pkgs. offered and 2 sold, fair little mixed at 1s 11d per lb.

Assam.—105 pkgs. offered and part sold, mixed to good red at 2s 7d to 3s per lb.

CARDAMOMS.

Cardamoms sold with fair competition at slightly dearer rates. The following was the range of prices:—Ceylon-Mysore, fine medium to good bold pale pods, 3s 11d to 4s; good bold steady, 3s 10d; medium to bold pale, 3s 5d to 3s 6d; dull small to medium ditto 3s to 3s 3d; bold dull long pale, 3s 2d; medium lean pale, 2s 6d; pale medium long, 2s 10d to 2s 11d; small pale long, 2s to 2s 4d; long dull bleached, 2s 9d; very small lean, 1s 9d; medium dull long, 2s 2d; good splits, 2s 3d; long, lean and split, 1s 6d to 1s 9d; brown splits and pickings, 1s 8d. Ceylon-Malabar, fair to medium lean palish, 1s 11d; and small brown lean, 1s 8d; fair wild Ceylon, 2s 6d per lb. Seeds good brown, 2s 4d; mixed seeds, 2s 2d.

The shipments from Ceylon from January 1 to May 16 were 216,087 lbs.

CINCHONA.

In auction the demand was for Crown and grey bark only, which sold as follows:—Good bold pale Crown Loxa, 7½d. per lb.; 1 c. c. damages, 5½d. to 6½d.; second class, 3¾d. to 4¼d; and fourth class, 2d. Dusty grey Huanoco, broken, was bought in at 5d. and Bolivian cultivated Calisaya, thin, was limited at 10d. per lb., and Cartagena, flat, at 4½d. per lb. Four bales of flat Calisaya brought 4d. per lb. subject to approval.

The shipments from Ceylon from January 1 to May 16 were 284,371 lbs.

The stocks in first hands at Amsterdam on May 31 consisted of 2,403 packages Government and 9,896 packages private bark. The arrivals last week in Amsterdam were 2,553 packages.

The "Nederlandsche-Veem" reports the cinchona-bark shipments from Java during May at

	1899.	1898.	1897.	1896.	1895.
Amst. lbs. ...	943,000	672,000	600,000	768,000	402,700
Jan.-May ...	3,964,800	3,884,000	2,510,000	3,260.000	2,879,700

while the "Vriesseveem" received a telegram from Java announcing the shipments from May 2 to June 5 at 1,156,000 Amst. lbs., and from January 1 to June 5 at 3,848,403 Amst. lbs.

A telegram from Amsterdam, sent June 8, says:—Of the 5,456 packages offered for sale 5,084 sold at an average unit of 8·25c. per half-kilo, as compared with 8·50c. in May. The following were the approximate quantities purchased:—American and English factories, who purchased the equivalent of 5,817 kilos.; the Brunswick factory, 3,921 kilos.; the Mannheim and Amsterdam factories: 5,529 kilos.; the Frankfort-on-Main and Stuttgart factories; 3,557 kilos.; and various buyers, 3,547 kilos. The prices paid for the manufacturing-bark ranged from 7c. to 74½c. per half-kilo, and for druggists, from 11c. to 61c. per half-kilo The tone is easier.

ATTAR OF ROSE.—A telegram reached London yesterday from Bulgaria to the agent for a house there saying, "Stop selling; going up." The present price of fine brands in London is 22s. to 24s. per oz.

MOVEMENTS OF TEA IN LONDON (IN LBS.) DURING MAY FROM TEA BROKERS' ASSOCIATION FIGURES.

	IMPORTS.			DELIVERIES.		
	1899.	1898.	1897.	1899.	1898.	1897.
Indian	699,543	426,578	493,949	9,965,886	11,671,025	11,232,3[illegible]
Ceylon	9,327,348	6,507,484	8,142,082	7,189,808	8,038,390	8,919,75[illegible]
Java	338,030	286,300	198,520	399,420	336,140	382,8[illegible]
China, &c.	223,749	190,289	416,113	2,091,187	2,351,723	3,49[illegible]87
Total lbs. ..	10,588,670	7,410,651	9,250,664	19,646,301	22,397,278	24,027,90[illegible]

FROM 1ST JUNE TO 31ST MAY.

	IMPORTS.			DELIVERIES.			STOCK.		
	1898-9.	1897-8.	1896-7.	1898-9	1897-8.	1896-7.	1899.	1898.	1897.
Indian ...	136,073,465	135,376,760	131,649,920	142,645,712	129,398,604	126,165,318	31,501,541	38,213,368	32,235,21[illegible]
Ceylon ...	92,946,656	93,580,448	92,072,754	90,149,698	96,302,988	90,677,108	19,790,252	17,230,640	19,953,18[illegible]
Java ...	3,678,280	3,556,210	3,476,900	3,610,740	3,611,650	3,7[illegible]2,380	715,120	696,780	752,22[illegible]
China, &c. ...	27,863,637	32,123,137	33,141,701	29,650,012	33,002,782	39,777,957	10,064,889	12,123,694	13,003,33[illegible]
Total lbs. ...	260,562,038	264,636,555	260,341,275	266,056,162	262,316,024	260,332,763	62,071,802	68,264,482	65,943,95[illegible]

(AVERAGE FOR ALL INDIA 8·03d.) *June 9th.*

GARDEN.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.
Travancore ...	**938 p**	**70·6**												
Arnakal ...	91 p	7½	13	7¾	32	7¼	32	7¾	5	7¼	1	7	8½c	5¾ 7
Ellangy ...	121 p	7¼	...	...	55	7¼	30	+7¼	33	6¾ 7	...	...	3 p	6½
Glenmary ...	230 p	8	166	7¾ 8½	33	7½	....	...	...	...	...	...	31 p	6 7¾
Isfield T C Isfield ...	110½	7¼	4½c	8	59½c	7¼ 7½	13½c	7¾	13½c	7¼	...	...	21½c	6¾
S T T Co Venture...	111	7½	...	...	52	7½	34	7½	25	7¼	...	...	...	...
Sthrn Ind C Kud K.	136 p	7¾	84	7¾ 8¼	33	7½	...	...	...	...	...	...	19 p	6 7½
Travan T Coy Pam..	139	7½	17	8¼	33	7½	70	7¼ 7⅓	14	7½	...	...	5	6
Wynaad ...														
† Richmond	25 p	8½	10½c	10¾	6 p	8	...		9	7½				

Teas marked thus † are New Seasons.

Agents for LEA & PERRINS' WORCESTERSHIRE SAUCE.

CROSSE & BLACKWELL'S, LTD.

By Special Warrant Purveyors to The Queen AND Empress of India.

CELEBRATED OILMAN'S STORES.

[w. 1-10-98—t.f.o.]

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

VOL. IV.] MADRAS, SATURDAY, JULY 8, 1899. [No. 27.

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DOMESTIC OCCURRENCE.—The fee for inserting a domestic occurrence will be *One Rupee* for each insertion, payable in advance.

N.B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 14th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, *4th July*.—Heavy rain on 1st; light again on 2nd and 3rd. Showery weather, with intervals of sunshine. Ought to be fine weather for the nitrifying bacteria. Total rainfall to date nearly 30 inches. Fine growing and planting weather. Planting supplies in progress. Coffee looking fine. Being handled out. *Labour*—Plentiful. *Health*—Good.

ANOTHER TEA CAMPAIGN.

Tea Importers in England are determined to have the 1-lb. draft abolished; dealers are equally set upon retaining the old custom. The struggle has at last begun. Telegraphic advices state that an influential meeting of tea-growers, with Sir Henry Seymour King, M. P., in the chair, has been held for the purpose of indorsing the Report of the Joint Committee of the Indian and Ceylon Associations, and has resolved that, after the 17th instant, the 1-lb. draft allowance shall not be made to buyers. This is, we believe, the first open declaration of the intentions of tea-growers. No notice was given to "the enemy." The plans of growers and importers leaked out through the newspapers, but the gage of battle has only now been thrown down, after some weeks have been occupied in gathering forces together. Fortunately for dealers, they have not been taken by surprise, the newspapers, as we have said, having given them a hint of what was in store. Mr. T. Lough, M. P., made much of this in a recent speech on the subject, when he said that the first point he would make in entering that protest was against the secrecy of the proceedings to which they had been subjected. He himself heard nothing about the

proposed change with regard to the draft allowance until some fortnight ago,and,as soon as he heard about it, he asked for some particulars, and he found that, as early as March last, a circular had been sent out to India, and that very day, while they were meeting in Mincing-lane, as he understood it, a round robin was being sent round the hills of India and Ceylon to be signed by every grower of tea, and when the requisite support was forthcoming it would be dumped down upon the market at home, and the change which those men proposed in their own interests would be carried into effect in spite of their protests. The "dumping down" has now been effected, and dealers, far from being taken unawares, have at once accepted the challenge and resolved not to attend the sales and not to buy tea privately. It is, in effect, a lock-out.

Representing, as we do, the planting interest, we cannot but regret that all the calm, impartial discussion that has come to our notice so far has been on the side of the dealers. There is certainly a great deal in the argument of growers that, if they sell a quantity at a price, they should get the proceeds of that same quantity at that same price. But at all times there have been allowances. Here, there is a discount on price; there, a draft on quantity or weight. In olden days the first buyer was regarded,or regarded himself, as a distributor, not as a mere buyer and seller, and he accordingly arranged with the supplier in such manner as to protect himself against loss of weight in weighing out, delivering, etc., etc. Whether this be originally borne by the importer or by the first buyer, it is a charge that must eventually influence the price, not only as regards the producer but also as regards the consumer. Values are finally assessed according to the relations of these two to each other. Demand and supply are the ruling forces, and no matter what discounts or allowances or deductions may come in while the tea passes from plantation to house, things will eventually so adjust themselves that the planter only receives the actual value of his produce. In "packeting" tea, for example, there must be a loss of weight. If no tare be allowed on the chest, the packet-supplier must calculate accordingly, and his first inclination will be to offer lower prices for the teas he wishes to purchase. Dealers admit that the importer is not bound to provide a draft to pay for the leakage that takes place during the process of the distribution of the tea. They merely say that *some one* must take it into the reckoning, and they claim that they are entitled to the pound overdraft, because it is representative of an old trade custom; that the trade has been built up on the basis of the pound overdraft, and, if they consent to forego it, it will disturb the trade; it will be exceedingly difficult for them to withdraw the privilege from their customers.

From the beginning we have questioned the wisdom of the growers and importers who have raised this question. What can they hope to gain? No agitation of this kind can raise the nett price they will receive. As a matter of fact, the first result of their attempt appears to have been sadly adverse to their interest. Business in tea in London has apparently been disorganized, if not demoralised. Recent telegraphic news said "business is of the slackest kind. Prices have dropped of late something like 1d per lb." —which means much more than 1 lb. per chest! There was nothing to prove that this was not a mere natural consequence of fluctuations of supply and demand, or differences of quality, but there was room for the presumption that dealers knew their strength, and were holding off the market as much as they could until the "draft" question was settled. And now the truth of this seems beyond doubt, for purchases have been entirely stopped. If they buy only to cover immediate requirements, permitting stocks in their hands to run lower than usual, one result must be a slackness of demand and of price in the wholesale market. Importers may think that this will "come right in time;" but, in the meantime, *they* will be the losers. The onus of holding out will be thrown upon them, and should they eventually find it more than they can carry, very heavy loss may result. And even if they win, what an empty victory after all! They cannot force upon dealers any views that are not fair. They claim, justly, that the selling of actual weight at the price agreed upon between buyer and seller *is* fair. They are now met with the counter-claim that it is fair the buyer should receive what he buys—Tea, not stones, not nails, not dirt. Messrs. BROOKE, BOND & CO., LD., whose interest in the tea trade is very large, put the matter thus:—"The conflict between the importers and the buyers is really whether the three short words 'draft as usual' in the conditions of sale shall be retained or rubbed out. If the importers do get their way in abolishing the draft, the buyers must insist that clause 5 of the Conditions of Sale must, at the same time, be absolutely cancelled." This most arbitrary clause 5, reads, *verbatim*, as follows:—"No claim for difference in bulk from show or selling sample will be entertained unless notified in writing to the selling broker within three working days from the day of sale. No allowance will be made on account of any damage, rubbish, false package, or unequal goodness found, or alleged to be found, after the goods have betaken from the warehouses." If the importers gain their point, they must also make up their minds that they will be assailed daily with an infinite number of petty complaints and claims from all sorts and conditions of dealers. When they come to cast up accounts, will the profit be on their side? We think not. We assert unhesitatingly that growers and importers were ill-advised when they took this "draft" question in hand, and that,instead of benefiting themselves, even if they win, they will eventually lose money. In the meanwhile they have successfully disturbed the very pleasant relations that had been established in England between importer and retailer, and they have helped to cement the already close bond of union by which retail traders in tea are bound together.

THE FINANCING OF PLANTING OPERATIONS.

Some years ago, Baron von Rosenberg mooted a project for the establishment of a Planters' Bank, and, though this never assumed definite shape, enough was said to indicate that the Baron had German Agricultural Banks in view as models. In connection with this subject, and that of co-operation, the question suggests itself, whether the planters of Southern India, or of certain districts thereof, might not do well to try co-operation and to apply it specially to the financing of their operations. The State, like Providence, has a tendency to help those that aid themselves. In Germany, State aid is carried to an extent unknown in the British Empire, but even in Germany there is usually the underlying proviso: to secure State aid it is necessary to do one's best for one's self. Co-operative farming has been

tried with considerable success. A German agricultural expert remarks that co-operation is the German farmer's stronghold and bulwark, and he means to stand by it. "Co-operation," says our expert, "has proved to be the key to success in Germany, and has saved many farmers from ruin." There are co-operative credit banks, among other things. The banks conducted on this principle enable farmers to obtain loans on personal security only, the collective guarantee of all the members; depositors are willing enough to lend money on real estate if sufficient security is forthcoming, but to Indian planters, as to German farmers, loans on personal credit are more useful. They are often indispensable to the purchase of seed, stock, manures, tools, machinery and even for the payment of wages. All the union in Germany requires is the co-operative guarantee of the members of the Co-operative Society, a body of men of recognized standing, men, too, who are acquainted with each other and know a good deal about each other's affairs. That the system, as worked in Germany, is a sound one, seems to be proved by the fact that in February 1897 the official audit showed that of 640 banks in Wurtemberg 480 were thoroughly satisfactory, 192 were satisfactory with room for improvement, and only 7 were unsound.

Agricultural Banks, on a somewhat similar basis, have been tried in the Mysore State, and official reports of progress are encouraging. With the German and Mysorean systems before them, the planting community of Southern India might perhaps draw up a scheme for the establishment of a bank or banks that should employ their money to their advantage in time of plenty, and come to their aid in time of trouble and stress. The matter is a very important one, and well worth the attention of some of the leaders of thought and progress among planters. We feel convinced that if some such scheme could be passed to the satisfaction of Government, State aid would be assured, and this would do much to render success a certainty.

BOARD OF TRADE RETURNS—MAY.

"Increased stocks" is the watchword for May. The following figures show how general the accumulation has been, though there is no occasion for planters to be discouraged thereby, as supply and demand both have their "tides."

Cocoa (raw) continued to enlarge its boundary of supply, and, notwithstanding its expanding clearances, the stock in bond further accumulated.

In the first five months.		1899.	1898.	1897.
Imports	lbs.	25,491,336	24,331,147	19,580,588
Home consumption ...	„	16,217,154	13,970,543	13,329,722
Exports	„	5,046,124	4,060,311	5,690,341
Stocks in bond	„	20,040,000	21,118,000	24,391,000
Value of imports		£772,406	£729,568	£524,704
„ exports...		160,744	129,309	152,670

Cocoa (prepared) showed a curtailment in the quantities arriving here, and though deliveries were below the average, the stock shrank to about one-half that of last year.

In the first five months.		1899	1898.	1897.
Imports	lbs.	2,332,772	4,080,315	3,272,902
Home consumption ...	„	2,510,610	2,669,624	3,004,561
Exports	„	372,007	251,130	197,753
Stocks in bond	„	762,000	1,511,000	151,000
Value of imports		£219,529	£284,744	£238,730
„ exports...		40,430	27,329	22,393

Coffee.—From "other foreign countries" not specified the receipts were excessive, and with a material falling-off in the month's exports, a considerable addition was made to the general stock.

In the first five months.		1899.	1898.	1897.
Imports	cwts.	664,890	578,132	517,963
Home consumption ...	„	116,576	111,588	111,803
Exports	„	231,098	227,061	162,472
Stocks in bond	„	627,000	441,000	318,000
Value of imports		£2,395,255	£2,454,3 2	£2,420,568
„ exports...		829,280	899,111	714,026

Chicory.—Both landings and deliveries were lighter than in May, 1898, and the stock was little short of that in 1898.

In the first five months.		1899.	1898.	1897.
Imports	cwts.	37,280	43,738	41,987
Home consumption ...	„	33,608	35,300	36,996
Exports	„	188	299	639
Stocks in bond	„	15,000	16,000	12,000
Value of imports ...		£18,176	£18,613	£18,658
„ exports...		215	287	668

Tea.—Much heavier imports and a deal lighter deliveries (the latter the direct result of abridged duty payments since the production of the Budget) than in 1898 took place last month, which greatly affected the relative positions of the bonded stocks.

In the first five months.		1899.	1898.	1897.
Imports—China	lbs.	3,467,488	4,707,580	2,970,943
„ British East India	„	28,848,824	32,296,883	31,234,745
„ Ceylon	„	40,843,951	41,215,302	42,042,917
„ Other countries..	„	4,686,461	3,599,683	3,237,792
Total imports ...	„	77,846,724	81,819,448	79,486,402
Home consumption–China	lbs.	7,313,527	6,252,561	7,787,891
„ „ B.E.I..	„	61,665,660	56,490,814	53,449,290
„ „ Ceylon	„	32,068,942	34,422,520	33,041,765
„ „ O.C....	„	2,937,675	1,940,697	1,359,937
Total	„	103,985,804	99,106,592	95,638,883
Exports—China	lbs.	4,538,492	6,843,699	7,865,493
„ British East India	„	2,890,559	2,879,121	2,418,585
„ Ceylon	„	4,260,958	4,603,752	4,352,197
„ Other countries..	„	249,942	525,555	343,642
Total	„	11,939,951	14,852,127	14,979,917
Stocks in bond	lbs.	61,175,000	67,876,000	70,637,000
Value of imports		£2,849,941	£3,142,455	£3,112,234
Of which British Indian ...		1,091,051	1,301,986	1,279,279
„ Ceylon		1,483,732	1,561,677	1,630,378
Value of exports...		523,380	603,066	635,073

THE U. P. A. S. I. SECTION.

[*Under the control of the Secretary of the U. P. A. S. I. (Incorporated).*]

The U. P. A. S. I. was registered on the 3rd instant under the Indian Companies Act, and its title in future will be

THE UNITED PLANTERS' ASSOCIATION OF SOUTHERN INDIA (INCORPORATED).

Copies of the Memorandum and Articles of Association may be obtained from the Secretary.

* * *

The Indian Tea Association desires periodical and accurate statistics of Exports of Tea from Southern India. A promise has been received from one firm of statistics relating to Beypore and Calicut, and any firm that would kindly furnish the necessary figures concerning other ports of shipment would place the U. P. A. S. I. under an obligation.

* * *

The Government of India has kindly offered to place certain spare space in the Indian Imperial Court at the Paris Exhibition at the disposal of tea and coffee-planters in India, and has suggested that all should work through a Central Committee in London. The Indian Tea Association and the U. P. A. S. I. are prepared to work together, but the latter has still to prepare its plans, in regard to Coffee particularly. The matter will come up for consideration at the Annual Meeting next month. Meanwhile, planters who have had experience in such matters might confer a great boon on their fellows by suggesting ideas. These might be threshed out a little *before* the meeting, and thus a good deal of the delegates' time would be saved.

TELEGRAPHIC QUOTATIONS.

	July	1	3	4	5
LONDON.—					
Bar Silver ...	...	27 3/4	27 11/16	27 3/4	27 3/4
Bank Rate ...	...	3%	3%	3%	3%
Coffee ...	...	...	...	...	quiet.
Mysore av. (B) size		...	56s.	56s.	56s.
Stock, tons ..		...	...	25,642	...
Fortnight's ldgs.	...	...	...	1,800	...
Deliveries ...	...	...	...	1,600	..
Cinchona ..		...	firm	..	...
Price per unit	...	...	1 11/16		...
Stock pkgs. ...	...	..	17,000	...	...
NEW YORK.—					
Coffee—Fair Rio	...	6	...	...	6 1/8
„ Futures, Sept.		5·63	...	...	5·62
Silver—Comml. Bars ...		60 1/2	...	...	60 1/2

NOTES.

Coffee at the Cape. The Cape of Good Hope imported £204,470 worth of coffee from Brazil during 1898 and exported *nothing* to that country.

The Calcutta Tea Sales. At the tea sales on 30th June 8,800 packages were sold. The general quality was unattractive, a large proportion being dull; and thin liquoring teas for price, in sympathy with London, fell three to four pies in value, while an easier tone prevailed throughout the sale.

A Nitrogen Carrier. Field experiments made by the Ohio Experimental Station have resulted in a declaration that "Nitrate of Soda is apparen the most effective carrier of nitrogen in common use as a fer lizer." Further, "applying manure to the surface inste of plowing it under proved to be most advantageous."

Cocoa in Bahia. The British Consul at Bahia r ports that profits to cocoa plante in his district during 1898 must have been considerab Cocoa commanded a high value, and is far less costly th coffee to gather. He states that plantations are yea increasing, and that the crop is expected soon to beco a very important one.

Act XIII. of 1859. The *Madras Mail* states that t Mysore Government has decided levy no fresh fee for the execution in Mysore of a seco or succeeding warrant issued against one and the same pe son by British Courts under Act XIII. of 1859. It has al sanctioned three extra Police Inspectors for the coff tracts, eligible Europeans being engaged if procurable.

Brazilian Coffee. In the latest Message of the Pr sident of the Brazilian Republi reference is made to an excess of paper money that "gav rise to the most extravagant ideas as regards the supe abundance of capital, originating a spirit of speculatio that infected production itself and culminated in the eno mous and too rapid development of the coffee industr and production, making it an easy prey to speculation t the ruin of prices."

Colombo Tea Sales. At the public sales of tea a Colombo on the 28th ultimo, abou 9,842 pkgs. = 765,703 lbs. were offered, of which abou 8,506 pkgs. = 658,215 lbs. were sold. The sale opene with rather a weaker tone for common grades, but soo recovered, and prices generally closed firm at previous rates Among the finest teas in the sale were Middleton, Hig Forest, Nahavilla, and Annandale. Good invoices wer also offered from Munu Kattie, Torwood, Agra, Elbedd Mocha, and Glentilt.

Mr. H. O. Newport in Queensland. We are glad to see in the Queens land papers from time to time ver complimentary allusions to the wor done by Mr. Howard Newport, the Coffee Expert. As h went from this Presidency, it is satisfactory to note that th advice and assistance he has been able to give are highl appreciated. "The benighted Presidency" has always bee regarded as a sort of modern Nazareth, but Queensland i satisfied that she has obtained at least one "good thing" from it.

The London Tea Market. The latest cable from Messrs. Gow Wilson and Stanton to the Colomb papers is dated 29th ultimo and con tains very discouraging news. A dull tone was genera among buyers, though good liquoring Broken Pekoes wer wanted. Fair liquoring Ceylon Pekoe Souchong was quote 7d, and the average 7 1/4d. A private telegram to Colombo states :—"The market is much weaker for teas between 6d and 8d., and there is every prospect of lower prices fo common and medium grades. Imports of poor liquoring teas are heavy."

Street Dust as a Fertilizer. Careful investigations have le an Italian scientist to the conclusion that one of the most marked an

important properties of street dust, when used as a fertilizer, is its power of inducing beneficial fermentations in manure and in the soil. According to American reports, in 18 samples analysed the nitrogen varied from 0·17 to 1·18 per cent., phosphoric acid from 0·01 to 0·16 per cent., and potash from 0·09 to 0·5 per cent. "Well-selected and judiciously-used street sweepings" are said to possess considerable manurial value.

Coffee in the East. Some Eastern nations assert that a dish of coffee and a pipe of tobacco are a complete entertainment. The Persians have a proverb that coffee without tobacco is meat without salt. And still in the East of Europe, coffee is the national drink, and few entertainments are complete without it—

> And Mocha's berry from Arabia pure
> In small fine China cups came in at last;
> Gold filagree made to secure
> The hand from burning, underneath them placed.
> Cloves, cinnamon and saffron, too, were boiled
> Up with the coffee, which, I think, they spoiled.

What price present day "adulterants" after this?

Ceylon Tea Shipments for June. The *Times of Ceylon* states:—The official estimate at the beginning of the month was 10½ to 11 million lbs. which, on Friday last, we raised to 11½ million lbs., but we are sorry to hear that if the Harrison Line steamer and another vessel leave this evening, it is likely to be nearly 13 millions, as against 9,700,000 lbs. in June 1898. This is unfortunate, as it is likely to depress the home market, which is unduly sensitive to such influences. The cause of the abnormal and unexpected shipments is that three steamers with 1½ million lbs. left on June 1st instead of May 31st, while, as stated above, two steamers with large cargoes of our tea are leaving to-night.

The Rose-harvest in Bulgaria. The *Chemist and Druggist* says:—A correspondent in Bulgaria, writing to us on June 5, confirms the statement made in our last issue regarding the rose-harvest. He says that on account of the great dryness, especially in the districts of Karlovo and Brezovo, the flowering-period passed with extraordinary rapidity, and the flowers were found to be poor in the yield of otto. It is still difficult to determine whether the quality of the otto will be up to the average, but it is generally acknowledged that the amount will not exceed 74,000 Turkish ounces. As to prices, the general opinion is that on account of the demand higher values will be obtained than last year. At present, pure otto 68° F. is still selling at 21*s.* per Turkish ounce.

Ceylon and Canada. Mr. Alex. Thomson, of Messrs. Whittall & Co., Colombo, visited Toronto lately together with Mr. R. Blechynden. Speaking there of the prospects of the tea industry in Ceylon, Mr. Thomson expressed the opinion they were gradually brightening, chiefly on account of the improvement in prices. The production of tea in Ceylon this year was, he said, estimated at 125,000,000 lbs., an increase of 5,000,000 lbs. over that of last year. While it was estimated that the United Kingdom would take 3,000,000 lbs. less than last year, other countries were expected, between them, to take 8,000,000 lbs. more. Regarding the maximum quantity of the tea Ceylon was expected to yield in the years to come, Mr. Thomson said it was calculated that it would never exceed 130,000,000 lbs.

Coffee under Shade. In the course of remarks on Mr. Cameron's recent report on Coffee in Coorg, the *B. C. African Times* remarks:—It appears to us that there should be no doubt left in the minds of planters that shade is absolutely essential to success. It is proving itself every day on plantations which are now, in some parts, covered with shade. Mlanje district particularly will profit by shade as, contrary to the general opinion, Mlanje plantations are on an average among the lowest in the Protectorate, the average for example of Mr. Moir's estate being about 2,000 feet. In spite therefore of their rainfall they reap the full benefit of the October to November sun and this is still more accentuated by the western aspect of most of these estates.

The Draft Question. On this subject the *Produce Markets' Review* takes a view similar to our own. It says:—"Planters will do well to be careful to what hands they entrust their interests. What is the danger that threatens them at this moment? It is that large amalgamations, brought together regardless of cost, are compelled, in the face of all prudence, to go in for vast extensions of production in order to justify the high price given for gardens. Let the planters of India and Ceylon, with whom we have the sincerest sympathy, be convinced that, at a time of quickly-increasing production, a quarrel with the trade would be suicidal, and let them realise the effect of a combined refusal to buy their teas at auction for a few weeks. This is what persistence in the present course would lead to."

Shocking. There was one aspect of that recent gathering of the tea clans to protest against the abolition of the draft which has its humorous side. Many of those present have found tea-dealing, of course with knowledge and judgment, a fairly remunerative occupation. If fortunes have of recent years been made in tea, the gentlemen who gathered together last Wednesday week have not been left out in the cold. It was therefore worthwhile to note the shocked expression on the faces of some of these wealthy gentlemen, as they pondered over the audacity of those wicked growers and importers who were clamouring for more profit. Perhaps it was only the solemnity due to the occasion, but some of their visages suggested that, if it were an age of physical torture, something "lingering, with boiling oil in it" might be meted out to needy reformers of a well-established trade custom who desire this awful change.

Caper Tea. The following appears in the *Grocer*:—A great outcry is now being got-up about the quality of cheap tea, and the presence of dust in caper tea. A very well-informed correspondent writes with reference to the latter, "It always contains sand, but its flavour is in estimation around Worcestershire, Leicestershire, and Derbyshire. The analysts have lately made the discovery that it contains sand, but unfortunately for their cause the seller could prove that Customs duty was paid on it in the condition in which it was sold to the food inspector, and a Northern analyst had a case which was lost." A certain analyst is supposed to have been the

writer of the article which appeared in a recent public newspaper, and in which very remarkable statements were made about tea which passed the Customs, and we hope shortly to give further particulars about this matter. In the meantime it would be well to treat such articles with much caution.

Tea and Cinchona in the Nilgiris.

The *Times of Ceylon* of 3rd inst. says:—Mr. T. C. Anderson returned yesterday from Tuticorin after visiting Glen Morgan, his estate near Ootacamund, well satisfied with the condition of his property, which is 12 miles from the Madras sanitarium, and consists of tea and cinchona. The former is coming on well, while the 45,000 trees of hybrid cinchona are a valuable possession, as the bark gives 6 per cent. of quinine and fetches a shilling a pound, and the price of cinchona bark is rising steadily. As a result, it is probable that a lot of cinchona will be shortly planted on the Nilgiris, where it does so well. Mr. Anderson travelled for the first time by the Nilgiri Railway, which he describes as very comfortable, but very slow, the journey from the junction with the Madras Railway to Coonoor taking four hours, the same time as the tongas used to take. The railway is being carried on to Ootacamund, and Mr. Anderson tells us it is intended to carry it on over the ridge to the low-country beyond.

The U. P. A. S. I.

"Coffee" recently wrote to the *Madras Mail* inquiring "why does not our wonderful U. P. A. wake up to the fact that coffee is getting into a desperate state of depression, and, instead of wasting time over this Act and that Act, put its shoulder to the wheel in real earnest and represent to Government the real state of affairs?" Why does not "Coffee" attend the meetings of the U. P. A. S. I. before writing in this manner? Coffee planters have ample opportunities to bring their affairs up for discussion, and if they, among others, rank the Labour question and the laws affecting it among the chief matters to be considered, it is not much use for "Coffee" to "write to the papers." If District Planting Associations would discuss important questions more than they at present do, the meetings of the U. P. A. would doubtless soon gain in value and utility. The fault lies with District Associations,—in fact, with the individual planters who are members of these and yet take no active part in bringing important subjects before them for discussion.

Division of Labour, &c.

The P. A. of Ceylon and Lipton's Limited, gave the tea to the Olympians, and the *Ceylon Observer* chipped in with a card for each recipient of a present of tea, in the hope that he would take care to follow the directions:—"First fill your kettle with FRESH water; then see that it really BOILS. Next warm your TEAPOT, and put one small teasponful of tea for each cup required; then pour on the required quantity of boiling water, infuse for FIVE minutes, then pour off the tea into another teapot or cups ready for use. [Milk and sugar added according to taste.] Thus treated, CEYLON TEA will give a liquor, pure, delicious and fragrant. On no account should a second brew be obtained from the same leaves." Then "Housekeeper" writes to the *Observer* asking permission to call attention to a small omission in Mr. Kelway-Bamber's handy and useful *brochure* on the Dietetic Value of Tea? He says (4) "put the required quantity of tea into the hot tea-pot," etc.—*but* nowhere specifies "the required quantity!" the great advantage of Ceylon over China te for Australia, America and the Continent is that you nee not use so much. But an omission may be remarked eve on the part of the *Observer*, for what is meant by "one sma teaspoonful." Ideas vary on this point, and teaspoons ex hibit almost as much variety as Indian maunds.

The Draft on Tea.

We learn, says the *H. & C. Mail* that a meeting will be held nex week of the Wholesale Tea Dealers' Association and th Joint Committees of the India and Ceylon Association to discuss this question about which so much can be sai on both sides, when it is hoped that an amicable arrange ment will be made without disturbing the present relation We have no doubt the trade will accommodate themselve to the loss of the one-pound draft so long as they retain th present advantage of two turns of the scale—both in th gross and in the tare—in the weighing of which, on eac occasion, may be anything from an ounce to fifteen ounce It will, no doubt, be remembered that, some years ago, a Sir William Pink remarked at the meeting, an arrange ment was made for weighing tea more equitably to th half-pound, whichwould be fairer to the producer than th present system; but, in consequence of the opposition b the trade, the concession was no sooner made than it wa suspended. As one of the speakers who represented th retail trade remarked, the buyers were asking for the sam thing as the importer, *viz.*, "that they should have wha they paid for, neither more nor less." The case reported in another column, in which Lipton's, Limited, were th defendants, bears on this question, and is of more tha ordinary interest at the present time.

The Terms of London Public Sales.

A Home paper remarks:—A strik ing instance of the importance o looking into the present condition under which goods are offered in public sale arose recently A parcel of tea had been bought in public sale, which, o examination in the warehouse of the purchaser, was foun to be most irregular in quality, indicating that it ha never been bulked, as the purchaser had a right to expec would have been done A complaint was lodged with th seller, who replied by directing attention to the conditio of sale, that no claim could be allowed on goods after the had left the bonded warehouse. Now, it is clearly impo sible for the purchaser to inspect every package before comes out of the bonded warehouse, and the buyer ther fore took legal advice as to his means of redress. He wa advised that the condition referred to was an unreasonab one, and that he should persist in his claim. This he di and the seller very wisely consented to pay the claim with out having resort to litigation. The matter is, howeve an important one to remember, because it too frequent happens that both sides tacitly agree that the conditions public sale are absolutely binding, however harsh or u reasonable they may be. Of course, so long as they a reasonable they are binding; at the same time it must b borne in mind that the seller cannot dictate any terms h pleases, and then, when irregularities arise, shelter himse behind some unreasonable condition of purchase.

Tea at Amoy.

In his report for 1898 the Britis Consul at Amoy says that the t grown locally again fell to 1,500 piculs, and this industry,

judge from the gradual decline in previous years, seems well on the way to final extinction. This is largely due to the oppressive and vexatious system of taxation and the failure of the growers to adopt improved methods of cultivation. The re-export of Formosa tea increased from 132,000 to 140,000 piculs, whilst the total value was somewhat below the figures for last year, in spite of the considerable increase in quantity. The past year is said not to have been a good one for tea merchants, the losses falling especially upon the Chinese traders, who are said to have suffered to the extent of 500,000 dols. The imposition of a duty of 10 cents per lb. by the United States, to which most of the tea is sent, drove prices down, and the raising of the standard of quality by the same country tended still further to depress the trade. The tea trade done at Amoy is almost entirely a transhipping business, being attracted thither by the excellent accommodation for ships, in which Formosa is wholly lacking. On the acquisition by Japan of that island, it was feared that the trade would be diverted from Amoy by the improvement of the harbours in Formosa. These fears have, however, so far proved groundless, and are likely to remain so, for nothing has yet been done to make the harbours there fit for large ships, and it is doubtful whether the natural difficulties in the way of such improvement can ever be overcome.

GENERAL ARTICLES.

A TEA CESS FOR INDIA.

A Ceylon Planter writes :—

"Do you not think the time has arrived for Indian tea planters to submit to a tea cess—similar to that which is collected in Ceylon—for the purposes of a joint Indo-Ceylon tea campaign? The Indian Commissioner in America has just retired, to join a private firm, while, on the other hand, the drain on the Thirty Committee's resources from next year onward will be very heavy, owing to the necessary expenditure at the Paris Exhibition, and for the further and increased efforts that are going to be made to push our teas in Germany, Russia, and on the Continent of Europe generally. So it is about time, I think, that the past make-shift arrangement as to India's financial contribution were terminated, and the matter put on a proper business footing. Not only would it be fairer to us, but it would be of the greatest benefit to Indian planters themselves, collectively and individually. They must admit the great good that has been done by the joint efforts of India and Ceylon in many parts of the world; and, this being so, it would be only fair that they should contribute to the joint funds in proportion to the amount of Indian tea interested, and they can only do this through a Tea Cess. I am aware that an effort was made previously to secure the imposition of a Tea Cess in India, but I believe it fell through, partly owing to lack of support from Indian tea planters, and partly to official objections raised as to the difficulty of collecting the cess at so many different ports. The latter objection would not stand criticism very long, and, if the Indian planters could be united in calling for a Cess, I do not think the Indian Government would refuse it long. I also hold that the matter should be taken up *at once* by our Thirty Committee, who should courteously approach the various planting representative bodies in India, and the principal Calcutta firms, laying the matter before them and calling for their opinion and assistance. I fully believe that, if the matter were put properly, it would be adopted by our fellow-planters on the Continent, at once. The voluntary system of taxation is absurd and unjust. We tried it in Ceylon, and it collapsed very speedily in favour of the present plan, whereby everybody contributes equitably to the tea fund and a far larger amount is raised than could be done by private and spasmodic efforts. I wish you would lay the matter before the planters and get them to take it up, as I think that it is one of the greatest importance, and that no time should be lost."

TEA GARDEN AUXILIARIES.

"Novice" writes in *Indian Gardening* :—

In reference to a leader on "Coffee as a tea garden auxiliary," which appeared in your contemporary, the *Indian Planters' Gazette*, of the 3rd instant, I cannot agree with the statement therein that "where tea will grow, there will coffee grow—and grow well." If it had stated,—"Where coffee will grow, there will tea grow—and grow well," I would freely have endorsed the statement. Judging from my little experience, I would think that a soil which will grow very good tea may not be able to support the coffee bush in a healthy state at all. Then we have some tea estates in districts which are annually visited by King Frost in all his rigid austerity, and I am much afraid that coffee would succumb to him. Still, there would seem to be no doubt whatever that coffee can be grown to advantage in a great many districts in which it has never been thought of. A few years ago nothing whatever was known in South Sylhet about coffee. It is questionable if half-a-dozen planters in the whole district knew that there was such a thing in existence as the variety known as *Liberia*. Now you may hear planters talking about the merits of different varieties as if the product was a staple of the district. That coffee will grow and fruit well in South Sylhet, Cachar and Assam, where climatic conditions are favourable, is an established fact which few will feel inclined to dispute now. But to show how sudden the change of opinion has been, it may be mentioned that one of the promoters of the far-famed Dumont Coffee Company of Brazil distinctly stated about three years ago that coffee never would do in South Sylhet. In the face of events in connection with such companies, perhaps his opinion may not go for much. But still it shows how apt we are to shift the responsibility of thinking for ourselves on to others, as his expressed opinion had weight enough to prevent a great many men (myself amongst the number) from exercising their own reasoning powers.

A few South Sylhet tea-planters contemplated giving coffee a trial as a sort of small auxiliary about three years ago, but the extraordinary reports put about concerning the coffee as growing upon the Dumont estates in Brazil, knocked the idea on the head. Now, again we hear of a garden here and there having its 10 to 40 acre plot, and in a half-a-dozen years or so we may expect to see every tea garden having its 50 acres of coffee, its 10 or 20 acres of pepper, the same amount of Areca nuts (*Areca catechu*), as well as its plot of cocoanuts, and perhaps cocoa. It is said that these can all be grown profitably, and locally disposed of, and no one need grow the less tea because he is growing these as bye-products. It is gradually becoming recognised that if a tea garden manager is what he ought to be, he will be quite able in a few years' time to clear as much from his bye-products as will at least pay the European establishment, leaving the tea to pay his commission. This opinion, I believe, has been expressed by one of our oldest and most experienced planters, who, when asked why this had not been managed years ago, said that the reason was simply the want of railway communications for one thing; and, owing to prosperous times in tea, want of pressure for another. If we may judge from things as they appear, the old gentleman would not seem to be far wrong, as it is only since we have had prospects of direct railway communication with the coast, and hard times in tea, that bye-products seem to have had any serious attention.

Coffee as an auxiliary is well worthy of consideration, as there would seem no reason why the tea districts, or the whole of Bengal for that matter, should import coffee from Ceylon or elsewhere. But coffee is only one thing after all. There are many others which could be profitably grown. It is only within the last few months that black pepper has been brought forward as a likely bye-product. It is questionable if one tea-planter in a hundred knew upon what kind of plant this common and most popular spice was grown. And yet it appears that it will grow in the tea districts of South Sylhet, and has been grown largely at one time in Assam proper. We may well ask why Bengal imports all its pepper-supply when it can be grown in Assam? A still more pertinent question would be, why do Assam and Sylhet, as well as Cachar, import *their* pepper when they can grow it themselves? Strange as it may appear, there are planters in Ceylon who are under the firm belief that Areca nuts (the common *supari*e) cannot be grown in Sylhet and Cachar; and stranger still, Ceylon exports a very large

quantity, which is absorbed by the bazars of Bengal as well as Malabar.

It is difficult to imagine what may happen a few years hence, but there can be no doubt that the idea is gaining ground that tea garden managers in India are not alert enough. This idea is all the more likely to gain ground in face of the fact that young lads at home are being specially educated now with the view of their being capable of entering upon an agricultural career in Africa. I am informed that this is being insisted upon by the powers who govern the chartered and other companies in that continent. When has an Indian tea-planter ever had an education at home with the view to his becoming a tropical farmer? Perhaps objection may be taken to the term "tropical farmer." But we ought always to remember that a tea-planter is nothing more than a tropical farmer," only that he is a very bad one, and who, as a rule, can only grow one product, when his soil and climate are suitable for growing a dozen, which might very easily be the means, in a bad tea year, of determining whether his business paid or not. Then, again, if he found that any one of his bye-products held out no hopes of being remunerative, merely being an auxiliary, he can drop it with little or no loss; he cannot do so with tea. We cannot be expected to become experts at growing tropical produce all at once, but as I for one have got the straight *hukum* to make a start, I will be grateful for any hints given in your columns as to what would be most advisable to start planting 100 acres with. My land is ordinary rolling tree jungle and bamboo; in short, it is suitable tea land, but my order is not to plant in tea. I am situated within ten miles of the Assam-Bengal Railway, to which I can boat. I am writing to *Indian Gardening* for information upon bye-products, as I believe that it is devoting itself more especially to that branch of planting.

COFFEE.

"Cherra" writes to the *I. P. G.*:—

In your leader on the above, which appeared in your issue of the 3rd instant, you invite your reader's opinion on the subject. It has been well known for many years to a great many tea planters that coffee would grow, and grow well, producing a bean quite equal in quality to some of the best brands of Brazil, and superior to most of the produce of that country. A great many people are under the impression that no country has any chance with Brazil as a coffee-growing country, but, as a matter of fact, some of the most inferior coffee which is put on the London market comes from Brazil. Again, the latter is heavily handicapped in their labour. It is well within the mark when it is stated that it cost the Brazilian coffee planter ten times the amount per head it does the Indian planter, and any one who has any doubts on the matter may consult a little book published by Messrs. Ferguson of Colombo, and written by an old Ceylon coffee planter who has settled in Brazil.

Any bushes I have seen in Upper Assam or Sylhet seemed to be in perfect health, and bearing crops which it would simply be impossible to beat. I have it on the best authority that Arabian bushes have been growing in South Sylhet in the planters' bungalow compounds for the last ten years or so, and that they have been fruiting all these years. When this is the case there can be no earthly reason why they will not grow and fruit for forty years. I think the real reason that coffee has not been gone in far more is simply that, from the very start, tea has had full sway, and as it has, as a rule, proved a fairly remunerative investment hitherto, there was no special reason for the tea planter to turn his attention to anything else. There can be no doubt that if tea was wiped out of existence in Assam through any cause, that the Assam planters would be equally as capable of rising to the occasion as the Ceylon planters were when their coffee was all but annihilated by disease. As tea is not now what it used to be—and there can be no hopes whatever that it ever will be in the position it occupied 20 or 30 years ago—I think you do well when you advocate the planting of coffee, or for the matter of that anything else, as an auxiliary to tea. Even if the tea districts of Assam could grow sufficient coffee to supply the consumption of the eastern part of India it would always be something, and a very big something, as by all accounts the consumption is large and increasing.

As the Arabian variety does so well, perhaps the Liberian variety may not be worthwhile taking into consideration, more especially in view of the fact, as you have noted, that this variety is deficient in flavour. There would seem to be great diversity of opinion regarding the merits of the latter kind, as some people say that when properly cured, and, what is of equal consequence, properly made it equals, if not excels, in flavour the Arabian grown in Southern India. At any rate, it appears that this variety is capable of great improvement by judicious selection of the seed from year to year. This would be rather a big undertaking for any planter, and there would be fifty chances to one against him ever benefiting by his labour, however much posterity might do so, and planters, as a rule, are like other people—they only work for the benefit of posterity when it happens to be to their own benefit as well, but it might be otherwise in this case. I have heard objections taken to auxiliaries on account of the labour required where it is all required for the main staple There is certainly something in this argument. Still from my own actual experience there is always a certain number on a garden which have to be employed upon odd jobs, and odd jobs are not always to hand where there is nothing grown but tea. I don't think that a couple of auxiliaries would materially interfere with the labour required for the tea cultivation when we take into consideration the fact that the auxiliary in the shape of coffee or anything else is only adopted *instead* of planting more tea and adding still more to an already overstocked market.

I quite agree with you when you say that the subject appears to be well worthy of serious consideration, and shall be glad to hear other opinions on the matter. Lungla Cherra, in South Sylhet, has only been opened about two years, which is hardly good enough to form an opinion upon. But as this is the maiden crop of Arabian this year in Wanrachura, it is being looked upon, I believe, as a thorough test-year by the proprietors of that concern.

A CHAT ABOUT TEA IN AMERICA.

INTERVIEW WITH A LONDON TEA DEALER.

(By the Mincing Lane Correspondent of the Times of Ceylon.)

"I have been in the tea trade since 1877," said Mr. McEwan, Senior Partner in the London firm of McMeekin & Co., of Billiter Street, the other day, "and we control plantations in India and Ceylon."

"And I suppose, in the pursuit of your business, you have visited the East?"

"I have, and have also been to Australia and Africa, and several times to America, from which I have lately returned."

"Do you consider that the 'Tea Campaign,' more especially as it affects Ceylon tea, is progressing satisfactorily in the States?"

"No I do not. I have never approved of this so-called 'Campaign' with its parrot cry of 'capture the American market. In this country we have displaced one black tea (China) by two black teas (India and Ceylon), and in the States the same thing is going on. Does not that rather point to the success of the Thirty Committee and their work?"

"Not at all, for the increase in consumption has been due to the ordinary developments of trade. I would say, further, that much of the work done has been injudicious work. Take one point—the advertising Why put up the backs of the Japanese Government and the dealers in Japan teas by flaring posters showing the manufacture of these teas by dirty natives? You know as well as I do that the natives of India and the Tamil cooly in Ceylon, who after all, have still a good deal to do with the making of British grown teas, are much dirtier fellows than their Japanese cousins."

"And what is the effect of all this on the trade generally?"

"Well, many dealers who quite appreciate the virtues of our teas strongly resent the character of these advertisements. You remember the old story of the man and his Council: 'No case to abuse the plaintiff's attorney.' But, surely, India and Ceylon are not reduced to this. After all, it is very much a question of price. As long as our teas show good value, they will continue to gain ground in America as elsewhere; but, if prices of common teas keep at their present level, we shall lose ground in the States and in all black tea countries."

"You think then it is time to withdraw the Commissioner?"

"I would withdraw the Ceylon Commissioner; and the India Commissioner has already been withdrawn Mr Blechynden is now selling Ceylon teas in New York, as agent for Messrs Whittall and Co."

"And, what is your opinion on the subject of Green Teas?"

"On that point I am not prepared to express very definite views. I should like to know more about the cost of producing green teas in Ceylon, and whether a tea closely resembling a Formosa Oolong can be turned out."

"Would you then stop all expenditure in America?"

"No, I would spend a certain amount in judicious advertising. No one is more susceptible to advertisement than the American"

"You would also advertise more largely in Russia, I dare say?"

"I would hardly say that; you must recollect that the Russians are an illiterate people. The shop signs are mostly pictorial: if a man has a hat-shop he paints a hat above it; if a boot shop, a boot, and so on. There has been a more satisfactory expansion of trade in Russia than almost anywhere, though very little has been spent by the Thirty Committee; and this surely goes to prove the correctness of my contentions. I should prefer to give a premium for the manufacture of good teas in Ceylon. There is far too much what I may call 'objectionable' tea that comes from that island."

"Do you think that would be practicable?"

"I am told not, but it would be a good thing if it could be done And, finally, I would recommend a policy of *laissez faire* all along the line. Depend upon it, people are in the tea trade, as in others, to make money; and directly a good thing comes their way, they will take it up"

"You will find it a difficult thing, Mr. McEwan, to convince the Ceylon planter of that He does not find the tax an onerous one; and he holds that, while some of the expenditure may be open to criticism, yet, on the whole, good is done; and in this belief he rests content."

TEA, &c., COMPANIES.

San Paulo Coffee Estates Company, Ld.—Mr. H. F. Tairks, who presided at the shareholders meeting, expressed regret that the results of the year's working were by no means so satisfactory as the estimates of the agents, based upon the appearance of the plantations in the early days of the crop, had led the directors to expect. The causes which led to the falling-off in the crop were the severe drought and the shrinkage in the size of the berry. They expected the total crop to yield 115,000 arrobas, and it only yielded 87,000 arrobas, and, added to that, the price of coffee had fallen during the year. At the time the *interim* dividend was paid the directors had every reason to believe, in view of the estimates as to the amount of crop then being gathered, that the results for the year would amply justify the distribution. They had appointed Mr. Latif as manager in place of the late manager. Mr Latif had had a large experience in coffee-planting in Brazil. The estates were in admirable order, and he believed the preference dividend of 7 per cent. would be paid at no distant date.

Tower Tea.—A balance dividend of 11½d. per share is announced, making a total of 8 per cent. for the year ended March last.

Empire of India and Ceylon Tea.—The directors, in their report for the year 1898, regret that the result for 1898 was unsatisfactory. The weather was, on the whole, unfavourable. Exchange advanced from 1s. $3\frac{9}{32}$d. to 1s. $4\frac{1}{32}$d, which reduced profits by £4,000. On some of the company's gardens there was a mismanagement and a neglect on the part of the members of the staff, which undoubtedly contributed to the failure of the year's results. Mr. George Moore, a director of the company, who has had a long and successful experience in tea-planting, went out to India in last November, and has spent nearly six months on the company's Assam gardens, investigating the system of working, and carrying out reforms While bearing testimony to excellent work on some of the properties, Mr. Moore felt constrained to replace the managers of three of the company's gardens by more efficient men. Including the amount brought forward from last year of £143, the available profit is £20,084. The board recommend the payment of the preference dividend of £10,950, and a dividend on the ordinary shares of 4¼ per cent. per annum, which will absorb £8,988, leaving a balance of £145 to be carried forward.

Rajmai Tea—The report for the year ended December 31st last states that the past season's working shows satisfactory result. The outturn of tea totalled 726,609 lbs. at 10d. against 693,853 lbs. at $9\frac{3}{16}$d in 1897. The expenditure on all divisions shows a considerable reduction, which has been effected without any sacrifice of efficiency in working. The revenue amounted to £36,998 and the expenditure to £24,480; deducting commission to managers, £1,037, there is a balance carried to revenue account of £11,480. After payment on December 14th last of the *ad interim* dividend of 5 per cent. this account shows a balance at credit of £16,657. Out of this amount the board have placed the sums of £10,000 to working capital account and £3,500 to reserve fund for equalising dividends. This leaves a balance still at credit of £3,157, from which the declaration of a final dividend of 5 per cent. is recommended, making 10 per cent. for the year, the balance £357 to be carried forward. The estimated production of tea for the current season is 756,000 lbs.

Charáwar Tea.—The working of the past season, though more favourable than that of the previous one, was, on the whole, disappointing. The actual production was 207,957 lbs. The quality of the season's manufacture was, on the whole, satisfactory, as, though the market was for the greater part of last year the lowest on record, the company's teas realised an average of $10\frac{3}{16}$d. per lb. The revenue amounted to £9,154 and the expenditure to £8,150. Deducting manager's commission (£100), there is a balance to profit and loss account of £903. After paying the preference dividend on season 1897 there remains a balance at credit of £1,890. The directors recommend that out of the balance now available £1,500 be placed to a working capital account, a dividend of 6 per cent. on the preference shares be declared, and that the balance, £90, be carried forward. The estimates for the current year are for a crop of 260,000 lbs. of tea and 60 maunds of tea seed.

Tingri Tea Company (Ltd)—The report for the year 1898 states that the season was favourable for the production of leaf and the estimated crop was slightly exceeded, but the quality of the tea was disappointing, and this, combined with the very depressed market for the greater part of last year, resulted in an average price of only $9\frac{7}{8}$d. per pound being obtained, as compared with 1s. $0\frac{7}{16}$d. for the crop of the previous season. The demand for tea seed was very limited last year, and £820 only was realised from this product. The working of the past season has resulted in a surplus of £2,804, which having been carried to revenue account, shows a balance of £3,580 at credit of that account. The directors recommend the declaration of a dividend of 5 per cent., leaving a balance of £755 to be carried forward. The manager reports the bushes have been attacked by blights, which spread greatly during the past season. The estimates for the current year are for a crop of 560,000 lbs. of tea.

TEA FROM SOUTH AFRICA

A correspondent of the *Grocer* writes:—Very few of your readers have probably yet seen and tasted a sample of Natal tea, yet, if reports are anything to go by, this variety of tea will soon be definitely upon the market.

For many years it has been pointed out that it is quite as possible to grow good tea in Natal as it is in India, China, and Ceylon. Indeed, it is claimed that the climatic advantages of Natal point it out most conspicuously as a region where tea-planting should be profitably exploited. In spite of many difficulties and much cold water that has been thrown upon it, the project of tea-planting in Natal is now an accomplished fact, and we may certainly expect to find some important consignments appearing upon the market before very long.

Mr C. E. Sage recently gave the results of some analyses which he has been conducting upon some authentic samples of Natal tea which have come into his hands from some of the leading planters in South Africa. These results are as follows:—

Sample—	1	2	3	4	5
	p. cent.	p. cent.	p. cent.	p. cent.	p. cent.
Caffeine	2·95	2·78	3 34	2·94	3·08
Tannin	8·01	10·08	10·07	8·09	6·07
Vegetable extractive matter	24·61	23·54	19·32	24·91	22·62
Inorganic extractive matter	4·24	4·45	4·95	4·46	4 38
Total extracted by water	39 90	41·57	38·31	41·21	36·78
Moisture	8 19	7 95	9 19	9·36	9 57
Ash	5·30	5·25	5·51	5·63	5·26

These results almost explain themselves. *Caffeine* is now generally known as the essential principle of tea; it is upon the presence of this substance that an infusion of tea leaves depends for its stimulating properties. The next item in the analysis is the *tannin*. This is the substance which confers upon the tea its bitter and

astringent taste; it is the substance which is generally viewed with more or less suspicion by medical men, for it is claimed, and doubtless with full knowledge, that if a tea contains too much tannin its effect upon the gastric juices of the stomach will be harmful. Readers will carefully note the low percentage of tannin. The *vegetable extractive matter* and the *inorganic extractive matter* are terms which speak for themselves—the one is the counterpart of the other. The *total extracted by water* is another term which need not be explained in detail, so is the *moisture*; and our readers will note that these samples were particularly free from water, and therefore that when buying this substance at so much a pound they are not buying much water at this price. The only remaining item in the analysis is the *ash*, and that of course naturally means what is left over when a portion of the tea is burnt till it can be burnt no longer. The ash then represents the amount of mineral matter which tea contains.

It is a pity that the Natal planters have gone to China for the names for their teas. The samples examined by Mr. Sage were designated as follows :—No. 1, "Flowery Pekoe"; No 2, "Golden Pekoe"; No. 3, Pekoe Souchong"; No. 4, "Pekoe"; and No. 5, Broken Pekoe."

Looking at the analyses of these teas one can only say that they appear to be really first-rate. There is a due amount of caffeine present which should make them mild, yet sufficiently strong in the invigorating properties associated with "the cup which cheers but not inebriates." The low percentage of tannin should make these teas welcome to the dyspeptic, and indeed to everyone who thinks much about his digestion. In each case the percentage of tannin appears to be much lower than that which is found in samples of Indian tea. The other items in the analysis are quite normal; but when we come to the ash we find a rather unusual ingredient, for it contains a notable percentage of manganese. This is undoubtedly derived from the soil, in which manganese is fairly widely distributed. I am not aware that there is any soluble salt of manganese in the tea which could be dissolved out by the water, and if there is I do not know what the precise effect upon the system would be to anyone drinking it. So far as can be gathered the amount which would be taken in a cup of tea, if it really does dissolve, is so insignificant as to be practically without any importance whatever, and so it may be disregarded. On the other hand, if the manganese only exists in the tea leaves and is not dissolved out, then of course it has no significance whatever to the tea-drinker.

A TRADE CUSTOM OF THE TEA BUSINESS DECLARED ILLEGAL.

An important case was heard lately, at the Worship-street Police-court, before Mr. Cluer (the sitting magistrate), which may have in future the effect of entirely revolutionising the retail tea-dealing business. A summons was heard at the instance of Messrs. Brooke, Bond and Co., tea dealers, against Lipton, Limited, who, they alleged, were in the habit of selling to their customers packets of tea, representing pounds and under, which were not of full weight, the paper wrappers being included in the standard weight. Mr. Horace Avory, Q. C., and Mr. Corrie Grant appeared for the complainants, and Mr. Carson, Q. C., and Mr. Mathews for the defendant company. Mr. Avory, in opening the case, said the summons was taken under the Merchandise Marks Act, 1887. It was ascertained that the defendant company sold tea in packets which did not contain 1 lb. of tea, or the weights specified thereon. The standard weights were made up by the inclusion of the paper wrappers, or, in other words, there was less tea than the quantity represented to the purchaser. He did not think that that would be disputed by the defendants, as the system in question had been deliberately pursued. The magistrate would therefore see that the weight printed on the packets was a false trade description. A similar question had been raised against the firm of Salmon and Gluckstein in the matter of cigarettes, which it turned out had been made by machine and not by hand. The magistrate there held, and stated a case, that there was no intention to deceive the buyer or induce him to purchase goods which he would not have purchased if the description in question had been omitted from the label; but the Court of Appeal held that even that was no defence under Section 2 of this Act. He estimated that by the adoption of this system it put in the pockets of Lipton, Limited, a sum of no less than £17,000 per annum, as the complainers admitted that if they pursued the practice they would increase their profits by about £11,000 per annum.

Evidence was then called, when Mr. W. G. Mercer, a solicitor's clerk, deposed to having purchased from 37 shops belonging to the defendant company various packets of tea, which he had handed over to the inspector of weights and measures of the London Country Council.

Mr. Charles Bending, the inspector in question, stated that he had first weighed the parcels as they were handed to him; then emptied the tea out of the packets, and weighed the paper separately. The 1-lb. packet weighed 1 pound 4 drachms 9 grains gross, and the wrapper by itself weighed 7 drachms 9 grains gross, which showed the weight of the tea to be 15 ounces 13 drachms. The ½ lb. packet weighed 4 oz 20 grs., and the weight of the paper 3 drachms 4 grains, the tea thus weighing only 3 oz. 14 drachms 16 grains. The 2 oz packet showed a gross weight of 2 oz. 14 gr., the weight of the wrapper 1 drachm 11 grains, the tea amounting to 1 oz. 5 drachms 3 grains.

Mr Carson, for the defendant company, admitted that what had been done by his clients had been done deliberately. They claimed a right to do it, and until the custom was stopped they intended continuing. It was not suggested that they had committed any fraud, and now a kind of rival trader, wishing an advertisement, had thought fit to raise the question, and a conviction was sought. He contended that the practice of selling tea in packets, the paper being included in the weight, was universal; and he would submit evidence from all the more respectable firms who carried on the business of retail dealing to show that this was the case, such firms as the Home and Colonial Stores, United Kingdom Tea Company, and others. By them he would prove, he thought to the magistrate's satisfaction, that there was now a definite and well-known custom of making up packets of tea, and weighing along with the tea the wrappers in which the tea was placed, care being taken to affix a label to the packet stating the quantity, such as "quarter pound packet" That was the trade description, and, as he had said, it was the universal method of making up tea. As to the advantage which it was alleged Lipton, Limited, gained by the deficient weight, he might say that in this case the particular paper in which tea was wrapped was a preservative paper, and that the cost was nearly as much as that of the tea deficiency. The learned counsel went on to say that in the year 1892, on a case being decided, Sir Thomas Lipton, then Mr. Lipton, had taken the advice of the then Attorney-General, now the Lord Chief Justice. The Magistrate held that this opinion could not be admitted. It would be evidence as to "innocent state of mind," not that there was anything wrong being done.

Evidence for the defence was then given.

Mr. William Shaw Carmichael, Secretary of Lipton, Limited, stated that all the packets of tea were made up at their warehouse in Old-street, City-road, and when sent to their branches general instructions were given to the shopmen to sell them as packets. To his own personal knowledge that had been the custom in the trade for ten to fifteen years. He had sent one of his assistants to various other retail dealers in London to purchase packets of tea, and on examination by weight he found that they followed a similar practice—namely, that of weighing the paper with the tea. The difference caused by the weight of the paper he held was infinitesimal. He denied the statement that Lipton, Limited, pocketed £17,000 a year by the practice which they adopted, but admitted that on the whole year's transaction they might make some £2,000.

Charles Blake (general manager of the Home and Colonial Stores), Mr. James Hamilton Morthew (general manager of the United Kingdom Tea Company), Mr. William Brown Colegrove (of Levers and Fry, Limited), and Mr. Arthur Richards (of the International Tea Company) gave evidence to show that it was a universal practice in the trade to weigh the paper wrapper along with the tea.

The Magistrate, in giving his decision, said he had come to the conclusion that a false trade description had been given to the goods which had been sold, and that the defendant company was liable to be convicted under the Act. He did not think that the evidence produced to prove the custom was sufficiently satisfactory, but assuming it to be proved, he would certainly hold it was an unwise custom, contrary to public policy and contrary to the Act of Parliament. It had been clearly proved that in 1 lb. of tea there had been a deficiency of 3 drachms in the quantity, and he held the

expression "one pound packet," meant that the packet contained 1 lb. of tea. It might be maintained that the defendant acted innocently in what he did, but he took it that the meaning of "innocently" was that one acted ignorantly, that there was not an untrue description with reference to the goods, and that he acted deliberately because he believed he was within the law. The result was that the defendant company had made a certain amount of profit which it ought not to have made, and the public had lost a certain amount of tea which it ought to have received in return for its money. It was, however, satisfactory to know, in the interests of all tea merchants and the public, that this case would not stop here, but would go before judges who were, perhaps, in the habit of purchasing their own tea. He could come to no other conclusion but that it was a false description, and, being deliberate, it could not be innocent. The penalty would be £10 and 15 guineas costs.

Mr. Carson requested the magistrate to state a case for the Higher Court.

THE LONDON TEA MARKET.

The *Times of Ceylon* writes:—A correspondent very closely in touch with the London Tea Trade writes us:—

"It appears to me that, now-a-days, whenever the London market gets temporarily a few extra million pounds of tea, down it goes. Witness sales by the last mail. Common rank leaf tea sells at 7d., whilst black, even tippy, Broken Pekoes are chucked away at 7½d. *Starve* the London market! Good Heavens! it looks very much as though, what with the trade contracted into the hands of a few blenders who stifle competition, and London Agents who know nothing about tea and who care less, the unfortunate *planter* is likely to be starved out. Buck up Thirty Committee, and open up new markets, or the goose that lays the golden eggs will be ruthlessly slaughtered!

"There was a young man who started with naught,
Now informs the world Ceylon he has bought:
We backed him with glee
When he first started tea—
Alas! good intentions, what havoc they've wrought!"

CEYLON ASSOCIATION IN LONDON.

ELEVENTH ANNUAL MEETING.

The eleventh annual general meeting of members of the Ceylon Association in London was held on Monday, June 12, in the Council Room of the London Chamber of Commerce, Botolph House, Eastcheap, E. C. In the absence of the President, Lord Stanmore, Mr. H. K. Rutherford, Vice-President, took the chair.

The Chairman said: Gentlemen,—The absence of our President, Lord Stanmore, to-day is, I am sure, a matter of regret to everyone here. But it is perhaps a matter of still greater regret to his lordship himself, for, as we all have good reason to know, he takes a very keen interest in the affairs of Ceylon. (Applause.) But his absence is unavoidable, as he is on the Continent. It is therefore my duty, as Vice-President of the Association, to occupy the chair, and to present for your acceptance the report of the executive committee, the statement of accounts, and the report of the tea and produce committee for the past year. These documents have been in your hands for a considerable time, and I suppose you will accept them as read. It is a matter of gratification that the number of members of this Association continues to increase, and I think that fact alone shows that an Association, such as this is, a felt want among those in this country who are interested in Ceylon matters, whether permanently residing here or only making a temporary stay. (Hear, hear.) I think it would be as well at the present time to remind you that this Association originated in a proposal made eleven years ago by the Planters' Association of Ceylon to form a branch of their Association in the City of London. But the gentlemen who met in London to consider that proposal did not quite approve of the proposition that the new Association should be a branch of the Planters' Association, and they gave it a title more comprehensive than what would have been conveyed by terming it a branch. It was decided to name the Association the "Ceylon Association in London," and as the fundamental principle of its constitution it was laid down that it was "formed for the purpose of acting in correspondence with the public bodies in Ceylon for the protection and furtherance of the interest of the colony." Now, I make this remark because in a letter very recently received from the Planters' Association in Ceylon we have been termed "a branch of the Planters' Association in Ceylon." I think you will agree with me that we cannot accept that position. (Hear, hear.) When this Association was founded, the gentlemen who founded it, headed by the late Right Honourable Sir Wm. Gregory, laid it down distinctly that it should be perfectly independent of that body as far as its constitution was concerned. So I correct the error—which has, I believe, crept into the correspondnce now for the first time. (Hear, hear.) The functions of an Association, such as ours is, is are various. Primarily, I think, it was necessary to establish such an Association in order to provide a fixed and central place in the City of London, where all who are interested in Ceylon, and those who wish to acquire a knowledge of the colony's affairs, might be provided with the most reliable information which it is possible to obtain. At a time like the present, when the public mind is filled with thoughts of a closer alliance between the colonies and the mother country, it is essential to have such a place in the metropolis of the Empire. (Hear, hear.) We are here, also, to safeguard the commercial interests of the merchants and planters of Ceylon, and to act in harmony with the Indian Association and any other Associations of a kindred character whenever our and their interests may be common. We are also here to support any good and useful measures relating to Ceylon, or, if need be, to oppose any measures that we think may prove detrimental to the best interests of the colony. If these, then, are our objects, and while we keep them in view, I think we cannot possibly be otherwise than actuated by the same motives that govern the two public bodies in Ceylon—the Planters' Association and the Chamber of Commerce—and, I may also be permitted to add, the representative press in Ceylon. (Hear, hear.) Well then, gentlemen, if our interests are always in common, I fail to see how we can act otherwise than according to our charter, which is "for the protection and furtherance of the interests of Ceylon." (Hear, hear.) I make these remarks to-day because of the criticism offered as to the action of this Association with regard to the matter which fills up such a large portion of the Executive Committee's report which is before you. I have no intention whatever of opening up a discussion on the Northern Railway, as the question of its desirability, its gauge, and its cost has, I presume—at least, we are given to understand so—been finally settled by the Secretary of State for the Colonies. But I would like to take this opportunity of correcting what I believe to be a very erroneous impression formed by Mr. Chamberlain. To the deputation which met him some time ago he said: "Perhaps the members of this deputation are not aware that the narrow gauge line would cost only 10 per cent. less than a light broad gauge railway." Now, we have had no opportunity of stating that that was an entirely erroneous impression, and I think it is right that we should do so now. . . . . With regard to the Teaand Produce Committee's report, you will find a great number of proposals were discussed, but were not brought to fruition. We have at the present time a most important proposal before us, which refers to the abolition of the draft upon tea. I do not think I need at this time say anything with regard to the proposal, but I understand that it is the desire of both the Indian and Ceylon Associations that before any action is taken, and when the reports have all been received from Calcutta and Colombo, we should meet the committees of the Dealers' Associations and hear what they have to say upon the subject; and then I think it would only be right for a general meeting of importers to finally decide the course we ought to take. The assents to the proposal received from the importers in London have been far more than the committee were led to expect, and when we receive the further approval from Calcutta and Colombo, I think it will be practically unanimous. A general meeting of those concerned would, I think, be commendable to your acceptance, as it would be unwise to act precipitately in a matter of such vital importance to the tea interests. (Hear, hear.) With regard to the accounts, I need say nothing except that they show we are in a very flourishing condition. I only trust the year's work which is before us will be effective, and will produce the best results to this Association and to Ceylon generally. (Hear, hear.) I move that the reports and statement of accounts be adopted.

Mr. J. L. Shand: Knowing the value of time in the City of London, I would second the adoption of the report without comment, were it not that I think the occasion demands a little plain speaking. Our Chairman has told you the origin of this Association, and what it represents, and I would only endorse what he has said, that with every desire to co-operate with the representative public bodies in Ceylon, it is quite impossible that we can accept the position of a branch of the Planters' Association in Ceylon. We desire strongly that the initiation of any public movement should come from Ceylon, and we feel how much our strength is increased by our having the full weight of the public bodies in Ceylon at our back; but we cannot accept the position of being in any way subordinate to any public body in Ceylon, nor can we give up our right to initiate if we consider it necessary to do so. (Hear, hear.) . .

Mr. Thornton Williams said he hoped that the next time a deputation from the Association waited upon a Colonial Secretary, that gentleman would not be just recovering from the gout. (Laughter) According to the newspapers, Mr. Chamberlain was just getting over an attack of gout when the deputation met him. The speaker then dealt at some length with the proposal to abolish the 1lb draft allowance on tea sales, urging that the dealers should have been consulted before any action was taken in the matter.

The Chairman pointed out that no action had as yet been taken beyond ascertaining the wishes of the importers, and, as he had already stated, a meeting with representatives of the dealers will be held before a decision is arrived at.

The motion for the adoption of the reports and accounts was carried unanimously

The Chairman: The next business is the election of your President for the year. With your permission I will read a letter that the Secretary has received from Lord Stanmore:

"Toulouse, June 9, 1899.

"My dear Mr. Leake,—Will you kindly express to the meeting of the Ceylon Association in London my sincere regret that my absence from England prevents my being present at it.

"I have often said that it might be better for the Association to have a younger and more active President, and such is still my opinion; but I confess that under present circumstances I should regret the severance of my official connection with the Association, and therefore, should its members be willing to re-elect me I shall be happy to serve as President for another year. (Applause)

"Again expressing my regret that circumstances should prevent my being present at the meeting, which will, I trust, be a harmonious and satisfactory one. I remain,

"Yours very truly,

"STANMORE."

Mr. Henry Bois: I have much pleasure in proposing that the office of President shall again be filled by Lord Stanmore. (Hear, hear.) It is unnecessary to speak at any length to the nomination, and I do not intend to refer in detail to what has taken place on the Northern Railway question. But as his action has been the subject of some amount of undeserved and indiscriminating criticism,—I should like to say that the impartial, temperate, and dignified position Lord Stanmore has taken up under the somewhat difficult circumstances of the last few months entitles him to the renewed confidence of this Association—(hear, hear—and also adds to the debt already due to him for the interest he has taken in our affairs for a long series of years. (Applause.) As to whether it is desirable that Lord Stanmore, as an ex-Governor, should be President of this Association, I should like to say that from the Association's point of few his connection with us as our President is very valuable. A large proportion of our members are connected with the planting industry, and our representations are liable at tmes to be suspected of being made in our own interest. It is therefore important that we should have as our President one who cannot be suspected of anything but the most absolute impartiality, and we cannot hope to find anyone more impartial than an ex-Governor, who for many years so ably looked after the interests of all classes of the community in Ceylon. (Hear, hear.)

Mr. A. W. Stopford Sackville: I have much pleasure in seconding the proposition that Lord Stanmore be re-elected President of this Association. Every one of us knows the services he has rendered to all classes in the colony. (Hear, hear.)

The proposition was carried unanimously.

Mr. Sholto G. D. Skrine: I propose that Mr. H. K. Rutherford be re-elected Vice-President of the Association. (Applause.) It is unnecessary to say anything in favour of the proposal. W could not have a more competent, a more hard-working Vic President, or one in whom we should have more complete con dence, than Mr. Rutherford. (Hear, hear.)

Mr. W. S. Bennett: I have much pleasure in seconding We a know Mr. Rutherford's worth, and his capacity for hard work.

The proposition was unanimously agreed to.

The Chairman: I thank you, gentlemen, for re-electing me. had begun to think of retiring—(no)—but as it is your wish I hav much pleasure in accepting office again. (Hear, hear.)

Mr. J. L. Shand: There is another office-bearer about whom could say a good deal, and that is our Secretary. (Applause.) think all through this somewhat acrimonious correspondence abou the Northern Railway that has been forced upon him he has show that dignity and that temper which we all know him to so eminentl possess. (Hear, hear.) He has had several hard things said abou him, which he laughed at as we did. But he had a nice thing sai about him by the "Ceylon Observer" a little while ago, for he wa spoken of as "the indefatigable guardian of Ceylon interests i London." (Hear, hear.)

Mr. Ralph A. Cameron: I second the proposition with grea pleasure. The services Mr. Leake has rendered have only bee emphasised during the late criticisms. (Hear, hear.)

The proposition was unanimously agreed to.

Mr. W. M. Leake: I am much obliged to you, gentlemen. As rule we have said of ourselves at these meetings, "Happy is th Association that has no history." (Laughter.) A change has com over the spirit of our dream; and we have had during the year le tures from a Secretary of State, from a Governor, from two impo tant Associations, and now, finally, we are confronted by an "astound ed" Lord Mayor. The immediate effect on me of these things h been refreshing feeling of youth and inexperience such as I hav not tasted for years past. (Laughter, and hear, hear.)

The Chairman moved, and Mr. John Hamilton seconded, and was carried that the Executive Committee be re-elected (Mr. W Herbert Anderson, Mr. Henry Bois, Mr. Alexander Brooke, M R. A. Cameron, Sir G. W. R. Campbell, K.C.M G., Mr. F. H. M Corbet, Sir Richard Cayley, Sir John Grinlinton, Mr. John Hamil ton, Mr. W. Rollo, Mr. A. W. Stopford Sackville, Mr. J. L. Shand Mr G. A. Talbot, Mr. W. J. Thompson, jun.); and that Mr. Sholt G. D. Skrine be added to the Committee.

Mr. Leake moved that the Tea and Produce Committee be re-elec ed. He said it was an important committee at the present juncture for, as Mr. Thornton Williams had said, it had an ardous duty to pe form. The draft allowance question would need much tact an quiet treatment if it was to be satisfactorily settled. The Asso ciation hoped to meet the dealers in the most amicable way poss ble. (Hear, hear.)

The motion was agreed to.

The proceedings closed with a vote of thanks to the Chairman proposed by Mr. A. Brooke, who said he was rather disappointe to hear that afternoon that the Northern Railway question migh be regarded as closed. A letter in the "Morning Post" from Lor Stanley of Alderney had led him to think that the question wa still undecided.

THE INDIAN TEA ASSOCIATION (LONDON).

The following is an abstract of the proceedings of a meeting o the Committee held on Tuesday the 13th ultimo:—

Present:— Messrs. W. H. Verner (in the Chair), A. Bryans, G W Christison, D. Cruickshank, R. Lyell, J. Riddell, A. G. Stanto C. C. McLeod, J. N. Stuart, and R. G. Shaw. The minutes of th last meeting, held on Thursady, May 25, 1899, were read by th Secretary and confirmed.

Correspondence with Calcutta, which had been previously ci culated to the members, was laid upon the table.

Labour Question.—A letter, enclosing circulars of the Centra Recruiting Agency and minutes of Board of Management meetin received from Mr. H. C. Begg, Calcutta, was read by the Secretar and it was resolved that the Secretary should again address thos companies which had not yet signified their approval and elic their views. The Secretary was also instructed to write to Ca cutta, stating that the Committee is almost unanimously in favou of the Central Recruiting Scheme, but that in case the suppor required by the Calcutta Committee be not attained efforts shou

e made to induce Government to follow the Central Recruiting Association's scheme, as far as possible, and obtain a close time for Arkatti recruiting.

OCEAN FREIGHTS.—After some discussion, it was resolved to bring his matter before the annual meeting, so as to decide whether notice should be given to the Calcutta Steam Conference of the ermination of the agreement.

WORK IN AMERICA.—Mr. Mackenzie's proposal to continue the oint advertising work to some slight extent during July and August was agreed to.

PARIS EXHIBITION, 1900.—Progress of arrangements for securing additional ground at the Paris Exhibition was reported; a fresh plan submitted and approved.

PROPOSAL *re* 1-LB. DRAFT.—A special meeting of the Joint Committees was to be arranged as soon as possible.

It was noted that adhesions to this scheme to date amounted to 22½ million lbs. (Indian).

ERNEST TYE, *Secretary.*

STRAY NOTES ON MANURES.

Value of deep-rooted Plants.—Prof William P. Brooks, Massachusetts, writes:—Many of the most valuable green manuring crops are distinguished by the fact that they send their roots into the soil to an enormous depth. Such crops are highly beneficial in two ways: First, they bring up from the subsoil food not available to ordinary crops, but having been thus pumped up, as it were, they become available to succeeding shallow-rooted crops; second, it has been found that crops which are ordinarily shallow-rooted send their roots much deeper than usual when they are made to follow a deep-rooted, green-manuring crop. Thus, for example, Schultz-Lupitz has noticed that the roots of the potato which ordinarily develop almost entirely near the surface, penetrate deeply into the ground after a crop of lupines, following the burrows left by the decay of the roots of the lupines. This renders the potato less liable to injury from drouth, increases enormously the store of food within reach and so makes the crop more certain and larger.

Green Manuring may be the means of cleansing the field from weeds, for which purpose, of course, only the crops of the most rapid growth are useful. It increases the store of organic matter in the soil, and so furnishes the conditions favorable for the multiplication of earth worms, and these, as Darwin has pointed out, by their activities improve the soil in many ways, most important among which are better aeration, bringing of the finer materials to the top, pulverization and increased solubility of its constituents.

Uniformity of Nitrate of Soda.—In the analysis of Commercial fertilizers, nitrate of soda is always found quite uniform in its composition. The samples contain from 15 to 16 per cent. of nitrogen, in other words the nitrate it contains varies from 95 to 97 per cent. of pure nitrate. In 1898 analyses made by the New Jersey station there was one exception. A single sample contained as low as 12 per cent. of nitrogen. A search through the various records shows that this is the first sample showing such a marked inferiority. As a rule this fertilizer can be safely purchased without chemical examination The only attention that need be given is to the matter of securing it at the least possible cost. The same remarks apply to sulphate of ammonia, which, however, is not widely used.

Fresh Manure may with advantage be used for crops which have a long season of growth, while rotted manure, with its more available plant food, will give better results for such as gather their food and reach maturity during a shorter period. Excess of fresh manure tends to rankness of growth and the undue development of foliage, and is frequently the cause of lodging in grain and too much top or leaves in root crops

Seaweed as Manure.—An interesting paper upon seaweed as a manure is contributed by the Chemist of the Royal Agricultural Society, England, in which he explains that seaweeds generally are most valuable for manure, but there are differences in the percentages of dry matter and in the constituents. Nearly all the seaweeds contain in their original condition nitrogen in the organic form, not immediately available to plants; but the weed speedily decays and undergoes nitrification. The manure is very rich in potash, but poor in phosphates.

Phosphatic Fertilisers.—"Does the application of phosphatic fertilisers impoverish the land?" was a question put to the Government Agricultural Chemists of South Australia at a recent meeting of farmers, and the reply was," No. By adding phosphates where there is a deficiency of phosphoric acid in the soil, but not a lack of potash and nitrogen you enable the soil to produce a full crop in place of a deficient crop, and naturally so much more potash and nitrogen is removed with that extra amount of grain. If the phosphatic manure were not applied the increased crop could not be produced, and therefore the extra potash and nitrogen would not be taken out of the soil. In time, through the use of phosphates and the production of heavier crops, the supplies of potash and nitrogen would, of course, be diminished, and then it would be necessary to apply manures containing those substances."

Destroying Disease Germs in Manure.—By sprinkling manure with a 5 per cent. solution of ferrous sulphate disease germs and denitrifying organisms are destroyed in a very effectual manner.

Factors determining the value of Cattle Manures.—Food is the most important factor and the richer it is the better the manure. The quantity produced by any number of animals will depend largely upon the amount of food and water consumed. Manure from mature animals, other things being equal, is richer than from young animals; also animals producing wool, milk, etc., make a greater draft upon their food than fattening stock or those which are mature and at rest. The manure from these animals is not so valuable.

Permanent Enrichment of the Soil.—Mr. I. F. Tillinghast, Pennsylvania, says:—Whatever your crop, and regardless of the cost of production, as a rule, maximum yields afford a much greater margin of profit than minimum. To grow big crops requires rich land. Rich land and big crops will tend to make a rich man richer. Poor land and poor crops will make a poor man poorer. Then the question every farmer must put to himself is, How can I enrich my land at the least expense? I think I can answer this question with one word—clover. Start a rotation which will bring clover as often as every fourth year, and your land will continually grow richer and your crops better, and consequently your profits greater.

Not only do the clover leaves draw nitrogen from the atmosphere and enrich the soil, but the long roots penetrate deeply and draw up fertility from the subsoil below. Then the dense shading which the clover crop gives the soil through the fall and winter in some way adds fertility.

THE COFFEE INDUSTRY IN QUEENSLAND.

The *Cairns Argus* says:—The coffee industry has, of late, been attracting no small amount of interest. The perusal of periodicals and papers from all parts of the world, where coffee is already an established industry or is—as we are to some extent here—feeling its way, will show this. The great interest in this subject prevailing locally is due, to a great extent, to the presence in our midst of Mr. Newport, the Government Expert. On looking up his appointment in the *Government Gazette*, by the way, we see that his official designation is "Instructor in Coffee Culture." This looks and sounds well, but is rather a mouthful and, we note, has already been abbreviated into "expert." Brevity is the soul of wit—we don't know that North Queensland is given to wit—but we are accustomed to experts. And Mr. Newport will have to accept his abbreviated title. At the present time coffee culture in this district is drawing upon itself the eyes of the whole colony, and thereby the criticism of the public. Well, so much the better for it. If an industry cannot stand criticism, it cannot be worth much, and we cry welcome to the criticism of our methods and results, our victories and failures from the other coffee centres of the colony and the world, knowing that nothing but good can come of it. And with the confidence we have in this industry, we know that it will hold its own and steadily come to the front. There has been a slump in the coffee market lately, just as there was in flour two years ago in New South Wales, but we notice that coffee fluctuates pretty much as other such commodities do, and, in so doing, it will find its own level. Owing to the large output of Brazilian coffee not coming up to the estimated quantities, there is, we consider, a probability of a rise in prices again before very long. We note that the Southern Indian and Ceylon Industrial organs are, while observing this same point, taking a much more happy tone in their dis-

cussion of the question. Our coffees here do not head the market; but we think none the worse of the industry for this. We cannot expect it to run before it can walk; it can hardly expect to leap to the top of the tree at a bound, and admitting its errors, and learning by them, it must just work on to improve its quality as well as its quantity. One thing it will always have to buoy it up in its fight, and that is the fact that experts have pronounced the Queensland coffee as being, on analysis, as good as any grown elsewhere. In short, we think there is a good time coming—in fact is almost in sight already—and the endeavors of the growers must be, not to give up at the present look of low prices (they are no lower than they have been for the past five years or so), but to improve their methods of cultivation and thereby cheapen the cost of production, and make use of the expert's knowledge now given to them and to at the same time improve the quality of the marketable article so as to get higher prices. There is no doubt that the Cairns grown bean is excellent, and must come out not very far from the top on its analytic merits, if not from the size of its bean. The coffee season is now in full swing, and it is much to be regretted that the services of Mr. Newport are not available to go round and give advice and to set the growers straight where they may be going wrong. It must be excessively galling for the coffee growers, when, after years of agitation, they have at last had an expert given to them (and one that seems, judging from what we can see and hear from our editorial chair, to have gained the confidence of the growers even from the little time he has been able to attend to them), to have to stand by and see him used by the Department on other works, while they are perhaps losing the best part of a year's work in qualifying for low prices instead of high by methods of curing that he could advise on and improve upon for them. We are quite in sympathy with them in this. Agitations are being conducted from several sources to relieve him of his Fruit Inspection Duites—which now tie him to the wharfs of this town—and to allow him to go on with the work so well begun. The advantages of his being able both to make his head-quarters here, and to devote his time and attention and energies to the promotion of the industry, are too obvious to need reiteration or further comment. At a meeting held at Kuranda on the 10th May, the new "Cairns District Coffee Growers' Association" was formed. It was well attended—some 29 planters being present in person and some others, we understand, having written desiring to be enrolled. The movement, in fact, seems to have been the result of Mr. Newport's suggestions to some few of the growers a movement that has shown itself a popular one—and the action in forming the Association was practically a unanimous one among the growers. The larger plantations (including, we are proud to think, the largest in Queensland) were represented as well as the smaller, and the result of the meeting, we think, augurs well for the success of the scheme. At inaugural meetings of this nature, a great deal of talking and discussion is indispensable. They seem to have formed themselves into an Association on a few rules, and left the formation of the rest to a Committee. The Committee wasn't to be left far behind however, and in the accounts given of the meeting, the Committee's proceedings with the rules they passed are included in the report of the first meeting. The actual business of the meeting was the passing of some three resolutions:—(1) The supporting of the Chamber of Commerce in the action it took in asking for a rise in the import duty on coffee, (2) Supporting the Association in requesting the appointment of an independent Fruit Inspector to relieve Mr. Newport, and (3) a deputation to meet the Minister when he comes up here. The action of the young Association in endorsing the action of the Chamber of Commerce in two out of the three definite resolutions passed is, perhaps, worthy of a note or two. As a young Association, acknowledging and respecting its older relative, we congratulate the new Coffee Growers' Association on the very sensible way in which it has decided to endorse the action its more powerful senior has already taken in matters that affect itself. In course of time, however, we hope to see independent action, as we certainly think there is room for an Association as has just been formed. It must be borne in mind that the "big fellow" Chamber of Commerce must perforce look at things in a much wider light than the coffee growers. Take the question of Mr. Newport's work for instance, while the public may be asking why is Mr. Newport doing work that a man with half his salary could do as easily—the Chamber of Commerce must look at it from the point of view of the shippers, agents and the town's good, and ask why, if this thing has to be, is it that we have not an Inspector, always and at any time available, and who has no other duties the same time. While the coffee growers, in minding their o business, must look at it from their point of view, asking where our Coffee Expert? The Chamber of Commerce is doing excell work in its own line, and is now the older as well as the larger I titution. The Coffee Growers' Association will undoubtedly g in course of time, and be larger and more powerful as it gr older, and though it may never be as great and could never co in opposition to it, we would like to see it going hand in hand w the Chamber of Commerce and would condemn any tendency to come a mere perpetual sub-committee on coffee of the Chamber Commerce. Co-operation is always good, and we welcome new Coffee Growers' Association as being a sign of a good a healthy condition of our young industry. With this as a sign the times and the first fruits of the expert's services, we think th with an energetic and competent officer, such as Mr. Newp appears to be, holding this appointment, the industry will go stea ly ahead. We heartily congratulate the young Association is formation and wish it a prosperous and useful career.

COFFEE IN QUEENSLAND.

The following is, so to speak, a sequel to the article we publis last week about a new "Coffee Roaster." We quote from *Cairns Argus.*

We are indebted to Mr. Hepburn for the following informati which we gladly find room for:—

I left by rail for Kuranda on Monday morning, 22nd instant, companied by Mr. Mayers, President of the Cairns District Co Growers Association. Mr. Newport was also in the train, but out at Redlynch. It had been arranged that I should stop Redlynch on my return, to meet Mr. Newport there, and go or the Kamerunga State Nursery. I proceeded to "Glencair Mr. W. A. Mayer's estate. On Tuesday I went to Mr. Stree estate, "Fernhill," and on Wednesday to Mr. Hannam's est Myola. I made a second visit to each of the estates named, and Saturday last, while at Myola, Mr. Hannam made the first of patent rakes for working purposes, and used it with satisfacti I may here state that each of the gentlemen abovementio obtained from me the right to make the rakes for his own use o My principal interest being connected with the mode of drying coffee after pulping, I find that the sun does that duty at Gl cairn; at Fernhill the coffee is partially sundried, then comple by artificial heat. Mr. Street is a practical planter, and goes in any improvement to hasten the drying process, and he will use patent rake in both processes with economy of time and labor w efficiency. It will be of general interest to state that Mr St has, by his combined process dried the coffee on his trays u three days. His trays are of a very handy size to manage, be made of wood and perforated zinc, the inside measurement is 2 wide, 34 in. long and 4 in. deep. He puts a thin spread of co when in the sun, but increases the depth to $1\frac{1}{4}$ in. when placed side the furnace.

At Myola, Mr. Hannam, up to the present, has sundried, being a very enthusiastic planter he intends erecting some hea apparatus to be up-to-date. On all of these estates, Mr. Newp has already left his mark, and I can sympathise with the plan who are unable to obtain his services as soon as they would des but all in good time. The coffee tree grows most luxuriantly h the production per tree is simply astounding to planters and oth whose experience has been gained in other countries. Everyt tends to prove that Australian coffee, or at any rate North Que land coffee has its own peculiarities of growth. A superabund crop is produced, and the picking season goes on intermitt from about the middle of March to August. The cured b small, but with scientific instruction this is likely to increase. "up-to-date" planter will introduce all appliances to expe drying, but will give stern orders to the pickers to pick only cherry, and see that his pulper does not cut the parchm Attention to these points spells "success and profit," and grower who does not attend to these matters—whether he is gr ing a small patch or an extended area—will find that he mistaken his vocation.

The Hon. R. De Moleyns informed me that on his estate (about 80 acres), extensive artificial heating apparatus is put The same thing also applies to Mr. Lewis' estate, of about 2

The mildness of the climate here under a tropical sun is shown in the richness of the vegetation all around Cairns, at only a few feet above sea level. In the corresponding latitude of the Northern hemisphere, say in the West Indies, the vegetation on the coast suffers by a burning sun. To conclude. permit me to say that if your coffee is properly cured before being put on the market, it will be able to hold its own with the best grades of other coffee producing countries.

DISTRICT ASSOCIATIONS.

SHEVAROY.

PROCEEDINGS of a Quarterly General Meeting of the Shevaroy Planters' Association held in the Victoria Rooms, at 2 p.m., on Monday, the 3rd July 1899. PRESENT:—Rev. M. Andersen, Messrs. Thurston Short, C. A. G. Turner, C. Rahm, E. Dickins, C. G. Lechler (*Chairman*), Rev. J. M. Kempf, Messrs. J. C. Large, W. Rahm, S. Campbell, T. B. Nicholson, and R. Gompertz (*Honorary Secretary*).

1. *Read* Circular 65/99 of 9th ultimo from Secretary, U. P. A. S. I., enquiring what quantity of Basic slag has been imported by members of this Association.

Resolved, that Honorary Secretary be requested to inform him that only 12 tons of Basic slag has been imported direct by members of this Association; but that a good deal of it has been purchased from estate agents, *viz.*, Messrs. Arbuthnot & Co. (Kallai Works), and Messrs. T. Stanes & Co., and Peirce, Leslie & Co., of Coimbatore, who will no doubt furnish the quantities they have sold themselves.

2. *Read* Circular 68/99, dated 16th June, 1899, from Secretary, U. P. A. S. I., forwarding proposed Agenda paper.

Resolved that the Chairman and Honorary Secretary of the Shevaroy Planters' Association be elected delegates to represent this Association at the General Meeting of the U. P. A. S. I., to be held on the 14th proximo.

Resolved, that the Secretary, U. P. A. S. I., be requested to add "advertising Indian coffee" to the Agenda paper; and that he be informed that this Association is desirous of sending a sample of Shevaroy Hills' coffee to the Paris Exhibition, weighing about 40 lbs. (which, including the box containing it, will probably occupy, say, two cubic feet), if space can be afforded them in the tea and coffee-room.

3. *Read* letter, dated 27th ultimo, from the Traffic Manager asking for statistics of traffic on the Ghaut road.

Resolved, that the Honorary Secretary be requested to send him a copy of the statistics lately obtained with reference to the proposed Ghaut road, at the same time informing him that, in the opinion of the Association, the figures given are very much under the mark.

Read and *recorded* the following letters:—

44/U.W. Circular from the Secretary, U. P. A. S. I., regarding the Rs. 500 voted from the Reserve Fund to meet the expenses of Mr. Cameron's visit to Coorg.

45/U.W. Circular from the Secretary, U. P. A. S. I., regarding the import duty on Basic slag.

46/U.W. Circular from the Secretary, U. P. A. S. I., regarding the I. T. A. and the Paris Exhibition, and requesting to be informed as to what sum the U. P. A. S. I., are prepared to spend in conjunction with the I. T. A. in opening a coffee and tea-room.

47/U.W. Circular from the Secretary, U. P. A. S. I., informing that it has been decided that the next *Annual Meeting* of the U. P. A. S. I. shall be opened at the Cubbon Rooms, Bangalore, at 2 P.M., on Monday, the 14th August, 1899. A Committee Meeting will be held at 11 A.M. on the same day, and requesting to be furnished with a list of our delegates and also with a note of any special subjects which our Association would wish to be added to the Agenda paper at end of Circular.

48/U.W. Circular from the Secretary, U. P. A. S. I., regarding stamp duty on Crop Hypothecation deeds

40/U.W. Circular from the Secretary, U. P. A. S. I. *The Paris Exhibition, 1900.* District Associations are requested to submit recommendations, suggestions, etc., regarding the offer of Government in respect of certain space in the Indian Imperial Court of the Paris Exhibition.

Letter from John Haddon & Co. giving market prices of coffee, and requesting that produce may be entrusted to them for sale.

The following papers were laid on the table:—

Produce World, 5 copies, dated January 6th, February 3rd, March 3rd, April 7th, and May 5th, 1899.

Planting Opinion, 3 copies, dated June 10th, 17th and 24th.

Agricultural Ledgers No. 4 (Ragi).

Proceedings of the Lower Pulneys Planters' Association, Dindigul.

Proceedings of the Wynaad Planters' Association.

Appendix II, List of plants seen while touring in the Province of Coorg, November, 1898.

Two copies of the Journal of the Royal Agricultural Society of England.

(Signed) C. G. LECHLER,
Chairman.

YERCAUD, *4th July* 1899. } (,,) ROBT. GOMPERTZ,
Honorary Secretary.

CENTRAL TRAVANCORE.

The Quarterly General Meeting of this Association was held at the Pambanaar Bungalow, on Thursday, June 29th, 1899:—PRESENT:—Messrs. R. H. Goldie (*Chairman*), G. L. Acworth, R. W. Cole, (by proxy), H. D. Deane, F. Bissett, H. M. Knight, B. Laurie, W. H. J. Leahy, J. E. G. Pigott, E. Lalter, and A. E. Veale (*Honorary Secretary.*)

The Chairman, Mr. R. H. Goldie, said before proceeding to the ordinary business of the day he had two very pleasant duties to perform, the first was to tender a very cordial welcome to Mr. G. L. Acworth on his return from England. Mr. Acworth had always taken a very keen interest in the Association and he had lately represented S. Indian Planters before the Currency Commission as ably as he had many times represented this Association at the annual meetings of the U. P. A. S. I.

The second duty was to propose a very cordial and hearty vote of congratulation to Mr. F. A. Nicholson, the Acting British Resident in Travancore and Cochin, on the well-earned honor which had recently been conferred on him. The proposition having been duly seconded was carried unanimously.

The minutes of the last meeting were taken as read.

Read letter from the Dewan *re* Outlet roads.

After some discussion on the subject, Mr. Acworth proposed and Mr. Leahy seconded the following resolution:—"That this Associ-"ation after discussing the matter consider that it was customary "to grant roads in the past to land bought from H. H. Government "for coffee and tea cultivation and that they request Mr. Knight, "who is proceeding to Trivandrum, to interview the Dewan on the "subject." Carried *nem. con.*

Read and recorded letter from Chief Secretary to Madras Government in *re* the Pulliar Suttu Bridge on the Kumili Ghât.

The Honorary Secretary informed the meeting that the Bridge was now in good order.

Read and recorded letters from the Dewan and Chief Engineer in *re* erection of a covered landing stage at the Kodimatha landing place at Kottayam.

Resolved "That the subject be again brought to the notice of the "Dewan at some later date."

Read copy of a letter from the 1st-class Magistrate to the Cardamom Hill Superintendent *in re* removal of the Pambanaar Arrack Shop.

The Honorary Secretary informed the meeting that Mr. Sealy had promised to advise the Dewan Peishcar of Kottayam to cancel the license for this shop; but up to date he had not heard if this had been done.

Resolved "That the Secretary do address the Cardamom Hill "Magistrate on the subject without delay."

Read and recorded with satisfaction letter from the Dewan notifying that Messrs. Goldie, Laurie, Leahy, Deane, and Veale had

been empowered to exercise the powers under section 4 of the Travancore Game Perservation Regulation.

Resolved "That the Dewan be requested to confer similar powers "on Messrs. Acworth, Holder, Barett and Latter, as this Association "do consider the present number insufficient for the adequate protec- "tion of game."

Read and recorded letter from the Postmaster-General in *re* the affixing of senders names to Postal receipts.

Read Honorary Secretary's letter No. 125, dated 23rd April to Cardamom Hill Magistrate in *re* local Magistrate.

Read Local Magistrate's letter in reply.

The Chairman moved and Mr. Veale seconded the undernoted resolution "with reference to the resolution—That the Honorary "Secretary do write to the Cardamom Hill Magistrate with reference "to the manner in which Europeans are treated by the local First- "class Magistrate when attending his Court, which was passed "at the last general meeting of the Association held on 8th April, "the Association having made fuller enquiries find that the charges "made could not be substantiated and regret that they should "have taken action in the matter." Carried *nem. con.*

It was also resolved that a copy of the above resolution be sent to the local Magistrate.

Read letter from the Cardamom Hill Magistrate in *re* the Cattle Pound to be erected at Kuttakarnum.

Mr. Deane expressed his willingness to erect the Pound on the conditions named and promised to inform the local Magistrate when the Pound had been built.

The Honorary Secretary briefly stated the correspondence that had passed between the British Resident and himself with reference to the procuring of carts for the Resident's use on his visits to these hills.

The British Resident had undertaken to employ Mr. P. John as his agent and to ask all other European officials in the Government service to do the same.

Read and recorded with satisfaction letter from the Dewan authorizing members of this Association to pay their taxes into the local treasury by cheque instead of as heretofore in cash.

Read letter No. 163, dated 24th May from the Honorary Secretary to the Chief Secretary to Madras Government in *re* the disgraceful state of the Kumili Ghât Road.

The Honorary Secretary stated that the road was still in bad order and that he was still in correspondence with the Madras Government on the subject.

Read Circular letter from the Honorary Secretary calling for subscriptions to the American and Continental Market Fund.

The Honorary Secretary expressed a hope that all members would again subscribe as liberally this year as they had done in the past.

It was true other Associations had not subscribed as liberally as they might have done, but that was no reason why they should stop doing so. He reminded members that their late Chairman, Mr. F. M. Parker, had on one occasion counselled them to go nap for all they were worth on the American Market Fund and he (the Secretary) thought no better advice could be followed.

It was, he said, essential to find new markets for our tea if the industry was still to remain a profitable one, production was still on the increase though, less so than in previous years.

Mr. Acworth, in endorsing the remarks made by the Honorary Secretary, mentioned that the consumption of tea in the United Kingdom had almost reached its limit and the importance of finding new markets for our tea was thus very great. He also drew attention to the fact that Messrs. Gow, Wilson and Stanton had recently stated that no less than 50 million pounds of tea had been relieved from the London market owing to the action of the Ceylon Planters and Indian Tea Associations.

It was resolved "That this Association do agree to support the "Indian Tea Association in their Foreign Market Fund."

It was also resolved "That the Honorary Secretary do write to the "Honorary Secretaries of the Travancore Planters' Association and "Kanan Devan Planters' Association asking them if they had sub- "scribed and to ask them to support the Fund."

U. P. A. S. I Delegate.—Mr. Veale proposed and Mr. H. M. Knight seconded "That Mr. Acworth be elected to represent this Associa- "tion at the forthcoming annual general meeting of the U. P. A. "S. I. to be held at Bangalore, on 14th August." Carried *nem. con.*

Proposed by Mr. H. M. Knight and seconded by Mr. Deane "that "Rs.150 be allowed Mr. Acworth towards his expenses."

Bolted Coolies.—Mr. Leahy proposed and Mr. Veale seconded "That no Superintendent, writer, or cangany should take on "Cangany or Moopen in this District without first receiving "a 'tundu' or discharge note from the estate he was leaving and which "must be signed by the Superintendent thereof" After some discussion as to the usual method adopted by members of this and other Associations in such cases, the resolution was carried *nem. con.*

Seizure of Carts by the Cottayam Kotwal.—Mr. Deane proposed and "Mr. Pigott seconded, "That this Association do call the Dewan's "attention to the continual seizure of carts by the Kotwal at "Kottayam and respectfully ask him to intimate to the Association "if the Government of Travancore supports this illegal action of "their officials whenever any one in authority travels." Carried with one dissentient.

Labour Rates.—Mr. H. M. Knight drew attention to certain rates of labour in the district and after a protracted discussion, it was resolved, "That a Sub-Committee consisting of Messrs. Goldie, "Acworth, Leahy, Deane, Laurie, H. M. Knight, Latter and the "Honorary Secretary (*ex-officio*) be appointed to draw up a scale of "rates for labor and artisans and that the same be printed and "circulated for information of members."

Paris Exhibition.—Read letter No. 62/99 from Secy. U. P. A. S. I.

Resolved "That this Association delegate be given full powers to "act in this matter."

Resolved "That this Association will send an exhibit through the U. P. A. S. I.

Read letter from the President of the Travancore Government Paris Exhibition Committee.

Mr. Deane suggested that every estate having a factory should send samples of tea to the President of the Committee to be forwarded by him to the Paris Exhibition, provided that the teas would be shewn in a suitable case.

Mr. Deane, who said that he had often exhibited teas at Exhibitions, explained what was usually done and stated the means by which he thought an effective display could be obtained.

It was resolved "That a Sub-Committee consisting of Messrs "Goldie, Acworth, H. M. Knight, Laurie, Leahy, Deane, Cole, "Latter and Pigott be appointed to decide on details and arrange "that the samples sent should be as uniform as possible."

Resolved "That Mr. H. M. Knight do call on the Government "Committee and make such arrangements as may be deemed "necessary."

Transit of Goods from Shoranoor to Kottayam.—Mr. Laurie proposed and Mr. Acworth seconded, "That the Honorary Secretary "do correspond with the Shoranoor Transit Agent with a view "to obtain cheaper rates of freight from Shoranoor to Kottayam "than are at present obtainable by Transit boats." Carried *nem. con.*

Munsif's Court.—Mr. H. M. Knight proposed and Mr. Acworth seconded, "That H. H. Government be asked to establish a "Munsif's Court in this district." Carried *nem. con.*

It was further resolved, "That Mr. Knight, while in Trivandrum "be asked to interview the Dewan on the subject."

With a vote of thanks to the Chairman and Honorary Secretary the meeting terminated.

PAPERS LAID ON THE TABLE.

Indian Tea Association, Report of the General Committee.
Do. Proceedings of the Annual General Meeting
Do. do. of a General Committee Meeting held on 10th April.
Do. Crop returns for March.
Do. Advertisements from Mr. Blechynden.
Mr. Cameron's Report of his visit to Coorg, Appendix II.
Proceedings of the Wynaad Planters' Association.

Do.	Lower Pulneys	do.
Do.	Shevaroy	do. (4)
Do.	Nilgiri	do.
Do.	South Mysore	do.
Do	North Mysore	do.
Do.	Coorg	do.

Travancore Government Gazette, Vol. 37, Nos. 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25.

Planting Opinion, Vol. IV, Nos. 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25.

A. E. VEALE,
Honorary Secretary, U. T. P. A.

WYNAAD.

Proceedings of Committee Meeting of the Wynaad Planters' Association held at Perindotty, on 28th June 1899.—PRESENT :—Messrs. J. W. Hockin (*Chairman*), M. Douglas Taylor, H. B. Winterbotham, and E. de Fonblanque (*Honorary Secretary*).

Proceedings of last Meeting.—The Proceedings of the last Meeting were taken as read.

District Board Member.—Mr. M. Douglas Taylor was elected Member to the Malabar District Board during Mr. R. K. Walker's absence.

Pudu Padi Postal Delivery.—*Resolved*, that the Association is prepared to pay Re.1 per mensem towards the delivery of letters at Pudu Padi.

Delivery of Postal Matter.—The Secretary was requested to find out the rules regulating the delivery of money orders, V. P. and other parcels, letters, papers, etc.

Medical Secretary.—*Resolved*, that the Doctor be requested to act as Secretary pending the decision of the next General Meeting to be held on 2nd August.

Roads.—*Read* Government Order stating that the Rs.7,250 for up-keep of the Chundale-Sultan's Battery Road shall be spent on repairing the Ghaut road.

(Signed) E. DE FONBLANQUE,
Honorary Secretary, W. P. A.

NEIGHBOUR WOLFF AND OTHERS.

ALMOST every afternoon in pleasant weather I see my neighbour Wolff sitting in an easy-chair in the shade in front of his own door. Sometimes he kills time by reading the paper, but oftener he does nothing but watch the people and the vehicles that pass. I frequently stop and talk with him a few minutes, and he appears to be grateful for the trifling attention. He is a man of about fifty, strongly and sturdily built, and to look at him you see no reason why he should not be up and about as actively as the best of us. He is intelligent and well-informed, has travelled considerably, and is a man in every way worth knowing. His ideas on finance and business seem to be clear and practical, and it strikes a stranger as odd he does not grapple with his opportunities and pile up a big fortune. Yet he never makes a motion in that direction. He lets the chances all slip by, and just sits there as though the world were no more to him than the Klondyke goldfields are to the resident population of a cemetery. Yet my neighbour Wolff knows what money is, and appreciates what can be done with it. Then why doesn't he "get a move on," as the Yankees say, and make hay while the sun shines? Take a peep at him about nine o'clock at night, when he takes his customary exercise on the pavement—the way being mostly clear of pedestrians by then—and you will need no verbal answer to the question. Stocky and strong as he appears when in his chair, he makes a poor show on his legs. Slowly, heavily, leaning hard on his thick stick, he goes to and fro a few times between the corner and his house—a distance of 200 feet may be—and then with a sigh sinks again into his chair like a man who realises he is out of the race. A paralytic stroke two years ago, and the constant fear of another—that explains it. He is one of the multitude who are in the world and not of it—as this woman was a while since:—

"From my girlhood," she says, "I was always oppressed and hindered by weakness, I was habitually tired, weary, and languid. Like all such persons I lived a kind of life to myself. All pleasures or pursuits which called for energy and vitality were closed to me. I had a feeble and fitful appetite, and what I ate gave me great pain at the chest and back, and a sense of coldness, deadness, and weight at the stomach. At times, there would be also a gnawing, sinking feeling.

"As I grew older I was much troubled with palpitation of the heart and loss of sleep. Year after year I dragged along in this miserable way, and, being too weak to walk, was drawn from place to place in a Bath chair. Every effort was made to obtain a cure. I consulted doctor after doctor, and took many kinds of medicine and treatment, but got no more than temporary relief. One doctor said my heart was diseased.

"My sister urged me to try Mother Seigel's Syrup. Without any great hopes of its effect in my case, I nevertheless procured a bottle from the Stores in High Street and began to take it as directed. The result was a decidedly improved appetite, and I relished and digested what I ate without any pain or distress following. As I continued to use this medicine the heart trouble was less frequent and finally ceased altogether. My nerves soon became stronger and I could sleep well. In a few weeks more I was *better and stronger than ever before in my life*, and have enjoyed good health ever since. My friends were almost as much surprised and pleased as I was at this remarkable result of taking Mother Seigel's Syrup, and you may make my statement public if you think it will do good."—(Signed) (Mrs.) Mary Ann Welch, 1, Constitution Hill, Luton, Chatham, February 6th, 1895.

My neighbour Wolff may or may not recover from his paralysis, but all cases like Mrs. Welch's—indigestion with consequent weakness and nervous debility—should be curable by the remedy which cured her. It opens and renews the digestion, which is the fountain of life, and puts a wholly new aspect on the world around us. From having been laid aside as cumberers of the ground, we become once more workers with others and sharers of their pleasures.

MARKET REPORT.

By Mail Advices of 16th June 1899.

COFFEE.

The *London Commercial Record* says:—The leading characteristic of the market during the week has been the unwillingness to transact business. Plantation Ceylon was generally of such poor quality that it was difficult to sell any. A large proportion of the supplies of East India failed to elicit offers, and have, in consequence, been withdrawn, so that, although the catalogues have represented a considerable weight of Coffee, the transactions are moderate; a fall of 1s to 2s per cwt. was accepted on the greater part sold. Central American growths included some parcels the quality of which attracted considerable attention, but the bulk met a continually drooping market and sold at record prices—the lowest ever known. There is no change of importance in "futures," the slight alterations which have occurred being in favor of buyers. We quote:—

London	... Santos	... Sept. delivery	...	28s.
New York	... No. 7 Rio...	„ „	...	4·80 cents.
Hamburg	... Santos	... „ „	...	28¼ pf.
Havre	... Santos	... „ „	...	34½ francs.
Holland	... Good ordinary Java	..	...	27¾ cents.

Imports, Deliveries and Stock of Coffee in London are as follows:—

		Stock.		Imports.	
		1899.	1898.	1899.	1898.
West India ...	tons	950	649	1,217	1,468
Ceylon	„	118	91	252	156
East India ...	„	5,779	2,738	8,246	5,019
Mocha	„	471	438	363	375
Brazil	„	4,572	3,141	1,959	1,949
Other Foreign ..	„	12,800	10,725	16,723	18,293
Total tons ...		24,690	17,802	28,760	27,260

		Home Consumption.		Export.	
		1899.	1898	1899.	1898.
West India ...	tons	168	217	500	938
Ceylon	„	68	81	131	98
East India ...	„	1,230	1,323	2,162	2,064
Mocha	„	329	343	70	72
Brazil	„	453	551	593	1,137
Other Foreign ...	„	5.524	4,516	7,280	7,722
Total tons ...		7,772	7,031	10,736	12,031

The preceding figures exhibit—

In the Imports an increase this year of	1,500	tons.
Home Consumption an increase of	741	„
Export a decrease of	1,295	„
Stock an increase of	6,888	„

Auctions this week have gone off as follows:—

CEYLON.—*Plantation.*—16 casks 21 barrels 110 bags only partly sold—low middling greenish 87s, bold 105s, pea-berry 96s to 102s.

EAST INDIA.—6,733 bags partly sold as follows:—*Mysore*, smalls 30s to 49s, low middling pale greenish 37s 6d to 44s, low middling colory 55s 6d to 57s 6d, middling 63s bold colory 73s 6d to 77s, pea-berry 73s to 86s 6d. *Coorg*, smalls 29s to 53s 6d, low middling 36s 6d to 45s, good hard bold gray 75s 6d, good middling blue 74s 6d,

good to fine bold ditto 80s 6d to 95s, pea-berry 74s to 98s 6d. *Neilgherry*—smalls 31s to 42s, low middling greenish to middling colory 47s to 57s, dark green to good colory bold 62s 6d to 80s 6d, pea-berry 55s to 61s. *Nellampathy*, smalls 41s 6d, low middling 52s 6d, bold 79s. *Wynaad*, smalls 30s to 39s 6d. *Naidoobatum*, smalls 54s, good bold colory 94s 6d to 97s 6d.

Jamaica.—Of 271 barrels 365 bags a small part sold—ordinary to good ordinary greenish 24s to 28s 6d, fine to fine fine ordinary greenish 32s to 38s 6d, low middling greenish 43s to 44s 6d.

Mexican.—1,069 bags partly sold—smalls 30s, good to fine ordinary brownish 34s to 37s, fine fine ordinary greenish 40s to 40s 6d.

Guatemala.—Of 3,116 bags catalogued about 2,000 bags sold—smalls 24s to 33s, fine to fine fine ordinary greenish 36s to 41s, low middling 43s to 46s, middling to good 48s to 58s, good bold blue 67s to 77s, pea-berry 41s to 58s.

Salvador.—Of 1,908 bags a small lot sold—smalls 27s to 31s, good ordinary 33s 6d, fine fine ordinary 39s 6d to 40s, middling greenish 47s to 52s, bold good colory 64s, pea-berry 50s to 61s.

Colombian.—Of 527 bags offered only 100 bags sold—smalls 30s to 35s 6d, low middling to middling 45s 6d to 53s, good middling colory 56s, good greenish colory bold 68s 6d, pea-berry 46s to 48s 6d.

Guayaquil.—137 bags partly sold—at 31s for fine ordinary pale yellowish.

Costa Rica.—537 bags mostly sold, smalls 30s to 45s, fine ordinary brownish 41s 6d, middling brownish to good middling greenish 56s to 70s, fine middling blue 94s, fine bold blue 102s 6d, pea-berry 34s 6d to 103s.

Nicaragua.—1,066 bags about half sold, ordinary 34s, fine ordinary to low middling 45s 6d to 53s, pea-berry 46s to 48s 6d.

Porto Rico.—33 bags withdrawn.

Receipts in Rio and Santos.

Since July 1	1898-9. Bags.	1897-8. Bags.	1896-7. Bags.	1895-6. Bags
Rio	3,079,000	4,223,000	3,439,000	2,303,000
Santos ...	5,427,000	6,070.000	4,991,000	2,989,000
Total ...	8,506,000	10,293,000	8,430,000	5,292,000
Crop	—	10,461,000	8,680,000	5,489,000

Rio Exchange—8 3/32d, previous day 8 1/32d.

Havre, June 15.—Santos good average June opened steady at 33½f. and closed quiet at 33½f., July opened at 33¾f. and closed at 33¾f.

Hamburg, June 15.—Good average Santos June opened steady at 27¾pf. and closed quiet at 27½pf., September opened at 28¼pf. and closed at 28¼pf.

New York, June 14.—Closing prices of No. 7 Rio were as follow:—

	June.	July.	Aug.	Sept.	Oct.
June 14 ...	4.65	4.65	4.75	4.80	4.85
June 13 ...	4.65	4.65	4.75	4.80	4.85

Prices realized at auctions for some of the principal marks of East India:—

MYSORE.

	0	1	2	3	PB	T
Cullaly △ H Mysore ...		77-0	63-0	49-0 54-6	86-6	38-6
Edwin Hunt's Arthewhully Mysore		no bid	no bid	38-6 bid	75-0	32-0
Bettadacol Mysore ...		no bid	no bid	36-0 bid	70-0 bid	31-0
Maynards Mysore RDB ◇ ...	no bid	41-6	38-6	—	no bid	27-0
Merthi Subungudigy Mysore ...	52-0 bid	41-0 bid	37-6	—	60-6 bid	32-0
Edwin Hunt's Karradi Betta Mysore		no bid	38-0 bid	36-0	no bid	25-6
Netrokul Mysore	no bid	40-6	34-0	—	no bid	26-6
Leslies Mysore	55-0 bid	41-0 bid	37-6	—	no bid	—
Maynards Mysore Walshams ...	53-0 bid	40-0 bid	35-6	—	no bid	29-6
Edwin Hunt's Karradi Betta Mysore		73-6	65-6	43-6	75-6	30-0
BSS ◇ Someswarkhan Mysore.	no bid	38-6 bid	36-6	—	48-6 bid	—
Kotordi Mysore	50-0 bid	38-0 bid	30-0	—	no bid	29-0
Meppens Nugger Mysore ...		77-0	51-6	42-6	60-0	—

	0	A	B	C	PB	T
Clifford's Mysore Balehonnur...		no bid	no bid	30-0	65-0 bid	30-
Murgaddi Mysore... ...		no bid	36-0	32-0	32-0 bid	29-
Belgode	42-6 bid	37-6	no bid	—	no bid	27-
Ruxide Mysore	no bid	no bid	39-0	—	no bid	29-
Goody Tota Mysore ...		no bid	39-0 bid	38-6	50-0 bid	27-
The Engadine Mysore ...	76-0	56-0	44-0		73-0	29
Archully Mysore	no bid	53-0 bid	42-0	—	70-0	26 bid
Yellagode Mysore... ...	no bid	no bid	39-0	—	no bid	26-

COORG.

	A	B	C	PB	T
Bajee Collie South Coorg ...	80-0 bid	no bid	36-6	78-0	33-
Kunde Kadu Coorg	75-6	51-6 bid	36-6 bid	80-0 bid	31-
Chisholm's Coorg Eldorado (Cherry)...	46-0	37-0	—	44-0	26-
Do. Silpikadu	42-0	37-0	—	42-0	26-
Mangles Santagherry	no bid	no bid	no bid	—	27-
CT Coorg	63-0 bid	45-0	35-0	—	27-
H&K Coorg	no bid	45-0	36-6	no bid	27- bid
Mangles Covercoly Mountain ...	95-0	74-6	53-6	96-0	36-
Do. Allicutty Mountain ...	no bid	45-0 bid	36-6	60-0 bid	29-
Do. Hallery	68-0 bid	45-0 bid	39-0	no bid	28-
JC Coorg	36-6	36-6	29-0	no bid	26-
Hirekulali	70-0 bid	46-6 bid	36-6	—	25-

	1	2	3	PB	T
Robinson's Kamia Betta	80-6	52-0	—	74-0	33-
Alathan Cadoo Coorg	72-6	46-0	—	67-0	31
ABH Coorg	72-0	49 0 49-6	40-6	70-0 bid	32
Mangles Santagherry	68-0	44-0 bid	—	63-0 bid	31
Do. Allicutty Mountain ...	62-0 bid	40-6 bid	36-6	—	29

NEILGHERRY.

	A	B	C	PB	T
Elephant Devicolam Estates Talliar ..	87-0	no bid	46-6	70-0 bid	32
Do Vagavarai Talliar ...	no bid	41 0 bid	39-0	no bid	32
Kedugamudi	65-0	no bid	37-0	72-0 bid	—
Kotergherry GA	no bid	no bid	30 0 bid	no bid	30 bid
S & Co ◇ Neilgherry	58-0 bid	50-6 bid	—	no bid	29
Moutere	77-6 bid	no bid	no bid	62-0	30
THS Riverdale	66-0	51-6	—	60-0	—
CA Waterfall Nilgiris	80-6	57-0	49-0	60-0	34
Maycherry	no bid	no bid	34-6	40-0 bid	28-
Glenmore	88-6	53-6 bid	43-0	65-6	34
Scotforth	63-0 bid	48-6 bid	43-6 43-0	70-0 bid	—
Madanaad Nilgiris	62-6	51-6	49-6	61-0	35
CA Mootanaad Nilgiris	77-0	54-0	43-0	no bid	35
Woodland	no bid	no bid	36-0	no bid	—
Lower Droog	74-0	46-0 bid	39-0	55-0	27
Craigmore Nilgiris	66-0 bid	44-6 bid	—	56-0	36
JR Grove	no bid	no bid	35-0	no bid	26

NAIDOOBATUM.

	A	AA	B	PB	T
Seaforth Naidoobatum	97-0	no bid	—	75-0	42

		A	AA	B	PB	T
W B	Balmadies Naidoobatum	97-0 bid	89-0 bid	48-6	no bid	—
Do. do.		97-6	94-6	75-0 bid	4-0	72-0 bid

NELLIAMPATHY.

	A	B	C	PB	T
Dotacooly Nelliampathies ...	79-0	52-6	41-6	no bid	37-0
Nelliampathy Manalaroo ...	70-0	45-0 bid	39-6	65-0	31-6

WYNAAD.

	A	B	C	PB	T
Walker's Estates Nellakotta ...	no bid	no bid	38-6	no bid	29-0
Cauvery Peak	no bid	42-0 bid	39-0	no bid	29-6
Wynaad Plantation Coffee Lower Mootil Tanniery	62-6 bid	41-6 oid	39-6	no bid	33-6
Wynaad P & Co.	64-0 bid	44-0 bid	38-6	68-0 bid	30-0
		42-0	bid		

SHEVAROY.

	A	B	C	PB	T
Brooklands Shevaroy S ◇ ...	no bid	no bid	no bid	no bid	—

TEA.

China.—Congous are slow of sale, but fine qualities of Green are in request at full rates. Auctions during the week have presented 5,320 packages, which partly sold sold as follows.—Congous.—Panyong 6¼d to 8½d, Souchong 5½d to 9½d, Oolong 4¾d to 9¾d, new make Congou 6½d to 6¾d, Moning 6½d to 11¼d. Scented Caper 7½d to 7¾d, Scented Orange Pekoe 6¾d to 8¾d. Moyune Green.—Gunpowder 7d to 10¼d, Young Hyson 4¼d to 7½d, Foong Mee 8½d to 10d, Sow Mee 6d to 9d per lb.

Indian.—Public auctions were on a somewhat smaller scale, including 10,400 packages, of which 3,800 were new season's, against 14,300 packages (1,050 new season's) on the 5th instant, and 9,1·0 packages (1,500 new season's) at this period of 1898.

There was a fair demand for the shipments of old crop offered, particularly for those lines drawing good coloury liquor, and no great change occurred in quotations. Recent arrivals of this manufacture, however, only received moderate attention, and a further decline had in most cases to be accepted, quality at present not being considered by the trade sufficiently useful to take them freely into stock.

For 2,800 packages (new season's) on Garden account 8⅛d per lb. was obtained compared with 9⅛d per lb. for 1,400 packages in the preceding season.

Ceylon.—Sales were lighter, *viz.*, 25,900 packages contrasted with 34,400 packages last week and 31,200 packages a year ago.

Rather more enquiry was noticeable for choice-flavoured lots over 11d per lb. and a few with stand-out cup brought higher rates than have been registered lately for the same marks. Good medium kinds both leafy and broken passed with considerable irregularity and generally in favour of buyers, while commom to medium in many instances were ¼d per lb. lower, Pekoe Souchongs and poor Pekoes often selling down to 6¾d per lb.

The average is slightly over 7½d per lb. On the 8th instant it stood at 7¾d per lb., and 7⅝d per lb. in 1898.

Java.—Nearly 1,800 packages of direct import were submitted and went off at about valuations Over 2,000 packages are announced for the next fortnight.

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns, were:—

From 1st to 13th June, 1899 ...	...	6,360,832 lbs.
,, ,, 1898 ..	...	7,051,312 ,,

During the fortnight the following have been printed for sale by public auction:—

	Sold.	Withdrawn	Total offered.
	Pkgs.	Pkgs.	Pkgs.
India	8,356	2,000	10,356
Ceylon	22,847	3,041	25,8·8
Java	1,733	31	1,764
Total ...	32,936	5,072	38,008

Also 1,872 packages from second hands.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report dated June 16th, 1899, says:—

QUANTITY BROUGHT TO AUCTION IN LONDON FROM 1st JUNE TO DATE.

	Indian.	Ceylon.	Java.
1899-1900 ...	28,258 pkgs.	61,361 pkgs.	2.148 pkgs.
1898-1899 ...	20,395 ,,	56,463 ,,	1,912 ,,

12,195 pkgs. Indian
26,181 ,, Ceylon
1,821 ,, Java
} Total 40,197 packages were offered in public auction this week.

Satisfactory progress continues to be made in the use of Indian and Ceylon Tea in markets outside the United Kingdom. It is a particularly satisfactory feature to notice hat the quantity taken during the first three months of 1899 is larger than that in the corresponding period of 1898, in spite of the high price ruling in the early part of the present year, which, although it may have curtailed the trade to some extent has evidently not materially interfered with its progress.

	1899.	1898.	1897.	1896.	1895
Indian	4,994,148	4,631,650	7,090,639	4,385,921	2,108,761
Ceylon	7,432,035	7,641,405	6,060,271	4,833,025	3,552,209
Total lbs. ...	12,426,183	12,273,055	13,150,910	9,218,946	5,650,970

In the first three months of 1897 the quantity taken was unusually heavy, but with this one exception, steady progress has been made for several years past.

Indian.—Sales passed without material change in prices. The new Teas, which were mostly disappointing in quality, did not prove of much interest to the trade, prices for all except the lower grades being unusually low, with a somewhat week market

Ceylon.—Buyers discriminated in the week's sale more than they have done for some time past, given considerable attention to Teas with good character, prices for which showed an occasional slight advance, while lower and medium grades were inclined to be less animated and prices occasionally fell ¼d. per pound. Average for week 7·61d. against 7·58d in 1898.

Java.—The few Javas brought forward sold somewhat slowly with a tendency towards easier rates.

Bank rate 3 per cent. Exchange on London three months' sight. Calcutta $1/4\frac{3}{32}$. Colombo $1/4\frac{3}{32}$.

IN CANADA.

The *Canadian Grocer* of 1st June says:—The first shipment of new season's Japan tea reached the Toronto market on Monday The shipment was a small one. The quality in both cup and leaf is good, and rather better than that of the first shipment last year. The price is, however, lower. But cables received this week state that the market is active, with prices tending upwards, showing that there is a continuance of the conditions noted last week. The next direct shipment of Japan tea is expected in Toronto about June 12.

COCOA.

There were no public sales held on Tuesday, the previous week's auctions having proved so unsatisfactory. Privately a quiet tone has prevailed, not more than about 1,000 bags selling during the week, amongst which we note—fine to superior Trinidad 72s to 79s, fair to good ditto 67s to 70s, Grenada 66s, Jamaica 58s to 64s, fine African 63s, Guayaquil Caraquez 67s 6d to 69s 6d, fair to fine Arriba at 70s to 75s, and fair Ceylon at 67s 6d to 69s per cwt.

PEPPER.

Black.—The market is quiet in tone, and values have tended in favour of buyers. About 150 tons Singapore are reported sold at $5\frac{3}{8}$d down to $5\frac{5}{16}$d for fair on the spot, at 5½d May-July shipment, at $5\frac{5}{8}$d down to $5\frac{9}{16}$d for June-August, and at $5\frac{1}{16}$d down to $5\frac{5}{8}$d for July-September and August-October.

The shipments of Black Pepper for the first half of June compare as follows:—

	1899.		1898.	
U.K.—Singapore...	300	550	210	420
,, Penang ...	220		210	
Continent		130		*nil*
United States		80		50
Total tons		760		470

At public sale on Wednesday offerings consisted of 59 bags Singapore and 160 bags Tellicherry, both of which were bought in at 5½d per lb.

White is also quiet, with sales of 100 tons, including fair Singa-

pore on the spot at 8 1/16d, May-July shipment at 8 3/4d, July-September 8 7/8d, and fair Penang on the spot at 8 1/16d per lb.

The shipments of White Pepper for the first half of June compare as follows:—

	1899.		1898.	
U.K.—Singapore...	50	220	*nil*	260
„ Penang ...	170		260	
Continent		20		50
Total tons		240		310

At auction on the 14th instant, of 13 cases 279 bags Singapore brought forward, 86 bags good bold sold at 8 5/8d. 102 bags Siam passed the hammer unsold at 8 5/8d, and 212 bags Penang at 8 1/4d per lb.

GINGER.

Cochin.—The long-continued depression accompanied by low prices in this article has at length given way to a better tone, and speculators have now entered the market. The result is that sales to the extent of about 2,000 bags have taken place privately this week at advanced rates—ordinary to fair medium and small washed rough Cochin at 22s to 25s, and brown Calicut rough sorts at 23s to 25s per cwt. Cut kinds have, however, not participated in the improvement.

At public sale 252 cases 537 bags were catalogued, of which 83 cases 300 bags found buyers—rough at fully private sales' prices, but the commoner cut descriptions at a decided decline. Bold cut and scraped limed realised 75s, bold and medium ditto 70s, medium and small, a little bold, leanish roughly cut and scraped limed 42s, small part medium ditto 26s to 26s 6d, small tips 23s; medium and small plump washed rough slightly shrivelled 24s, smaller ditto part dark and rough 23s to 23s 6d; leanish Calicut rough sorts 23s, damaged cuttings 14s per cwt.

Japan is also dearer, about 200 bags fair selling privately at 19s 6d to 20s per cwt. At auction 81 bags were bought in at 21s, 19s 6d per cwt. being refused.

Jamaica—818 barrels, etc., were offered, of which 265 barrels, etc., sold. Good qualities appreciated 2s to 3s, but the less desirable grades were 1s to 2s per cwt. cheaper. Fair to good plump bright washed 70s to 77s, medium to good medium 67s to 69s 6d, ordinary to good ordinary 57s 6d to 64s 6d, lean and dark 51s 6d to 56s 6d per cwt.

St. Lucia.—23 bags bought in at 56s per cwt.

CINCHONA.

As reported in our last issue, the sales at Amsterdam passed off quietly, the unit having fallen by a fraction of a cent to 8 1/4c., but there was a large amount of low-grade bark sold at about 7 1/4c., and this gave a factitious cheapness to the average. The details of the auction were given in our cablegram, but we may add that the bark sold for manufacturing purposes contained the equivalent of 515,575 oz. of quinine sulphate, apart from some not analysed and which was estimated to yield 19,095 ozs. of sulphate. These figures do not include druggists' bark. Some fine succirubra quill was included in the sales, 61c. per ½ kilo. being the highest price paid for this. Between 8c. and 8½c. was the unit paid for nearly 1,000 kilos., of the quinine sulphate in the bark, and as high as 9c. was reached for bark representing 783 kilos. of sulphate.

Four steamers which left Batavia in the fortnight ending May 1 had on board 626,787 Amst. lbs. of cinchona bark. The heaviest of the shipments was 249,407 lbs. in the *Anchises*, which sailed on April 29, and the next heaviest 202,468 lbs on the *Madura*, which sailed on May 12. There were also sent by these vessels 418 cases of quinine, all to London, except 25 cases which go to New York. By the *Anchises* 175 cases come to London, and by the *Titan* (sailed May 5) 218 cases.

Amsterdam Bark Market.—The detailed particulars of the Amsterdam bark auction of last week are as follows:—About 20 tons (20,623 kilos.) of *Manufacturers'* bark were actually sold in the auction, and about 1½ tons (1,748 kilos.) of *Druggists'* bark. There were bought in about 1¼ tons of the former, and about 1 cwt. of the latter. So that nearly the whole amount offered was sold. The buyers purchased as follows:—

English and American Quinine factories (principally).	Brunswick factory.	Mannheim and Amsterdam factories.	Frankfort and Stuttgart factories.	Miscellaneous buyers.	Total sold.	Bought in or sold previously.	Total offered.
Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
5.583	3.765	5.308	3.415	3.406	21.477	1.288	22.765

The tone of the auction was quiet: the unit selling price worked out at 8.25 cents per ½ kilo (1½ per lb.), against 8·5c at the last auction, a decline of rather over 3 per cent. Of the bark put up 73,382 kilos. were Succirubra, 369,720 were Ledgeriana, 38,698 were Hybrid and other kinds, and of all these 49,956 kilos. were root bark.

QUININE.

A quiet week, which began with an easier tendency at first, but latterly, any business which transpired in second-hands was done at 1s. 4d. per oz., spot, and 1s. 4½d. August. It is thought the August speculators have oversold themselves, and this opinion seemed to get a little backing from an advertisement in a daily which asked, "Will all genuine holders of "spot" communicate with "Finance?" To-day further business has been done in August at 1s. 4¼d. and October at 1s. 4⅝d. Manufacturers are firm and busy.

(Average for all India 7·91d.) *June 16th.*

Garden.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price.
South Wynaad ...														
Perrindotty ...	84 p	7¼	25½c	8¼	...	...	...	...	50	7	...	...	9½c	7½
Travancore ...	**1357 p**	**7·26**												
Balamore ...	210½c	7	...	...	132½c	7	62½c	7¼	...	...	12½c	6½	4½c	5½
Bison Valley ...	64	7	...	...	35	7	25	7¼	...	...	...	...	4	5½
Carady Goody ...	70 p	7¼	49 p	7 7½	10	7¼	2	7½	5	7¼	...	...	4½c	5⅜6⅜
C M R ...	64	7	..	...	37	6⅜	24	7¼	...	..	2	6⅜	1	5¼
Corrimony ...	182½c	7¼	...	...	122½c	7 7¼	50½c	8	...	...	7½c	6⅜	3½c	5⅜
Fairfield ..	85	7½	24	7½	16	7¼	24	8	10	7½	7	7	4	6½
Glenmore ...	140½c	7½	..	...	80½c	8	56½c	7 7¼	...	...	2½c	6½	2½c	5¼
Penshurst ...	89	7¼	44	7½ †7⅛	23	7¼	...	...	12	7	...	...	10	7¼
Seafield ...	130½c	7¼	...	...	91½c	7¼	36½c	7¾	...	...	2½c	6¾	1½c	5½
S I T Co Kuduwa K	64 p	7⅛	39	7½7¾	12	7¼	...	...	...	...	...	...	13½c	6 7½
S T T Co Venture...	105	7¼	...	..	48	7¼	57	7¼7½	...	...	...	...	...	...
Vembenard ...	134	7¼	8	7¾	35	7¼	54	7½	18	7	12	7¼	7	6¼
W ...	20½c	7⅜	...	...	21½c	7⅜	...	..	...	...	...	...	...	...

Teas marked thus † are New Seasons.

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SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 21st instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

THE RUPEE.

The report of the Indian Currency Committee has made its appearance, and its general tenor is shown by the statement that it recommends a gold standard with the sovereign as legal tender, and the rupee fixed at 16*d*. As usual with such reports, it has an appearance of thoroughness. From a history of the monetary system of India, it passes to a discussion of the silver standard and the probable effects of the re-opening of the Mints. Such a re-opening, it is remarked, would be so fully and immediately discounted as to defeat the objects of such a course. Discussing the fears of the Indian Tea Industry being threatened by China producing on a silver basis, the Committee considers that the permanent interests of the industry would be promoted if worked under the same standard of value as the countries to which its produce is exported. The Report concurs in the decision of the Government not to revert to the silver standard. Having thus had a peep into futurity to consider probabilities or possibilities, the Committee relapses into a consideration of things past and current, and argues in favour of a gold standard. Its opinions on this point, as summarised by Baron Reuter, are delightfully vague. "It is impossible," we read, "to maintain the *status quo*

permanently, though it might prove adequate to create a margin of gold sufficient to tide India over adverse years." Whether the "*status quo*" is, in this instance, a euphemism for "a 1*s.* 4*d.* rupee" is not clear. However, the Committee advises that steps be taken to avoid all possibility of doubt as to the determination not to revert to a silver standard and to proceed with the measures for the effective establishment of a gold standard. Certain proposals of the Indian Government are next discussed and—dismissed. The Report then deals with the schemes for establishing a gold standard without a gold currency. The Committee considers that the Native habit of hoarding gold does not justify a permanent refusal to allow India a gold currency, and it favours making the British sovereign legal tender and a current coin. It considers that the Indian Mints should coin gold unrestrictedly on the same terms as the Australians Mints. Dealing with convertibility, it says that existing conditions prevent the limiting of the amount for which rupees should be legal tender. For some time to come the Indian Government should not be legally bound to part with gold in exchange for rupees, but should make gold available for foreign remittances, whenever exchange falls below specie point. The exclusive right to rupee coinage must remain vested in Government, and the profits should be kept in gold as a special reserve.

Six sections of the Report are occupied in the above wanderings up hill and down dale. The seventh section brings us to the real point of the Report, for it recommends a legal sterling rate of sixteen-pence for the rupee. Up to this point the members of the Committee would seem to have been of one mind. They have written a common history, a common dissertation on probabilities, a common criticism of methods and schemes proposed by others. But, though they have travelled along the same highways and bye-ways, they do not arrive at the same destination, for with the seventh section their unanimity vanishes. The recommendation as to the establishment of a sixteen-penny rupee is not made unanimously, but by a majority of the Committee, who point out that "this is now the normal rate to which prices may be assumed to have adjusted themselves." Finally, in section 8, it is observed that the effective establishment of a gold standard is of paramount importance to the material interests of India not only to promote existing trade, but to encourage the influx of capital. For the speedy attainment of this object, it is eminently desirable that the Government of India should husband its resources and exercise a resolute economy in order to restrict the growth of gold obligations. There, at least, unanimity reigns again; but we must not conclude our reference to this Report without stating that, in an Appendix, Mr. CAMPBELL, General Manager of the National Bank of India, Limited, London, and Sir JOHN MUIR favour 15*d.* for the rupee. Mr. HOLLAND prefers awaiting further experience before fixing the rate. Mr. HAMBRO recommends the creation of a Bank on the lines of the Bank of England. Messrs. CAMPBELL and HOLLAND and Sir JOHN MUIR oppose sterling borrowing for the establishment or maintenance of a gold standard.

The space at our disposal will not admit of more than a cursory remark on "findings" that we have thought it right to give at some length. Further, any remarks we make must be taken as made on these findings as stated by REUTER, and we confess to a doubt as to whether his summary conveys a fair idea of the Report. It certainly makes it appear that the Report is simply an attempt to establish a predetermined conclusion; and it is curious that the summary contains never a reference to any consideration of the interests of India—the peoples, as distinct from the Government. It is a well known fact that low exchange means, or has meant under past conditions, financial embarrassment to the Government of India. But has it meant the same to the people? As an agricultural country, India should devote chief attention to the products of her soil. Are the interests of these best served by bolstering the rupee up, or by letting it take its course uncontrolled by artificial restraints? These are points that do not seem to have been discussed by the Committee, though they were clearly present to the mental vision of Sir JOHN MUIR and Messrs. CAMPBELL and HOLLAND, who did not approve of the sixteen-penny rupee. On these and other points, we shall have more to say in a future issue.

TEA FROM SEED TO CUP IN SOUTHERN INDIA.

(BY THOMAS BROWN, GLENDALE, COONOOR.)

V.

Temporary Lines.—These are usually 10 × 10 per room and are put up by contract at Rs.10 per hut. Should, however, a flat piece of ground not be available, some additional cost for excavation will be incurred, which has not been provided for in the estimate. The walls are made by intertwining thin pliable sticks, and plastering over with mud, the whole being finished when dry with a mixture of clay and cow-dung. The slope of the roof in these huts is generally incorrect. To get the correct slope, insist on the centre poles being just 5 feet longer than those of the sides. Your roof will then have an angle of 45°. Most temporary lines leak from want of attention to this point, and need constant re-thatching as the result. We have known temporary lines last twenty years when carefully constructed and constantly occupied! No door frames or shutters have been estimated for, as these can be of wicker-work, but should it be deemed advisable to have them, and good wood, that will be free from the attacks of white ants, is to be had on the place, they can be made up, and utilized hereafter in the permanent lines. The following pieces of wood will be required for each door 2′ × 2′ 5″ (inside) :—

	Rs.	A.	P.
18-feet rafters in 9-feet lengths 4 in. by 3 in. cost ...	0	12	0
16-feet planking in 5 feet 4 in. lengths 12 in. by 1 in. cost	1	0	0
Carpenter hire per door	2	4	0
Total cost Rs. ...	4	0	0

Hinges and bolt, say, 8 annas extra.

The cost of sawing up the timber alone has been here estimated for. At lower elevations vengay, black wood and teak are often available, and at upper ones jumboo and cedar. The jumboo is known as the *Nagamurrum* and the cedars as *Kilinjee* and *Kulkilinjee*. Blue gum wood, where available, is largely used; but the trees must be fairly old, say, 25 years at least, to be worth sawing up. This wood is quite useless, as planks and can be used for rafters only. Excellent shutters at the same cost for carpenter can be made with teak or vengay scantlings 2 × 1½ in. and kerosine oil cases. They are both light and efficient and do not strain the hinges as heavy jungle

woods do. Davidson's Sirocco packing cases make excellent shutters.

Sawing Timber.—This work is done by specially trained men at from 25 to 40 square feet of saw cuts, or at the rate of 2 cubic feet for rafters and 1½ cubic feet for planks. Scantlings are cut at Rs.12-8-0 per hundred. The usual sizes are—

Rafters ...	...	12 ft. × 4″ × 3″	= 1 cubic foot.
Do. ...	...	12 „ × 5″ × 2½″	= „
Half rafters ...	...	12 „ × 3″ × 2″	= ½ „
Do ...	...	12 „ × 2½″ × 2½″	= ½ „
Planks ...	...	12 „ × 1ft. × 1″	= 1 „
Scantlings ...	...	12 „ × 2½″ × ½″	= 10 to a cubic foot.

Sawyers are very inclined to cut less than the required dimensions, and much sagging of roofs is the result. Saw cuts are determined as follows:—1 rafter 12 feet × 4″ × 3″ = 12 × $\frac{1}{12}$ = square feet and each cubic foot of timber carries about 1 foot on the average of slab cut, so that the above may be taken as 8 square feet. To determine the number of cubic feet of timber in a log, multiply the square of the diameter by ·7854 which will give the area, then by the length for cubic contents. *Example.*—Required cubic contents of a log 24 feet long and 3 feet in diameter—

Area = 3 × 3 × ·7854 = 7·0686.
Cubic contents = 7·0686 × 24 = 169·64464 cubic feet.

It will be as well to have timber cut up and rafters stored for the future, but care must be taken to preserve them from the attacks of white ants! The sawing up of timber is done much more cheaply at Calicut and Cochin than on plantations. In the case of scantlings, which are readily cut from slabs by a bench saw, good teak or benteak ones can be purchased as cheaply, as sawyers will cut up jungle wood, for Badaga sawyers are exceptionally troublesome to settle with. The Palghat men are far more satisfactory in every way. Just now four whole rafters per rupee are sawn from gum-wood in Coonoor, but when the planter wants work done he must pay almost double! The only way to remedy the evil is to publish full particulars, as we are now striving to do.

Temporary Bungalow.—Any attempt at making a wide structure with a double set of rooms will be disappointing, both on account of the height of the building at the centre that it necessitates (since the gable must be half the height of the width of the structure to secure the correct angle *viz.*, 45°), and also because expensive glass shutters never being used for such, the rooms will be dark. Rooms 12 × 15 will be found suitable, the width of the structure being 12 ft, and three such rooms, covering 45 × 12 or 900 square feet will probably suffice. One and a half measurement must be allowed to secure extra height, strength and depth of thatch, which latter may be put with the roots outwards for the money. The cost will then work out as follows:—

	RS.	A.	P.
900 square feet bungalow @ 15 per 100 ft. ... =	135	0	0
4 Rooms 10 × 10 (out-houses) ... ... =	40	0	0
6 Batten windows 4 × 2½ @ 5 as. per square foot.. =	18	12	0
3 Doors do. 6 × 2½ @ 5 as. .. ... =	14	1	0
4 Do. do. for out-houses, 5 × 2½ @ 5 as. ... =	15	10	0
Cutting level, finishing, etc. ... ... =	26	9	0
Total Rs.	250	0	0

No inside doors will be necessary, as a *purdah* will be found sufficient. One of the three rooms can be divided off to form a bathroom, with a wall that need not go up more than 6 feet and the opening can be closed with a *purdah*. As many vent holes as desired can be left in the walls and some panes of glass can be built in, here and there, for light. Place the doors at the gable ends and not at the sides. See that the side walls are at least 8 feet high. Posts 11 feet and 17 feet long will be needed The 11 feet ones for the side walls and the 17 feet for the centres. Doorways can be cut in after the wattle has been tied on and completed, and before the mud is put on. If a carpenter is willing to undertake the making up of the doors and windows by contract, let him do so at 2 annas per foot or half the rate paid for making up panelled and glass doors and windows. The necessary wood is best cut by a separate man, a sawyer. It is as well always to bear in mind that good Benteak panelled doors and windows can be obtained at Calicut at 8 annas per square foot. The necessary glass, hinges and fittings can all be supplied at 4 annas per foot more. In the face of this, Re.1 to Rs.1-4. per foot is being paid in Coonoor to contractors for 1-inch wood in the shutters instead of 1⅛, the safe size to use to prevent warping and springing.

BRAZILIAN EXCHANGE.

The following statistics of Brazilian Exchange may interest our readers and prove useful for reference :—

I.—Extreme Rates of Exchange between 1856 and 1897.

Year.	From d.	To d.	Year.	From d.	To d.
1856 ...	27	28¼	1877 ...	23	25⅛
1857 ...	23½	28	1878 ...	21	24⅜
1858 ...	24	27	1879 ...	19½	23⅛
1859 ...	23¼	27	1880 ...	19⅞	24
1860 ...	24⅛	27¼	1881 ...	20 1/16	23¼
1861 ...	24¼	26⅜	1882 ...	20⅛	22
1862 ...	24¾	27¾	1883 ...	21	22¼
1863 ...	26¾	27⅛	1884 ...	19⅛	22¼
1864 ...	25½	27⅜	1885	19½	17⅛
1865 ..	22⅜	27¼	1886 ...	22⅛	17⅜
1866 ...	22	26	1887 ...	21½	23½
1867 ...	19⅜	24¾	1888 ...	22⅞	27 9/16
1868 ...	14	20	1889 ...	26⅛	28½
1869 ...	18	20	1890 ..	26⅛	20⅛
1870 ...	19¾	24⅜	1891 ...	10⅜	21⅛
1871 ...	24⅞	25⅛	1892 ...	10⅛	16½
1872 ...	24½	26⅜	1893 ...	10 3/16	13¾
1873 ...	25⅛	27⅛	1894 ...	9 1/16	13
1874 ...	24⅝	26⅜	1895 ...	9	11⅝
1875 ...	26¼	28⅜	1896 ...	7⅞	10 7/16
1876 ...	23½	27⅛	1897 ...	6⅞	9⅛

II.—Average Monthly Rates of Exchange from January 1880 to May 1898

Year.	Jan. d.	Feb. d.	March. d.	April. d.	May. d.	June. d.	July. d.	Aug. d.	Sept. d.	Oct. d.	Nov. d.	Dec. d.
1880	23⅛	23⅜	22½	21	20⅜	21¾	22⅛	23⅛	23¼	23⅜	22⅞	22⅛
1881	22⅜	21 5/16	21 3/16	21⅛	21⅛	21⅝	22⅛	22⅞	23⅜	22¼	22¼	21⅝
1882	21	20⅜	20¼	21¼	21⅜	21⅜	21⅜	21⅜	21⅛	21 3/16	21⅜	21 1/16
1883	21⅛	21¼	21 7/16	21 7/16	21 7/16	21⅜	21⅛	21 3/16	21¼	21 7/16	21⅛	21 9/16
1884	21⅜	22	21⅝	20⅞	20½	20	20	19⅝	19¾	19⅝	19⅝	19½
1885	19½	18⅞	18½	18¼	18	18	17 1/16	18¼	18¼	18 1/16	17 1/16	17 5/16
1886	17⅜	17⅝	19	20¾	21⅞	21	20⅜	21⅛	21¾	21 3/16	21⅛	22⅛
1887	22¼	22 1/16	21⅞	21½	22¼	22⅜	22¼	22⅜	22 1/16	22⅝	22 3/16	23 1/16
1888	24	27 1/16	23¾	24¼	24⅛	24¾	25½	26¼	26½	27	27 1/16	27
1889	27⅜	27⅜	27⅞	27⅜	26⅞	26 5/16	27	27 1/16	27⅜	27⅜	27½	26¼
1890	25	24	22⅜	21⅛	21⅛	21¾	23⅛	22⅜	22⅛	23	23¾	21⅜
1891	19¼	19 3/16	18¼	17⅜	16⅞	17⅜	16½	15⅛	15⅛	14½	12⅜	12 3/16
1892	12½	12	11⅜	11½	11⅛	10⅞	10⅛	10½	13⅜	15	13⅛	13⅛
1893	13 3/16	13⅛	12½	12⅜	11⅛	10⅞	11	12	11	10⅛	10⅜	10 3/16
1894	10	9½	9⅝	9¼	9⅜	9¼	9 3/16	9¼	12⅝	11⅞	11⅜	10¼
1895	10⅜	9⅞	9½	9½	9⅛	9⅜	10½	10¼	10¾	10¼	9¼	9¼
1896	9⅛	9 1/16	8⅝	9¼	9⅞	10⅛	9⅜	9	8⅞	8½	8 7/16	8⅝
1897	8⅞	8½	8	7 5/16	7⅝	7 1/16	7 5/16	7 9/64	7 9/32	7⅞	7 7/64	7 7/64
1898	6⅞	6 23/32	6¼	5 29/64	6 1/16	..	..	..	..	..	..	..

THE CEYLON TEA MAKERS' HAND-BOOK.

In this little book Mr. Geo. Thornton Pett has laid down a set of general rules for the guidance of tea-makers. He does not pretend to teach tea-making to experienced planters, but aims simply at supplying a handy book for the tea-maker. He gives general rules as to the duties of makers, withering and rolling, roll-breaker, sorting room and firing coolies, engine drivers and watchmen. Withering naturally comes in for a fair amount of remark, and rolling, fermenting, firing, sorting and tasting, bulking, and packing are all referred to. Useful remarks on machinery, &c., are also given, and the young planter is affroded an opportunity of acquiring a very fair general idea of the work before him The book should be useful to more experienced planters also, as a handy book of reference on occasions of momentary doubt, and also as a stimulus to thought and, perhaps, experiment. Tea-machinists are constantly striving to invent "something better." Tea-makers should follow this excellent example, and always be trying to improve their methods and the results. To compare Indian methods, or those of Ceylon, with the "old-fashioned Chinese system," would be conisdered ridiculous now-a-days; but there is still ample room for useful comparisons between the processes in favour with different tea-makers If Mr. Pett's little book does no more than make planting readers compare their own methods with his, thoughtfully and with a view to the adoption or continuance of the better, it will serve a very useful purpose. The wise tea-planter is the man who realises that even a lifetime of experience and study should not lead him to believe that he knows "all about Tea."

JAPANESE TEA.

The total export of tea from Yokohama, according to the Customs Tea Returns for 1898, was 26,325,548 lbs., valued at 550,166 lbs., as compared with 26,518,298 lbs., valued at 512,922 lbs. for the previous year. The distribution of the exports to foreign countries, according to the returns of the Yokohama Chamber of Commerce, is shown in the following table:—

	Quantity.	
	1898.	1897.
	lbs.	lbs.
New York and Eastern States of America ..	6,702,964	8,178,814
Chicago and Western States of America ...	8,001,976	8,900.269
Pacific Coast	3,350,544	4,221,794
Canada	7,622.917	5.664,339
Europe, &c.	615,257	301,203
Total...	26,293.658	27,266,419

The above table, as the British Counsul at Yokohama observes, clearly shows the effect of the duty of 10c gold (5d.) which was imposed upon tea imported into the United States after June 14. A certain amount of speculation resulted from the uncertainty of the exact date on which the duty would be imposed, and buying was conducted pretty freely in the hope of getting the tea into America in time to escape the new duty. The announcement of t date had the effect of causing buyers to hold off for t time being, and prices declined 4 to 5 yen per pic (8s. 2d. to 10s. 2½d. per 133 lbs.) The new Restriction A preventing the importation of inferior teas into the Unit States continues to be strictly enforced, and many reje tions have been made. Common teas have therefore most found their way into Canada, which has not yet adopt a similar Act. During the year the quantity of both c and leaf, especially the former, was very satisfactory. T Consul further remarks:—From the beginning of the ye till the opening of the market for new teas at the end April, there was hardly any business transacted. Ear in May arrivals began to pour in freely, and the mark opened at prices averaging fully 15 per cent higher tha last year. The levying of the duty in America has had very bad effect on the trade in general; orders of conside able magnitude were cancelled in consequence, and stagn tion in trade set in. The bulk of the new season's te are still to be disposed of, and as stocks will be augmente by arrivals within the next few months of 1899 teas, t outlook is not very encouraging. The cost of labour a material, &c., for tea firing has greatly advanced, as co pared with previous seasons, and. curiously enough, spite of the imposition of the American duty, the pric paid to the Japanese for teas have also advanced.

CEYLON EXPORTS IN 1898.

Ceylon Customs Returns show that the exports of tea Russia and the United States rose in 1898 by 2,084,437 lb and 1,093,896 lbs., respectively. The direct exports Russia of Ceylon produce were valued in 1897 at R241,1 and in 1898 at R2,406,770. The rise in the value exports of Ceylon produce to the United States of Ameri in 1898 as compared with 1897 was from R2,965,553 R5,283,632 In the staple articles of export, cardamo show a small decrease as compared with 1897, but increase of 83,176 lbs. as compared with 1896. The quanti of cinnamon has risen from 3,182,823 lbs in 1896 a 3,850,005 lbs. in 1897 to 4,281,165 lbs. in 1898. Of t total value of Ceylon produce exported, the products of t cocoanut tree represent nearly 23 per cent.

The following table shows the quantity and value coffee, cacao, cinchona and tea exported—

		Quantity.	Value.		
		Cwt.	R.		Decrea
Coffee ...	1897 ...	18,604	1,472,246	cwt.	5,4
	1898 ...	12,692	878,693	R.	593,5
					Increa
Cacao ...	1897 ...	35,121	1,299,484	cwt.	2,3
	1898 ...	38,099	1,676,353	R.	376,8
		lb.			Increa
Cinchona...	1897 ...	591,136	32,512	lb.	386,6
	1898 ...	977,760	97,776	R.	65,2
					Increa
Tea ...	1897 ...	114,466,318	46,931,190	lb.	7,929,2
	1898 ...	122,395,518	47,734,252	R.	803,0

The duty collected on the foregoing was:—

	Medical Aid.		Tea Fu
	R.	c.	R
At Colombo	114,560	41	243,7
At Galle	252	22	5
Total ...	114,812	63	244,3

THE MANUFACTURE OF PERFUMES.

Since it was announced that the experimental manufacture of Attar of Roses was being taken in hand in the Wynaad, interest has been manifested in the methods of manufacture. Even with respect to roses, widely different systems of preparing the attar are adopted in different countries. They range from primitive infusion to scientific distillation. As regards perfumes generally, however, modern methods may be roughly classified under four heads—the mechanical process, distillation, maceration and enfleurage. The application of mechanical means for the extraction of essential oils is accomplished in various ways, and is mostly used in the treatment of the citrus fruits (orange, lemon, &c.,) which are considerable in bulk and contain oil in comparatively large quantities. One process consists simply in expression, the material being put into a press and subjected to heavy pressure. Another is to rub the fruit in a metal cup lined with spikes (ecuelle à piquer,) the oil settling into a hollow handle, whence it is at length poured. An ecuelle on a large scale, consisting of a drum lined with spikes, is also used. Another method consists in squeezing in the fingers sections of the peel turned inside out, and taking up the oil with a sponge. The second mode mentioned, *viz*, distillation, differs in no essential respect from the methods already in use for the extraction of oil of peppermint, sweet birch, sassafras, etc. Of course an oil which is worth 25*s*. or 30*s*. an ounce demands finer apparatus and greater care than oil not worth that much per pound. Further, it must not be assumed that all forms of still are equally good. The absolutely necessary parts of a still are, first, a boiler in which the material is placed with water; second, some means of supplying heat, preferably steam applied in a steam jacket, but frequently merely a fireplace under the boiler; third, a worm of some equivalent form of tubing, immersed in cold water or otherwise cooled, to condense the steam; fourth, some kind of a receiver in which the condensed oil and water may be allowed to separate. Distillation is available for a large number of plants, but not for all. The third method, that of maceration, is one in which flowers are immersed in melted grease, the charge being renewed ten or fifteen times, at intervals of twelve to forty-eight hours. The product is either used as pomade, or digested in alcohol, which takes up the perfume, making an extract. Lard and tallow thoroughly purified are used; also the fat of the deer. To make perfumed oils, olive oil is substituted for the fat. The fourth method is that of enfleurage or inflowering or absorption, in which the flowers are placed on thin layers of grease spread on panes of glass in frames, the flowers being renewed from day to day. To obtain perfumed oils, coarse cotton cloths saturated with olive oil and laid on frames with wire gauze instead of glass are used. Enfleurage is the most delicate of the methods to operate and gives the finest results. By the two last methods the odour obtained is nearly that of the living flower; that secured by distillation is often as different as if it came from another plant. It should also be mentioned that various chemical processes for the extraction of perfumes have been proposed, though they have not hitherto superseded the methods described to any great extent.

TEA AND COFFEE IN THE UNITED STATES.

The following statistics of the consumption of tea and coffee in the United States, per capita of population 1870 to 1898, have been prepared by the Bureau of Statistics, Treasury Department. They should be of interest to our readers.

Year ending June 30.	Tea. lbs.	Coffee. lbs.	Year ending June 30.	Tea. lbs.	Coffee. lbs.
1870	1·10	6·00	1885	1·18	9·60
1871	1·14	7·91	1886	1·37	9·36
1872	1·46	7·28	1887	1·49	8·53
1873	1·53	6·87	1888	1·40	6·81
1874	1·27	6 59	1889	1·29	9·16
1875	1·44	7 08	1890	1 33	7·83
1876	1·35	7·33	1891	1·29	7·99
1877	1·23	6·94	1892	1·37	9·61
1878	1·33	6·24	1893	1·32	8·24
1879	1·21	7·42	1894	1·34	8·01
1880	1·39	8·78	1895	1·38	9·22
1881	1·54	8·25	1896	1·31	8·04
1882	1·47	8·30	1897	1·55	9·95
1883	1·30	8·91	1898	·91	11·45
1884	1·09	9·26			

TELEGRAPHIC QUOTATIONS.

	July 8	10	11	12
LONDON.—				
Bar Silver	27¾	27¾	27¾	27 1/16
Bank Rate	3%	3%	3%	3
Coffee				
Ceylon	105*s*.	105*s*.	105*s*.	...
Mysore av. (B) size.	56*s*.	56*s*.	56*s*.	...
Cocoa	76/6	...	76/6	...
Cardamoms	3/7 to 4/0	...	...	...
Cinchona per unit	1 1/16*d*.	...	...	...
NEW YORK.—				
Coffee—Fair Rio	6⅛	6⅛	6⅛	6
„ Futures, Sept.	5·66	5·64	5·59	5·53
Silver—Comml. Bars	60⅝	60⅝	60⅝	60¼

NOTES.

Vanilla in South Sylhet. A correspondent of the *Planter* says that it is now conclusively proved that vanilla will flourish and fruit there.

Ginger. Planters should give an eye to this product. A Home contemporary looks forward to a considerable advance in prices, amounting, in fact, to "a revolution in the market."

Coffee in the United States. Average imports about 800,000,000 lbs. which represents over 1,300,000,000 gals. Coffee is *par excellence* the national beverage of the States.

Japan Tea. The United States and Canada continue to buy freely, and if the opportunities for making purchases at Calcutta are lessened there will be an inevitable "set back" for Indian sorts in those markets.

Rejected Tea in the U. S. During May 8,602 packages of tea aggregating 347,874 lbs. were rejected by the inspectors at New York. There was not one pound of either Indian or Ceylon tea among the rejected, although 1,879 packages of 107,519 lbs. of these teas were passed.

Tea "Fluff." Fears having been entertained that tea "fluff" exported for dyeing purposes and for conversion into caffeine might be passed off as "Tea," Messrs. Ch. & A. Boehringer have written to the *Ceylon Observer* stating that considerable quantities of tea "fluff" are shipped by them in bales, not chests or cases, to be manufactured into caffeine.

A Tea Inebriate. Thirty cups of tea a day was the habit of a man who died lately in America. As the *American Grocer* remarks, that man was as much of a suicide as though he had blown his brain out with a pistol. He preferred a lingering to a sudden death. Bread and milk, or many another harmless article, will threaten life if used to excess, but if used in moderation will enhance life.

Moss on Coffee Trees. A correspondent writes us:—"Is moss growing on the stems of old coffee trees, an evil or beneficial; if the former, what is the best and cheapest method to adopt to remove the moss? I find moss growing on my coffee trees and am at a loss to know whether to remove or leave same." Perhaps some of our readers can oblige with information on these points.

Colombo Tea Sales. At the public sales of tea at Colombo on the 5th instant about 9,143 pkgs. = 713,902 lbs. were offered, of which about 7,657 pkgs. = 598,068 lbs. were sold. The sale passed with a very firm tone at about previous rates for all grades, except medium broken pekoes, which were somewhat neglected. Among the best teas in the sale, says the *Times of India*, were Strathespey, High Forest, Tonacombe, Queensland, Mocha, and St Johns.

Nilgiri Planters' Association. A General Meeting of the Nilgiri Planters' Association will be held at the Masonic Hall, Ootacamund, on Friday, August 4th, at 11 a.m. *Business.*—Consider subjects to be brought up at United Planters' Association meeting and instruct delegates. *General Business.*—Members are requested to give the Honorary Secretary due notice of any subjects for discussion or resolutions which they may wish to bring forward.

The Paris Exhibition. In response to representatio from the Indian Tea Associatio and with a view to assist that body to effective represent tion of the tea industry at the Paris Exhibition, the Go ernment of India have agreed to meet any expenditu falling against the undermentioned heads of the Associ tion's estimate within the limit of a sum of £3,250:—(Open air space and royalty. (2) Space in courts and royalt (3) Decorating and furnishing. (4) Carved wood scree and also to pay a sum of £750 towards other expenses.

Tea Making. A Northern India Planter write —Withering space, more witherin space, is the cry of the tea-house man, at his wits end to kno where to spread his drenched leaf. Until those responsib for the equipment of factories are brought to see that tea house is not *complete*, unless it has *ample witherin accommodation to meet all possible exigencies*, the conundrur "how to make good tea under adverse circumstances, will ever remain unanswered. This I write advisedly, fo we have at present no machine that will *simply with* leaf without either baking. stewing, bruising, or discolou ing it.

Pepper in the United States Steadily rising prices and dimin ishing supplies are reported. Th *American Grocer* points out that th new Singapore plants were put out only the year befor last; therefore, it will not be until 1900 that the possibilit exists of a crop from the young vines. The old plantation are declining, and each season give less and less suppl Present stocks will be largely drawn upon; in fact, it is serious question whether the prospective supply will satisf the demand until the new plantations begin to yield. Ou West Coast friends should have an eye on the America market.

Tea Prospects in Assam. *Capital* says:—In the Cach District, although some rain fe during last week, the prospects the tea crop are generally good, although mosquito bligh is still prevalent. In the Sylhet district the want of sun still affecting the manufacture of tea injuriously, and th weather continues wet and cloudy, and floods are prevalen throughout the district and have caused considerabl damage to crops. Rain continues to fall in the Kamrup Darrang, Sibsaugor and Lakhimpur districts. and it is alt gether too cold and wet, for tea blight is also prevalent i Kamrup.

Labrador Tea. This article, of which a *bale* w shown in London recently, is de scribed as consisting of the branches of *Ledum latifolium* a small shrubby plant of the heath family, found in swamp situations in Canada and the Northern United States. Thi plant, which is also known under the name of "wil rosemary," was introduced into England as an orn mental plant so long ago as 1763. The leaves, which hav an agreeable odour and taste, are linear-oblong in form and clothed on the under-surface with a rusty tomentum and have pectoral and tonic properties. The Cree Indian

employ them as tea, and know the plant under the name "Maskoego;" they were also similarly used during the War of Independence.

Hope still! The *American Grocer* says:—"The coffee supply for the season 1899-1900 will be half a million or more bags larger than for 1898-99. Some day there will come a sudden rebound in prices." The connection between the first remark and the second is not clear, but the sanguine will excuse that. There is no doubt that in America present low prices have greatly stimulated consumption and created an active demand for low grades, which are selling at unremunerative prices to the producers. Still, it hardly follows that there is truth in the assertion of a leading importer that if the present demand continues, there will be a considerable reduction in the world's visible supply, which would be felt thoroughout the country, where stocks at present are comparatively small. We take what little comfort we can from the same gentleman's expression of a belief that "rock bottom has been reached so far as prices are concerned." May these "hard times" soon pass away.

Coffee in the United States. The *American Grocer* observes:—"Samples of cheap package coffee are being distributed to Housekeepers in Brooklyn. That ought to stimulate the demand for fine roasted coffee, as the contrast between a 10-cent and a 35-cent coffee will be so thoroughly demonstrated that every lover of the beverage will seek quality regardless of price." There is said to be an increasing tendency on the part of wholesale men to buy medium grades at present low prices, to hold. Buyers seem to have confidence in present values, but the low grades continue to absorb the interest of the trade. There is a strong belief that the war between the big coffee roasters has injured the entire trade; that it will not have a speedy end, but will wear itself out. Time alone, says one importer, will be able to adjust the coffee market to its normal condition. Low grades form the bulk of the sales, so that high grades are neglected. Medium grades have suffered since the break in prices, and are substituted for lower-priced coffee.

Crop Estimates in Brazil. A New York newspaper man lately remarked:—"Brazil crop rumours in late years have been mostly false, and the trade ought to show their resentment of tactics which are all wrong. It seems likely that the marketing of the crop in Brazil will keep upon a free scale for the balance of this season, and there is no use denying there is another large crop to come after it. Although consumption of coffee at lower values is greater than ever, this is no reason why the Brazilians should wish to deceive us about the extent of their crops, and an important point for them to remember is that every hole and corner is filled with coffee to a degree never known before." *Apropos* of this, we may state that a Rio contemporary, which is probably the best informed on trade topics, frankly confesses "in spite of all our efforts to come to positive conclusions, we have so far been able to formulate none, nor do we believe that anyone else possesses the indispensable elements to estimate the coming crop within a million bags or so."

Tea in Persia. Reporting on the trade of Azerbaijan in 1898, Mr. Consul-General C. G. Wood says:—It may be of interest to know that tea, which is the principal drink of the Persians, comes almost solely from Calcutta. 20,000 chests are annually imported into Azerbaijan from Calcutta *viâ* Trebizond, whence a part is distributed to Teheran and other places. Natives alone import these teas, upon which they pay 5 per cent. customs duty, besides some 5 per cent. more in fees and gifts to custom officers in these parts These teas are distinguished according to quality and price by the following local names:—

"Shahi" Nos. 1 and 2, mediocre quality, from 2 to 4 krans per 1 lb.
"Kalami," so-called owing to its being a thicker and longer leaf, ordinary quality, 3 to 3¼ krans per 1 lb.
"Agh Par" (feather like), so-called owing to its being interespersed with white or greyish leaves; considered best quality, 4 to 5 krans per 1 lb.
"Telaye" (golden), 4 krans per 1lb.

Indian tea is imported in bulk in 80 to 100 lbs. chests, zinc or lead, paper-lined. But little Russian "Caravan" tea is used owing to its high price.

The China Tea Trade. The following are the season's comparisons from the *China Overland Trade Report* of June 24th. There has been a considerable increase in shipments to the United Kingdom, it will be observed:

Export of Tea from China to United Kingdom and Continent.

	1899-1900.	1898-99.
	lbs.	lbs.
	7,251,094	4,517,174

Export of Tea from China to United States and Canada.

	1899-1900.	1898-99.
	lbs.	lbs.
	1,768,689	2,194,552

Export of Tea from China to Odessa.

	1899-1900	1898-99
	lbs.	lbs.
Shanghai and Hankow	8,045,356	8,304,515

Export of Tea from Japan to United States and Canada.

	1899-1900	1898-99.
	lbs.	lbs.
Yokohama ...	2,166,218	534,850
Kobe ...	501,327	686,260
	2,667,745	1,221,110

"Adulterated" Tea. In the House of Commons recently Mr. Carew asked the Financial Secretary to the Treasury whether he was aware that large importations of tea rejected by the Hamburg and New York Customs had recently been passed by the English Customs, and sold in London, although containing up to 20 per cent. of clay and sand, and unfit for human consumption; and whether, in view of the fact that the price of common teas, of which the poor were the largest consumers, had advanced 50 per cent., the Government would insist on a more rigid inspection of all future importations to prevent a repetition of the fraud. Mr. Hanbury replied: The Board of Customs have no means of testing the accuracy of the statement in the first paragraph. As was stated yesterday by my Right Hon. friend the Chancellor of the Exchequer, in reply to a similar question, a full inquiry is being made, and if it should appear advisable to alter the existing regulations or to increase the number of tea in-

spectors the necessary steps will be taken at once. Meantime a circular has been issued to the tea inspectors directing them to administer the existing regulations with special care.

Bonus Tea.

Mr. A. G. Giles writes in his "Notes on Trade Topics" in the *Grocer*:—Writing of tea reminds me that the interest in the "bonus" tea question is growing stronger, especially as it is now known who is supplying some of this tea to the men who are carrying on the trade which is the subject of consideration by high legal authorities. Whilst the matter is *sub judice* it would not, of course, be wise to give any names; at the same time it is to be hoped that presently the retail trade will learn who is backing up a system which is proving so damaging to the ordinary retail grocer. One thing is clear, that the "fancy" methods of pushing the tea trade ought to be very carefully watched, and any plan which is not in accordance with the law of the land should be promptly dealt with. Every retailer should at once bring to light any novel method which savours of being suspicious in order that it may be investigated. There can be no doubt that a grocer's tea trade is a most important part of his business, and any interference with it cannot be regarded with indifference, hence the interest now being taken in the end-of-the-century novelties which are being introduced.

The American Tea Market.

Asked for an opinion on the American tea market, Mr. A. R. Robertson lately said: "Since the imposition of a duty on tea, and the establishment of standards for purity, the general nature of the business, has somewhat changed, as buyers, instead of investing their money in duty, make their purchases more frequently, trading in a "hand to mouth" fashion. At the same time, for the Spring season, the markets abroad for black teas, were much higher, than in some years past, the result being that very little tea of any kind could be bought on this market under 24 to 25c, and even now, although business is slow, there is little disposition to cut prices, or force sales at a reduction, unless special instructions have been given for the closing of consignments. The position of the tea market to-day, should be satisfactory to all holders, as the number of rejections by the Appraiser of the Port of New York, have kept out a large quantity of teas of questionable value, and owing to the immense stock, which was put on the market last summer and early fall, being now cleared up, there is quite room for the trade to carry a reasonable amount of stock, without affecting the business in any way, and the possibilities are that inside of a couple of months we shall see more activity, possibly with firmer prices."

The Hankow Tea Market.

Advices dated June 15th, state:—Arrivals of first crop tea during the week amount to 14,000 half-chests, and, as hardly any more is expected, the excess in this year's yield may be reckoned at 30,000 half-chests. The stock, as given below, is somewhat misleading, as in our statistics we deal with teas as officially reported; but there is a large quantity settled that has yet to be "called out." We estimate the unsold Hankow teas at 25,000 half-chests, consisting of head-cho Onfaas, Chong-sow-kais, and Yung-low-toongs, partly u desirable parcels and partly teas that missed their mark owing to the obstinacy of holders. In Kewking teas the is nothing left but 4,000 half-chests Ningchows, main first-chops of unattractive character. Common te continue in demand at firm rates, and at Tls. 11 quality very poor, consisting of brownish, broken, chaffy leaf, an infusion looks as if the tea was mixed with last yea third crop. *Second Crops.*—A few chops have arrived fro the Yung-low-toong district, and two parcels have be taken at Tls. 16¾ and Tls. 17, being about two taels high than last season. Quality is fully up to last year; lea liquor, and infusion are satisfactory for this class of te and the general character of these early samples sugge favourable conditions at time of picking and packing.

A Madagascar Rubber-Tree.

M. Henri Jumelle contributes the *Comptes Rendus* for May 29, paper on the Guidroa, a rubber-tr of Madagascar. The writer mentions that the plant h hitherto been known only under its native name, but th now, thanks to specimens sent from Suberbieville (!) M. Périer de la Bathié, it has been possible to ascerta whether it is a new species, or can be identified with an that is already known. The conclusion arrived at is, th the Guidroa, though clearly belonging to the Mascarenhas genus, does not exactly resemble either of the fifteen sixteen known species, but may be held to be a new specie and may be named *Mascarenhasia velutina*, in allusion the very characteristic velvety substance of the leave M. Jumelle describes the manner in which the rubber gathered from the trees by the Sakalaves. During the d season, when the milky juice is very thick, they make, says, numerous incisions in the trunks. The milky jui coagulates almost immediately below the wound, formin small bands of gum which the workers remove after a hour, and which they agglomerate into balls. In this wa one man can easily gather a kilogram of the gum one da The caoutchouc thus obtained is of good quality, an even, it appears, superior to that gained by ebullitio Thus it seems likely that the Mascarenhasia genus, on found on the east side of Africa and in Madagasc (especially in the north and east), will play a more impor ant part in furnishing caoutchouc plants than has pr viously been thought likely.

GENERAL ARTICLES.

HYBRIDIZATION AND CROSS-BREEDING.

Mr. J. Cameron, Superintendent, Government Gardens, Myso writes to *Indian Gardening*:—Adverting to the opinion openly expr sed by a writer in *The Garden*, that "Gardeners in tropical countri do not appear to make much use of the exceptional advantag they enjoy for cross-breeding and otherwise improving and addin to garden plants," I would like to say a few words in addition what you have already said in your leader of Thursday's issue. am not, of course, in a position to speak of what is done in tropic countries generally. But within my own sphere of action in Myso some results have been obtained by crossing the flowers of alli species and varieties.

As you have pointed out, the onerous and varied duties of an o cial appointment do not leave one much time for conducting p tracted experiments of the kind; and, personally, it is very dou

ul if I have ever raised a new variety of plant. Others, however, ook their cue from my early endeavours in this direction, and I ave now one or two clever native assistants who have raised many ew varieties, and understand the process of crossing thoroughly. The new plants mostly produced in the Palace gardens here by Venkataswami Raju are seedlings of *Dracæna, Codiæum, Dahlia, Coleus*, and several annuals. In the Botanical Gardens, several new varieties of *Carica* have been raised and without cross-fertilization such plants as *Amaryllis* do not produce seed here. For several years past attempts are being made to produce a good coffee hybrid, and if we have not yet succeeded, it is not for want of trial or advice on the subject.

I do not mention the above experiments in a boastful spirit, but with the object of showing that gardeners in the tropics are perhaps not so backward in their craft as would at first appear from *The Garden* writer's statement.

Having no Royal Society to award certificates or medals, nor a rigorous horticultural trade to derive benefit from the production of new forms—in many instances overdone—it is true that our productions are not proclaimed on the mountain-tops. In India the raising of hybrids and varieties is more a matter of pleasure than speculation at the present time. It is a work that would suit the native gardener well, possessed as he is with a delicate touch and great patience.

His methods are at first of a rough-and-ready order: he gathers the plants he wishes to operate upon as near to each other as possible, so that their flowers shall intermingle "and marry" (as he quaintly puts it). At other times he thrusts the flowering branch of one plant into the inflorescence of another to effect some improvement in the fruit or seed. These are things which the natives knew long before we joined them, and are possibly the remnants of scientific practice in former ages. I shall be glad to hear when fuller enquiry has been made that Indian gardeners, at least, are able to repudiate the serious charges made against them and others by *The Garden* correspondent.

COFFEE IN JAVA.

The Java correspondent of the *Singapore Free Press* writes:—

Coffee in Java appears to be in a bad way. In the *Algemeene Handelsblad* there is a plea for the suffering industry. Leaf disease, caterpillars, etc., etc., go to certify that the coffee tree in Java is greatly fallen off in growth, strength, life. and productive power. And then comes the great fall in prices caused by the astonishing increase in the Brazilian production. The coffee interests in Java have drawn the attention of the Minister of Colonies to the unbearable state of things. and after reading it the *Handelsblad* is obliged to confess that it entirely agrees with their statement that private coffee-growing stands on the edge of going under and is threatened with total destruction. The planters have done much to repair the disaster. An experimental garden has been put to work at Buitenzorg, they have striven to reduce the cost of production, grown Liberian coffee and grafted Java trees on Liberia, but mainly by the fall in prices of late years these measures seem to be insufficient, and it will seem more and more impossible to carry on most of the coffee estates. The petition to the Minister of Colonies gives some sad figures. Bandarangan cost 297,000fl., the shareholders have never got a cent, and after six years of existence an attempt to sell the concern did not obtain one bid. Tjelung 210,000fl. In eleven years of full production the shareholders have had one dividend of 5 per cent., and the highest bid at a sale in 1896 was 1,000fl. Wonokitri cost 680,000fl. and in nine years of full production the shareholders have received a total of 19 per cent. Six other Companies are given with similar results. There are of course exceptions and estates can be pointed out which in normal times have paid well, but in general it is certain that the investors would have done better in Government securities. All this leads up to a demand that the tax-gatherer shall moderate his demands, and the State railways come down in their demand for freight, to save a perishing industry. The export duty must in the first place cease. Its being levied at all cannot be defended. The charges on the land and holding-rights are shown to be monstrous. The Government gets yearly ¾ per cent. of the value of the estate, and his value is placed at a ridiculously high rate, and estates are thus unjustly burdened. Sales, voluntary and forced, continually prove that the Government estimate on which the levy is made exceeds the real value by any number of thousands. The railway again bases its charges on the value of the goods carried. Now that coffee prices have fallen 40 per cent. the railway charges should be reduced *pro rata*, but they are not. As is to be expected, in the present condition of Dutch Colonial finances, the Minister does not receive the petition at all kindly. He does not see why a bad year should take away from the Treasury receipts for the future. But this is no case of one year. Figures for ten years and for the industry taken over all would prove the contrary, and the *Handelsblad* demands reform to prevent the ruin of a great industry and the frightening away of timid capital.

DEATH OF THE CEYLON PLANTER WHO UNEXPECTEDLY GAINED A FORTUNE.

"A LUCKY CHEST OF TEA."

"Old Colonist," writing from Home to the local *Observer*, comments on a paragraph which appeared a little more than a year ago under the heading "A Lucky Chest of Tea," telling how a planter at home on furlough, finding fishing on the Don very slow, resolved to call upon a proprietor in the immediate neighbourhood, a sort of second or third cousin of his own, but an old recluse, of whom he had been warned that it was useless to call, as he never would see anyone. "Carium illay," said the sturdy planter as he strode up to the front door and handed in his card. Duly the reply came: "My master bids me say he does not receive visitors, but you may have any refreshment." "Well, tell him, with my salaams, I don't want his refreshment," said the indignant *dorai* as he walked off. But he had not got far down the avenue when the servant came running after him, saying, "Master has read your card, and, seeing you come from abroad, would like to speak to you." So back he went to find that the special object the cautious old laird had in view was to get the planter's opinion on a box of tea he had just received "*Good tea*," said the expert as he sniffed at a handful, "but we do make better, and when I return to the estate I will send you a chest of the best tippy tea." Fortunately he did not forget his promise, for the chest arrived in the nick of time, just as the old chap was swithering over his last will and testament, and in the first flush of gratitude down went the name of the planter for the whole estate—some £40,000 cash and a splendid Donside property! "None of your larks," thought the planter when he received the telegram, but second thought convinced him that Aberdeen lawyers didn't usually spend money on practical jokes. So home he went, in middle life, the rich laird of Whitehaugh; and hundreds of fellow-planters exclaimed "LUCKY FELLOW"! Alas! it is needless to envy. A fortnight ago, Mr. Farquharson (who had adopted the name of his benefactor) caught a chill and to-day he lies in the family burying ground, regretted by his tenantry, who had become greatly attached to the kind, enlightened and liberal-minded new laird.—*Times of Ceylon.*

THE FERTILITY OF SOILS.

The factors upon which the fertility of the soil depend are many, says the *Gardeners' Chronicle*. The amount of plant-food and its degree of solubility, the mechanical texture or tilth, and the climate, which includes temperature, amount of rainfall, &c., are the chief of these.

Soils to be fertile must contain the elements of plant-food in such forms that they can be readily used for the nutrition of vegetation. At the same time, its condition must not be too loose, else a firm hold will not be afforded to the roots of plants, and there will be too much drainage and evaporation; nor must it be too heavy and plastic, for then air and water could not freely permeate it, nor the roots extend themselves beyond a very limited area. Generally speaking, light, loose soils are not as rich in plant-food as those in which clay predominates; yet, on account of their excellent condition of tilth, and the ease with which they are worked, they are specially adapted for most horticultural purposes, and having a sufficiency of manure, they often yield in favourable seasons heavier crops than the stronger soils would do. Stiff, heavy clays, though rich in inorganic food, potash, and phosphoric acid, are often poor in nitrogen, while their mechanical condition is such as to prevent thorough aëration and the penetration of the roots. It is these soils

especially that are benefited by drainage. By a system of drainage the water which saturates the surface-soil is carried off, air allowed to permeate, the whole is rendered more friable and easily worked, and much plant-food is converted into assimilable forms.

Where sand largely preponderates, the soil is not retentive of moisture and fertilising material, especially if the subsoil be light, and though easily worked it is not so desirable in very dry seasons as on a heavier soil. A proper proportion of sand and clay, therefore, for many reasons, makes the best soil. With the clay and sand, varying amounts of peaty matter, or humus, derived from the decomposition of vegetable matter may be mixed. In horticulture leaf-mould is largely used. Calcareous matter, chalk, lime, and bone-meal, are usually associated, and a light proportion of these exerts a beneficial influence upon the tilth of the soil, as well as upon the solubility of the plant-food. By the slow decomposition of the clay, the vegetable matter, and the lime, valuable plant-nutrients, are liberated in a soluble form, and therefore the function of these soil constituents is not only mechanical but chemical.

The most important inorganic constituents of a soil are potash and phosphoric acid. These, together with nitrogen, are known as the essential elements of plant-food.

To understand the question of soil-fertility, the gardener should become familiar with these matters, should know what these elements will do for crops and plants, and when and how to apply them.

Nitrogen.—This element, like potash, lime, and phosphoric acid, is an essential constituent of all plants. In its free state it is a permanent gas, and is one of the most widely distributed elements, comprising about four-fifths of the earth's atmosphere. This vast supply of nitrogen is, however, of no direct value to plants, since they are unable to use it, except when combined with the elements oxygen or hydrogen, forming nitric acid and ammonia, that may be taken up through the roots of plants. Leguminous plants, like Peas, Beans, Lupins, &c., and possibly Orchids, are indirectly able to build up their nitrogenous ingredients from the free nitrogen of the air, through the activities of microscopic plants (known as bacteria), intimately associated with them; other plants may, possibly, under favourable conditions to some extent have the same faculty.

Nitrogen is present in the soil in simple combinations as nitrates or ammonia salts, or as more complex organic compounds, forming the dark coloured humus especially abundant in peat, leaf-mould, and forest soils. The total quantity of nitrogen in ordinary good soils varies between 0·1 and 0·2 per cent.; occasionally the nitrogen content will approach one per cent., as in the case of rich pasture soils. Peat soils will often contain over two per cent. of nitrogen; this is, however, largely in a combination that will not directly sustain plant life, but has to undergo a weathering process before the plant can make use of it.

Nitrogenous manures help to strengthen plants in their earlier growth, favour leaf development, and give a deep green healthy colour to the foliage; applied in excessive quantities they induce rank growth at the expense of the development of the fruit.

Phosphoric acid is present in soils in combination with a number of other chemical substances, which exert a very beneficial influence on the growth of plants. Phosphoric acid is found in soils partly in a form that plants can readily dissolve and make use of in the building of their structure, partly in an insoluble form which under the influence of water, carbonic acid and air, or the mineral components of the soil are gradually changed into available plant food. There is only a small quantity of phosphoric acid in ordinary soils, *viz.*, less than 0·2 per cent., and often only 0·05 per cent.; but as the content is not decreased in any way except by the growing of crops, the soil will only become deficient in this constituent in case of continuous cropping without manuring.

Phosphoric acid is of special importance in the early life of plants; it stimulates the assimilation of mineral substances in the plant, and favours the development of its root system. There is an intimate relation between the nitrogenous principles and the phosphoric acid in plants, and we find that, generally speaking, a high nitrogen content is accompanied by a high percentage of phosphoric acid. The phosphoric acid of plants is usually concentrated in their maturing organs, the flower and seed.

Potash is found in Nature in combination with acids like sulphuric, carbonic, and silicic acid. Potash is generally distributed small quantities in most soils, except light sandy soils, which apt to be deficient in this fertilising element; it is found in g nary soils in somewhat larger quantities than phosphoric a namely, from one to three-tenths of one per cent., and occasion as much as one per cent. in case of soils originating from gran basaltic, and other rocks rich in potash. Like phosphoric a potash may be present in the soil in a non-available form, especi as double silicates, that are but slowly decomposed through action of water, air, and other constituents of the soil.

Potash is found in the largest quantities in foliage plants, leguminous plants, in vines, and in potatos. It is of the great value to plants, in facilitating the flow of sap, and the diffusion starch from cell to cell. It gives increased strength to the structure of plants and has in general a beneficial influence on flavour and texture of fruits and potatos.

Lime is present in most fertile soils in sufficient quantities allow of the production of large crops, but occasionally there be too little of it to reach this end, in which case the addition some lime compound to the soil, will produce very beneficial sults. It is considered that a lime content of one-half of one cent. an ample supply in light soils, while heavy soils may need t per cent. or more

The good effects from the addition of lime to soils do not co only from the increase of an ingredient essential to plant grow but the mechanical condition of the soils, its texture, water a heat-retaining capacity, are improved. This same is true in p haps all cases when fertilisers are applied to soils, a fact which generally overlooked by horticulturists.

THE 1-lb. DRAFT QUESTION.

It is unnecessary to pass more than brief comment at t present stage of the India and Ceylon "Tea Fight," thoug we propose to quote the opinions of some of our contemp raries, besides stating what has occurred since our last iss appeared. In the first place, we may state that there we no sales in Calcutta last week. At the suggestion of t Indian Tea Association in London, sellers refused to off teas for London, and withdraw their teas. Twenty thou and chests were thus taken out of the auction that ha been announced to take place. There was some little di cussion subsequently as to whether Tea should not be offere for *other markets than London.*

The following shows the present position :—

On the 7th instant a telegram was sent from the Indian T Association, Calcutta, to the Indian Tea Association, London, follows :—"Your telegram yesterday; to-day's auction stoppe sellers unanimously support you. but opinions differ as to t advantage of stopping sales at this stage, as disputes with deale must be settled before the teas now offering reach London. Befo holding sales for the outside markets desire full explanation your objects."

The Indian Tea Association, London, on the 11th replied follows :—"Dealers intended buying in Calcutta to force our hand your prompt action had great moral effect. Please continu support."

The Calcutta Tea Association held a meeting on 11th instant discuss this telegram, and passed the following Resolution :—"Th while the tea market is closed to buyers for the United Kingdo sellers be recommended to put up teas at private auctions for t supply of markets other than the United Kingdom." A Secon Resolution was then passed :—"That a Committee of the Calcut Tea Traders' Association be asked to make the necessary arrang ments to give effect to the above Resolution."

A meeting of the Calcutta Tea Traders' Association was the called and the following Resolution passed :—"That the sale shou be held at the Metcalfe Hall at noon to-morrow (Wednesday) allow the purchase of teas for markets other than those of

United Kingdom, all buyers having guaranteed that purchases will not be sent directly or indirectly to the United Kingdom."

In London there was no sale last week. At the Tea-dealers' Meeting on the 4th instant, it was resolved not to attend sales and not to buy Tea privately. It was also decided to convene a Mass Meeting of the Trade to consider further action.

The Congress of the Federated Grocers' Associations adopted a Resolution protesting against the abolition of the 1-lb. draft allowance, and the tea-dealers appointed a permanent Committee to watch developments.

In Colombo there has been a good deal of hesitation shown. The India and Ceylon Joint Committee in London wired out to the Chamber of Commerce :—

Importers Joint Committee urge stop Colombo Auction Sales fortnight allowing private sales other countries Calcutta similarly advised.

The Chamber replied :—

Nothing to complain of local terms nett cash seven days full invoice weight Chamber regrets cannot comply.

All tea owners were also requested to wire London Agents to sell Tea on and after the 17th July without the 1-lb. draft.

The following is a more detailed report on some points of special interest :—

ACTION OF THE CALCUTTA ASSOCIATION.

There was a large attendance on the 7th instant at the Metcalfe Hall, Calcutta, of brokers, dealers, and others interested in the tea industry. Instead of the usual auctions being proceeded with, those present indulged in a lively series of discussions on the situation that had been created by the action of the London dealers. It was understood that a cable had been received from London by the local Association, and that a decision had been arrived at.

The exact position of affairs was explained by Mr. Ashton (Acting Chairman of the Calcutta Tea Association), who, speaking from the auctioneer's desk, said that he did not know whether all present had heard the terms of the message the Tea Association had received that morning. In case anyone had not he would read them. The cable from the London Importers' Joint Committee was as follows :—"Importers' Joint Committee urge stop auction sales fortnight, allowing private sales outside markets only. Colombo similarly addressed." On receipt of that telegram, the Calcutta Committee of the Indian Tea Association met and unanimously adopted the following Resolution :—"That this Committee strongly favours the telegraphed suggestion made by the London Importers' Joint Committee to stop Calcutta auction sales for two weeks, and to sell only for markets other than London privately, and the members agree that the firms they represent will withdraw all teas catalogued for to day's auctions." The Committee, Mr. Ashton remarked, immediately after passing that Resolution went round to see all the selling firms, and, so far as he was advised up to that moment, all the sellers were in favour of withdrawing their tea. That was the situation.

Mr. West said that he took it the Association had no reason to curtail the outside market. One class of tea was required, and this could not be sold for outside markets privately.

Mr. Ashton replied that there was no desire on the part of the sellers to inconvenience any parties' business beyond what they were obliged to do in order to protect themselves against what they considered on unreasonable demand. He should certainly not advise the Association to go back on what they had resolved to do. But if any scheme could be brought forward by which auctions could be held, by which sellers could be perfectly well assured they were not selling for London, they would be quite ready to listen to any such proposal. Personally he did not see how it could be done.

Mr. Carter thought some teas might be offered for Bombay and America as there was a steamer leaving on the 15th for New York. Although Bombay buyers might take 5,000 chests this week they could not take 10,000 next for financial reasons.

Mr. Ashton said it was outside his power: so far as he was himself concerned he had made up his mind to stick to the terms of the Resolution, and his firm's teas would be withdrawn that day. He did not think he would be justified in telling them all that passed at the Tea Association Meeting. He had, he thought, said sufficient in explanation of the reasons that had led them to take up the position they had. With regard to matters of policy, from a seller's point of view, he did not think he would be right in going into the question of shipping or holding. The matter was one for individual firms to settle. So far as his own firm was concerned they would hold their teas in Calcutta. The Association would be meeting again that day and would be pleased to meet representatives of the brokers and buyers to discuss the question of meeting the wishes of the outside market. He announced accordingly that a meeting of the Tea Association would be held at 3 o'clock that afternoon and at 3-30 they would be prepared to confer with representatives appointed by the brokers and buyers.

We understand that a telegram was sent yesterday to Colombo from the Calcutta Association.

CONFERENCE WITH BROKERS.

By arrragement, Messrs. West, Carter and Baines, representing the brokers, and Messrs. Marriott, Yule, and J. W. Lloyd, buyers' delegates, met the Committee of the Indian Tea Association at 3-30 in conference at the Royal Exchange, Mr Ashton presiding. The views of the brokers were expressed, and a Resolution was submitted by them in favour of continuing the auctions as usual to-day in order that teas might be bought for Bombay and other outside markets excluding London. The members of the Association strongly opposed the suggestion, as inconsistent with their previous Resolution. After considerable discussion the Chairman, accepting a proposal, which was assented to by the meeting with one dissentient only, agreed to cable to the London Importers' Joint Committee, suggesting that in order to meet the desires of the buyers for outside markets auction sales should be held on Tuesday in the ordinary way, sales being made subject to the guarantee, which we understand the buyers have already entered into, not to feel the London market.

A CIRCULAR.

Later in the afternoon the Indian Tea Association issued the following Press Circular :—

With reference to the question of the abolition of the one pound draft allowance on teas sold by public auction in London, we are informed that the following telegram was received yesterday morning by the General Committee of the Indian Tea Association from the Indian Tea Association, London: "Importers' Joint Committee urge stop Calcutta auction sales fortnight, allowing private sales outside markets only. Colombo similarly advised."

A meeting of the General Committee was held immediately on receipt of this telegram at which the following resolution was unanimously carried :—"That this Committee strongly favours the telegraphed suggestion made by the London Importers' Joint Committee to stop Calcutta auction sales for two weeks, and to sell only for markets other than London privately, and the members agree that the firms they represent will withdraw all teas catalogued for to-day's auctions."

The Resolution was promptly made known to sellers who all supported it, and all tea put up for to-day's auctions was withdrawn. —*Englishman.*

COLOMBO STANDS OUT.

The following telegram has been received by the Ceylon Chamber of Commerce from the India and Ceylon Importers' Joint Committee in London :—"Importers' Joint Committee urge stop Colombo Auction Sales fortnight allowing private sales other countries Calcutta similarly advised." The reply of the Ceylon Chamber was as follows :—"Nothing to complain of local terms net cash seven days full invoice weight Chamber regrets cannot comply."

The request from London (says the *Times of Ceylon*) was an extraordinary one, and does not disclose reasons. The only one which can be conjectured is that Colombo was asked to do what it appeared to be necessary to call upon Calcutta to do. There purchases for the Home market are larger, and increase orders are possibly being cabled out even now. But Home dealers could not operate in the Colombo market on the present occasion, because prices here are higher than in London, and practically no such business is at present being done in that way; tea purchased next week would not get Home for six weeks; and, above all, the terms ruling here are

what are now being fought for in London, *i.e.*, any purchases for the United Kingdom would be *without the draft allowance*. Settlement in seven days is another local custom; but we believe the terms in Calcutta are three months' sight, though whether they have the draft allowance we cannot say. The request from London was for a discontinuance of our sales for a fortnight; and we should have been glad if the Committee of the Chamber could have strained a good many points to comply. If the lead from London could not be followed blindly, a telegraphic request for further information might have been sent; but it will be seen that the grave step of refusal has been decided upon. It certainly would appear that local conditions are not understood in London, because producers up-country would at once become suspicious if their teas were sold by private contract for foreign countries—which means nine-tenths of the total sent down for sale locally. It would not work; and absolute cessation—with the dislocation of the Australian trade, for example—appears absurd. We are also told that Agents in Colombo could not withdraw the teas of London Companies and Home proprietors without their instructions. Calcutta can do so, however, and we admire the promptness with which they have responded. Further information from London may be expected here; for if the adhesion of Colombo appears essential, the telegram sent on behalf of the Chamber will bring a cable in reply. Pending the receipt of this, we have to consider whether anything at all can be done. We would appeal to every tea owner sending his produce to the Colombo market to request that it may not knowingly be sold for shipment to London. We trust that firms who may receive orders from London will suffer some personal sacrifice and refuse to execute them pending the settlement of the difficulty; and that the Chamber will consider the propriety of calling upon those who do not thus remain loyal to resign their membership. We shall know in a few days the reason for the appeal from London; and the further hope we have is that with Calcutta's compliance our Home representatives may be able to dispense with any more than the "moral support" accorded in the recent Resolution passed by our own Chamber.

Advices dated 11th instant, state :—

The Chamber of Commerce and the Tea Traders' Association have jointly and unanimously decided that it is inexpedient and impractical to stop local public tea sales.

The General Committee of the Planters' Association meets next Friday, when the buyers' guarantee not to purchase for the United Kingdom may be demanded.

THE COLOMBO VIEW.

Interviewed upon the subject of the 1-lb. draft allowance on tea and the position of the Chamber of Commerce in the matter, a leading member of the Chamber—who did not wish his name to be mentioned on the ground that the opinions he now holds might be changed by future developments of the question or additional information from London—made the following statement to one of the *Times of Ceylon's* representatives:—

"It is felt that nine-tenths of the tea sold in Colombo is for markets other than London, and that the prices ruling locally and offered by buyers for these markets are higher than those ruling in London and higher than London buyers would be willing to pay. Consequently, there will be no end gained by stopping the local sales. The London Associations suggest that private sales might be allowed for markets other than London, but what is to hinder a buyer for other markets from extensively sending teas to London? The conditions prevailing in the local market are quite different from those ruling in London. Here we sell for cash in seven days, the whole invoice weight being paid for without deduction of the 1-lb. draft allowance, so that there is no justification for stopping sales here. Besides all this, local firms have not the power to hold the teas of their constituents off the market without their permission. In Calcutta the conditions are different. There much more tea is sold for London, and the action of the Calcutta sellers in stopping sales will much more largely contribute to the end in view than any such stoppage in Colombo would do."

THE CEYLON ASSOCIATION (LONDON) AND DRAFT ALLOWANCE ON TEA.

Mr. H. K. Rutherford presided on 12th ultimo at the annual meeting of the Ceylon Association in London, held in the Council Room of the London Chamber of Commerce, Eastcheap, E.C., and, in moving the adoption of the reports of Committees, said that the most important proposal that had been discussed by the Tea and Produce Committee during the past year was the one relating to the draft allowance on tea. This was a serious question for imp[orters] and producers, and he understood it was the desire of t[he] Indian and Ceylon Associations that before any action was taken th[ey] should have a meeting with the Committee of the wholesale deal[ers] to hear what they had to say to the proposal. Then the whole su[b]ject would come before a general meeting of importers for fi[nal] decision. He thought this procedure would be approved, as th[ey] were all agreed that it would be unwise to act with precipitancy [in] such an important departure from the present trade customs [in] dealing with tea. (Hear, hear.) Mr. Thornton Williams (represen[t]ing Mr. A. Thomson, of Messrs. Whittall & Co.) said he wa[s] in sympathy with the proposal, but he could not help feeling th[at] the way it had been put forward was most unfortunate. Wh[en] they wanted to sell a thing they must consult their buyers. I [he] believed an immense amount of harm had been done amongst th[e] buyers by the manner in which this proposal had been put forwar[d]. He attended the dealers' meeting held last week, and the impressi[on] he got was that the tea-dealers meant to fight very hard against th[e] proposed change. The draft allowance was one of the condition[s] of sale, and if one condition was to be tampered with there wa[s] ground for saying the conditions as a whole should be reconsidere[d] with a view to other alterations. He admitted that the 1-lb. allow[-] ance was very onerous on small packages, though perhaps [it] was not a serious matter where large packages were concerne[d]. If the Association had approached the trade and said, "The[re] are certain conditions of sale that we should like to consu[lt] you about," it would have been different. He had been ver[y] much struck by the concluding remark of the Lord Mayor [at] the tea-dealers' meeting. "If you are united," he said, "you can g[o] beyond this question of the pound draft." There was great signi[-] ficance in that remark. He thought it was a pity the Associ[a-] ation had asked a number of importers to sign an undertakin[g] with a view of putting it forward as a manifesto to the trade. H[e] had been corresponding with Mr. Leake, Secretary to the Ceylo[n] Association, and that gentleman said it would not be satisfactor[y] to approach the trade; it had been done before and without succe[ss]. But at the dealers' meeting one speaker remarked that Mr. Leak[e] had said nothing would be done without the trade being consulte[d]. Mr. Leake: But there is no need to consult the trade till w[e] have decided to do something. We have not yet decided to d[o] anything at all. (Hear, hear.) The Chairman: As I said just no[w] there will be a meeting of importers and the trade before anythi[ng] is settled. Mr. Williams: My point is that we were asked to sig[n] this before we knew that the trade were to be consulted. If th[is] had been stated in the first instance it would have been differe[nt]. The Chairman: We have not communicated with the trade [at] all yet. The time will come when we will do so, but we have n[ot] got to close quarters with them yet. The reports were adopte[d] unanimously.

Writing from Delft, Mr. J. Van der Chijs sends th[e] following interesting letter to the *Grocer* :—

SIR,—I hope not to be considred meddlesome in taking an intere[st] in your Mincing-lane home politics *re* the above topic, and puttin[g] the following suggestions before your readers from an outsider[']s point of view.

The tea trade is greatly dependent upon the growers. Should th[e] latter decide not to send any tea forward the London tea trad[e] could do nothing else but put up the shutters. There is a preceden[t] in the history of this country when the people in the East India[n] colonies decided to destroy the entire crop of, I believe, cloves. What was the result? That no cloves coming forward, none coul[d] be sold either, and prices jumped up by leaps and bounds.

A paying business resulted in after years, as all old stocks g[ot] used up. My firm opinion, therefore, is that the tea growers an[d] East India merchants are the wire-pullers. Yet they cannot hav[e] it all their own way, for they cannot afford to cæsarise the marke[t] as their own purse has a say in the matter too.

If the dealers—those visiting the auction-rooms—stand unite[d] my belief is that the former are pretty well at their mercy. It i[s] all very well to have sale catalogues printed henceforth with th[e] new conditions, but how are sellers to help themselves if buye[rs] refuse to be dictated to?

One pound draft on each average nett chest weight, to be estab[-] lished at, say, 80 lbs., makes an allowance to the extent of 1¼ pe[r] cent., or equal to—⅛d. on teas selling at 10d. per lb.; ¼d. on tea[s] selling at 1s. 8d. per lb.

It is well to be on the safe side, and that a fair margin be left for all emergencies. Not heeding the newly-dictated terms, methinks it would be well before the commencement of each sale for buyers to unanimously proclaim to sellers their conditions, without which no contract is passed, *viz.*: All given bids to be understood to include the usual draft allowance, or the alternative; the merchants to consider all given bids to be reduced by—⅛d. on all teas up to 10d. per lb.; ¼d. on all teas up to 1s. 8d. per lb.; say ½d. on all teas above 1s. 8d. per lb., and no draft allowance, same being this way provided for by the buyers themselves, who do not want same abolished.

PRODUCE AND PLANTING.

Weighing Paper with Tea —The Lipton case, the first stage of which was decided last week, is *sub judice*, as it will shortly come before a higher Court. It is pointed out, on behalf of Messrs. Lipton, that a mistake had crept into some of the reports of the proceedings, in which it is represented that the deficiency in a 1-lb. packet amounts to as much as 2 oz. While the Company make no secret of the fact that their 1-lb. packets include the weight of the paper, it is of course quite wrong to imagine that the paper weighs anything like 2 oz. The explanation is that drachms have been mistaken for ounces in the reports in question. It was stated, during the hearing of the case before the magistrate, that including the weight of the wrapper in the weight of the tea was a custom of the tea trade "from time immemorial." This has hurt the feelings of a number of firms who do not follow this custom. So many packet tea trading firms have denied this soft impeachment that it is necessary to remove the impression that it is a general custom to include the weight of the paper with the tea. It is stated, on behalf of Messrs. Lipton, that the £17,000 mentioned as profit on this method of selling tea during a year's operation is greatly exaggerated, and that the sum of £2,000 would be nearer the mark. It is also argued in defence of those who sell the paper with the tea that if a buyer goes into a grocer's shop and buys a pound of sugar, in the ordinary way, the grocer places a piece of paper on the scale, puts the sugar on it, and when the scale is turned, does the packet up and sells it. No doubt if the buyer wanted it he would give the sugar without the paper, and the buyer would get a little more. It is the same in regard to packet teas and all other articles sold in packets. This is ingenious, but not conclusive.

Interesting Figures.—*Apropos* of the Lipton case, a correspondent writes that the turnover of Lipton's business is estimated to 3,000 chests per week. It follows that if, as was proved when the Company was convicted for selling at short weights, the gain is 3 per cent., there would be three pounds of tea in every chest which would virtually cost nothing. This, on the turnover of 3,000 chests, would equal ninety chests gained per week. Taking the value of the quantity gained at 1s. per pound duty paid, the money value would be £450 per week, or £23,400 per annum

Brazil Coffee.—The British Consul at Rio de Janeiro, in his report received on Brazilian affairs, speaks in hopeful terms of the coffee-planting industry, and expresses surprise that, although some hundred millions sterling of British capital are employed in public funds and enterprises in Brazil, so little has been invested in the profitable pursuit of coffee-planting. It may be due, he thinks, to a feeling of insecurity as to the protection afforded to the property of foreigners in the interior of the country; but he notes with satisfaction that the President of the Republic has made a powerful appeal to the State Government to extend full protection to all immigrants and foreigners.

Cocoa.—The consumption of cocoa is increasing rapidly. In some countries this is very noticeable. Germany has doubled her consumption of cocoa since 1882, and England has considerably more than doubled hers. In France the consumption was in 1868 about 15,000,000 lbs, which figure has now been more than doubled. The annual consumption in the various countries was, according to some recent statistics: France, 30,500,000 lbs; United States, 26,400,000; England, 22,100,000; Germany, 19,900,000; Holland, 17,000,000; Spain, 12,800,000; Switzerland, 4,800,000; Belgium, 3,600,000; Austria-Hungary, 2,200,000; Russia, 1,900,000; Denmark, 1,400,000; Italy, 1,100,000; Sweden, 800,000; Norway, 500,000; Portugal, 200,000. Reduced to annual consumption per individual, Holland heads the list with three and a half pounds per head, Switzerland comes next with one and three-fifth pounds, and France third with four-fifths of a pound.—*H. & C. Mail.*

A MISSIONARY HYMN.

[A tea company advertise that if you buy their one-and-four or one-and-six tea they will send one penny to any British Mission you please.—*Westminster Gazette.*]

From Bethnal-Greenland's attics
To Charing Cross or Strand,
Where hunger-swayed fanatics
With scone and roll expand;
As many as are taking
Their humble evening meal,
May thereby be awaking
Fresh missionary zeal.

What though such pious wheezes
Make thoughtless sinner smile,
So pious folk it pleases—
Our charitable style;
Still on each zealot hurries
To boom his several sect,
And mission "muffin-worries"
A double toll collect.

Then let your hymns re-echo,
Consume the scone and roll,
While every cup of Pekoe
Can save a heathen soul;
For as each thriving tea-shop
To your commands attends,
It sends another bishop
To earth's remotest ends.

—*The World*, June 7.

CEYLON TEA IN AMERICA, &c.

The Secretary of the Planters' Association of Ceylon sends to the local press the following:—

TEA AS A BAR-ROOM BEVERAGE.

CHURCH ARMY TO BEGIN A NOVEL CRUSADE AGAINST DRUNKENNESS.

After several years of experiment the United States Church Army is to begin on June 10 next a novel and energetic crusade against drunkenness in this city. The drink war is to be waged through a medium of drink in the form of tea, which Col. H. H. Hadley, the lay director of the army, declares to be possessed of all the useful attributes of a "gold cure." A tea bar, where the drink can be obtained in any form, will soon be opened at 76 Allen street.

The crusaders affirm that before a man or a woman can be induced to give up alcoholic stimulant, he or she must be provided with an adequate substitute; something that will quietly and insidiously work its way into the victim's system and gradually counteract the desire for alcohol. With the object of providing this insidious substitute, Col. Hadley and his fellow-workers have experimented, they say, with every known non-alcoholic beverage. Hop beer kept in solution with carbolic acid instead of alcohol has been tried and found wanting. Other concoctions have given no better results Coffee, when tried, produced to some extent the desired effect, but its narcotic properties were found to be too great to render it a safe substitute for beer. Tea was finally selected.

"Tea," said Col. Hudley this morning, "is not narcotic, but is stimulating. It is also, with regard to the digestive organs, the safest beverage that can be drunk. Tea signifies (?) thirst; beer creates thirst. There is the difference.

"Many persons on the East side like beer because it is always drawn cold. We will have our tea equally cold, and, moreover, there will be ice in it. You cannot put ice in beer, you know, for it would spoil the drink.

"We shall conduct our bar at 76 Allen street on liberal principles. Ice cold tea and tea steaming hot will be on draught at 1 cent a cup, and we shall be prepared to fill "growler" cans at a nominal sum."

THE SCIENCE OF TEA-BLENDING—PRACTICAL HINTS.

The *Grocer* publishes the following as written by an Expert:—It has now become so entirely a matter of course with the trade to blend several kinds of tea together before offering them to consumers that it is somewhat astonishing to reflect how recent is the growth of this practice. When tea was first introduced the kinds were few, and it found its way to the public in leaf or in infusion through the coffee-houses, duty being levied on the infusions at the rate of 8d. per gallon; and from the time Garway issued his oft-quoted advertisement, in 1659, until within the last fifty years the bulk of the imports found its way into the housewife's tea-pot unmixed, or if mixing were done it was done by the good lady herself, who would have by her some fine orange pekoe or choice gunpowder to add to her bohea or souchong on great occasions.

It was not indeed until Indian teas came fully on to the market that the practice of blending became universal. Their great strength was a valuable quality which would not allow them to be ignored; while, on the other hand, their harshness made them unacceptable to the public by themselves. Hence they were mixed with China tea, at first in small proportions; but, as the production increased, and improved cultivation and manufacture removed many of the objectional qualities possessed by some of the earlier imports, the proportion of Indian tea became larger and larger until, rapidly following on the production of large supplies from Ceylon, China tea gradually dropped out of use, until it now forms only a fraction of our supplies for home consumption.

A COMPARATIVELY FEW YEARS AGO

each grocer blended his own tea, and their thought and skill went to make up the various canisters of the leading men. In other cases, however, carefully treasured formulas were slavishly adhered to, and blends made up from them by rule of thumb, regardless of the different requirements of various districts or of the changing taste of the public.

The cause of the failure of many retailers to work up a successful and profitable tea trade lay, beyond doubt, in the fact that their blends were unskilfully compounded, many of them undertaking the prepartion of blends while lacking the requisite knowledge of the properties of the various classes of tea, or the lines on which they should be combined; and through the neglect of many, even of the largest buyers, to go into the matter scientifically, immense quantities of good tea were annually spoilt, and many grocers were glad to hail a deliverer from their difficulties when the wholesale blender made his appearance in the trade.

The rise of the wholesale blending houses seems a recent event, even to those of us who consider ourselves still young in the trade, and the system has certain obvious advantages to recommend it. Moreover, it has strongly in its favour the fact that it is in harmony with a tendency of the time, much deplored by the old school, by which the grocer is daily becoming more of a distributor of proprietary articles. Now-a-days, however, tradesmen cannot afford to look on trade questions from a sentimental standpoint, and if by lavish advertising a demand is created for certain brands of tea or soap or what-not, the grocer must be prepared to supply that demand.

With regard to loose tea, however, the position is different. The purchaser of a pound of 1s. 8d. tea does not ask whether it is the grocer's blend or Messrs. So-and-so's blend, and it is for the grocer to consider which of them it is to his advantage in the long run to supply. Briefly summed up,

THE ADVANTAGES THE GROCER FINDS

in buying ready blended tea are saving of time and trouble and reduction of stock; the disadvantages are loss of individuality in his teas, and the fact that any Tom, Dick, or Harry, without knowledge of the trade or experience, can supply exactly the same article at the same price as the trained grocer. In view of the great and and increasing complexity of the modern grocery trade it would perhaps be a counsel of perfection to urge the desirability of every grocer becoming a tea expert and blending the whole range of tea he stocks; but it is surely within the range of possibility for a grocer to have at least one leading line in tea to which he should give special prominence, and which should be his own blending, individualised, and different to that which his customers could obtain elsewhere.

Such a blend he could confidently introduce to his customers as his own speciality with the object of arousing their interest and securing their recommendation; skilfully worked this should g him a hold on the tea trade of his district that will be extrem difficult for rivals to upset. The

CHIEF OBJECTS TO KEEP IN VIEW

in making up the blend are that it shall come out well in the wa in which it is to be infused, and that it shall possess a flavour wh shall please the taste of your customers, and at the same time sufficiently distinctive to make the blend your own speciality; a he who secures these objects in the simplest way and at least c will be the most successful blender.

The first consideration then is the water of your district. I contains lime and other minerals in solution it is termed "har and such water fails to draw out the characteristics of smooth ri teas, and strong rough kinds have to be employed. In "soft" wa however, all that is in the tea comes out, and the strong rou kinds suitable for hard water taste coarse and rank, and the f flavoury kinds are more suitable. The next point to consider is

THE TASTE OF THE CUSTOMERS

for whom you intend to cater. The taste of the consumer var very considerably according to the district, and to a certain exte this taste must be followed by the man who intends to work up big trade. Certain bold spirits, however, finding the taste in th district to be, in their opinion, vitiated by an excessive use scented caper or other breach of the laws of good blending, ha made it their study to educate and elevate the taste of their cus mers, and have achieved success. This, however, is an arduo and slow process, and most retailers of tea will probably prefer t simpler method of falling in with the prevailing taste of th customers at first, and introducing improvements from time time as they see their opportunity. The danger of this course that the blender may allow his teas to sink into a dead level w those of his neighbours, without distinctive character or qualit and this brings us to the third and, perhaps, the most importa essential of good blending, namely, the necessity of

YOUR BLEND BEING SUFFICIENTLY DISTINCTIVE

to make it your own speciality. This can always be done, whe necessary, within the lines of the taste prevailing in your distri But where there is a freer scope by reason of a more varied tas as in London or other large centres, the blender has a much wid range from which to select his special flavour and style; and th we find, on examining the teas of the leading London retail tea-m hardly any two of them are composed upon the same lines, the a of each being to make a blend differing from that which his cus mers would obtain from other sources, knowing that when on they had become used to his tea, provided it was really good, an pleased with its distinctive flavour, their custom would be assu to him. This is the secret of the success of most of the best-kno blends and blenders. It is a point too often utterly ignored grocers, but which must be most carefully attended to if they me to retain and increase their tea trade.

To put the matter practically I would say, first ascertain the n ture of your water supply; next the approximate composition the blends which are going into consumption most extensively your district; then experiment to improve on the said blend wi the teas indicated as being most suitable for the water; and fina introduce some striking ingredient into your blend that sh differentiate it from those of your neighbour. There are ma ways of doing this - by giving prominence to some Indian gard of marked character, or by introducing autumnal tea, or using small quantities (about an ounce to a pound) Namuma tea, Ceyl oolong, Canton or Foochow scented tea, or Formosa oolong. Ea of these teas has its own distinctive qualities, and combinations them give scope for a practically endless series of distinguishi characteristics which may be imparted to your teas.

The ingredients of your blend being selected, your next ca must be to

GET THEM THOROUGHLY ASSIMILATED.

This is best effected, in the first place, by the use of a good tea-mix which will distribute the leaves of the various teas in a fairly ev proportion throughout the bulk; but so far the assimilation w be merely mechanical and necessarily to a great extent imperfe To render the assimilation thorough and complete the blend mu now be put in air-tight canisters and allowed to remain in a roo with as even temperature as is possible, for at least a week. this time the interchange and combination of the flavours of t various ingredients will usually be accomplished, but in some stances it will be found to be advantageous to allow the blend mature for a longer period.

The question of the appearance of your tea is one that should not e neglected, as although the remark that "tea is not sold to look t" is true enough, yet it is remarkable to what extent people are rejudiced for or against a tea by its appearance It will therefore e found desirable in most cases, and especially where teas of irre-ular appearance are used, to sift them before putting into the nixer, to remove the large leaves, which should be cut to gauge in tea-mill or broken through a sieve and then placed in the mixer vith the rest of the blend; in some cases it may also be necessary o sift out the dust, but this is not recommended, as it is the best iquoring part of the tea.

Your blends are now ready for sale, and, of course, after they eave your hands you, to a great extent, have no control over their ate. and the result of all your care and skill may after all be well nigh spoilt by careless or improper brewing; therefore it is well o print clearly on every tea wrapper brief

HINTS AS TO HOW TEA OUGHT TO BE MADE,

n which the following points should be insisted on. First, the vater must not be put on until it boils, and it should be put on the very minute it does boil—water not quite boiling or water that has been boiling some time will spoil any tea; next, the teapot must not be allowed to stand under a cosy for an indefinite period—indeed, perhaps the most common mistake in making tea is allowing it to stand too long. The first three minutes bring out the quality, the next three or four add to the body, but beyond seven minutes the onger it stands the worse it gets. These are the two most import-nt points.

It should be known, however, that there is nothing so good as he old-fashioned brown earthenware teapot for making tea; next o that comes the real silver teapot.

A FEW CAUTIONS

n conclusion. Avoid unsound teas most rigorously; a tea with the least trace of mustiness or "mousey" flavour will spoil any blend.

Scented teas are often used most unwisely. For ordinary purposes one part in twelve, or even one in sixteen, is quite sufficient to give the blend a distinctive flavour. Fine Ceylon or Formosa oolong or Foochow pekoe are the most desirable kinds for the purpose.

Of course the above applies to ordinary trade. There are districts where people drink a mixture of one part caper and two parts pungent broken Assam, and appear to like it.

Remember, if your tea is allowed to stand near any strong-smelling articles it will absorb their flavour. Fine teas are often ruined by contact with soap, cheese, or other items of a grocer's stock.

In conclusion, be sure your blends have a distinctive character. Let them always be the same style and always kept up to standard quality, so that your customers will learn to rely on them, and come for them again and again. It is thus that big businesses are built up.

THE CEYLON TEA SITUATION.

A CHAT WITH AN AUTHORITY.

"Omar" writes in the *Canadian Grocer*:—Mr. C. Arthur Lampard, of Harrisons & Crasfield, London; Crasfield, Lampard Co., Colombo, and Lampard, Clarke Co., Calcutta, is spending a few days in Toronto this week. Mr. Lampard has been in England about eighteen months, and is now returning to the Orient by way of Vancouver. He intends to spend the next four years in India and Ceylon. The particular object of his visit to this continent is to gather, from a personal observation, what methods are being employed to push Ceylon tea here. In pursuance of this object he has already visited some of the commercial centres in the United States and in Canada.

"In my opinion," he said, in answer to a question, "the best thing for us to do is to advertise liberally and leave to private enterprise the pushing of the tea. We have already got the cities pretty well. What we want now is to get the people in the country to drink Ceylon tea. At present, however, the people in the country largely use Japan and green tea, and it is always more difficult to turn these to Ceylon and Indian tea than it is those who use black tea. This is quite natural, as the change from China black to Ceylon tea is not as marked as the change from green to Ceylon and Indian tea. When I went to Russia, some ten years ago, to introduce Ceylon tea I was told that the Russians would never take to our tea. As they were black tea drinkers, I thought different. Well, I sold them 200 packages, or about 20,000 lbs.; to-day they take 8,000,000 lbs."

"Are you going to see much expansion in the acreage of Ceylon tea?"

"As far as the finest teas are concerned I think not. You know the finer and the better flavored teas are grown on the higher elevations. The higher you get up the mountain sides the better do you find the tea. Well, practically all the land on the high elevations has been taken up. On the low lands, however, there is room to expand the plantations, but, on the low lands, only low-grade teas can be produced. By utilizing the low lands, the total yield of tea in Ceylon could be increased, I should think, to 150,000,000 or 160,000,000 lbs."

"The yield for the present year is estimated at 125,000,000 lbs.," I interjected, "and some estimate that the maximum yield in any year will not exceed 130,000,000."

"Yes, I know," replied Mr. Lampard, "but I think those who estimate that 130,000,000 lbs. will be the maximum are not taking into consideration the possible increase in the acreage in the low-lying districts. As far as this year's yield is concerned, I think it will be nearer 128,000,000 than 125,000,000 lbs."

"What is your opinion in regard to the future of prices?" I asked.

"Well, my opinion does not accord with that of a good many others. But I am confident I am right. I think that we shall see a lower range of values than at present exists, from the very fact that the conditions now obtaining will lead to an increased yield. For instance, we now pick a bud and two leaves. Well, it is a simple matter to pick another leaf. Then there is the fact not to be overlooked that a high price on Ceylon tea will mean an increase in the attention to China tea."

JAVA QUININE.

Mr. C. W. van Heeckeren, director of the Bandoeng factory, has written a very long letter to a Java paper to protest against certain serious insinuations made in that journal, in which it was alleged that the Bandoeng works had carried on a private speculation in quinine made by them for Java planters. It was said that the factory had led the planters to believe that this quinine was held in stock for the planters' account, whereas in reality it had been privately sold by the factory. Prices subsequently rose, and when the planters gave orders for their quinine to be sold, it transpired that it had already been disposed of months ago, whereupon the planters decided to break off relations with the Bandoeng works, and to consign their barks to Amsterdam as before. The statement was made that the German quinine-makers, out of enmity to the Bandoeng works, had purposely engineered a rise in the market as soon as they got wind of the aforesaid speculation, so as to bring about a breach between the planters and the Bandoeng works. Mr. Van Heeckeren denies all these allegations. He says that the factory is debarred by its articles of association from trading in quinine, all that the works make being sold through Messrs. McNeill & Co., of Samarang. The accounts between the works and the planters are settled in March of each year, when Messrs. McNeill are in possession of the account sales for the whole of the preceding year. No one could have foreseen the sudden rise of quinine to 1s 9½d last March, and Messrs. McNeill before that rise had sold at from 12½d. to 14d. per oz. on delivery. On January 1 about 5,000 kilos. of quinine had been made by the factory, for which the owners had not yet received an account-sale. Of this only 120 kilos. were at the works, 1,000 kilos. were at Batavia, and 3,600 were on the way to various ports. During January and March about 3,200 kilos. made at Bandoeng were sold. Mr. Van Heeckeren complains that the Bandoeng factory is badly supported by the Java planters. Some of them habitually belittle it, and carp at its working. The total production of the Bandoeng factory between January 1 and March 13 was 320,000 oz., of which Messrs. McNeill had sold in the same time 253,580 oz., at an average equivalent of 7c. per unit gross. In commenting upon Mr. Van Heeckeren's letter the Java paper maintains its allegations, although it acknowledges that the speculation was not undertaken for motives of illegal personal gain, but was merely an ill-considered speculation in the interest of the planters, who, unfortunately, have turned out losers over the affair.—*Chemist & Druggist.*

A CEYLONESE TEA-MAKER IN CHINA.

WORK IN RUSSIAN TEA FACTORIES. TEA-MAKING BY MACHINERY.

In a recent issue we (says an evening paper) referred to the return of Mr. Francis Allehakoon, a Ceylonese tea-maker, who came back to the island after spending sometime in China, whither he proceeded under an agreement with Messrs. Molchanoff, Pechatnoff & Co. to make tea in one of their factories in the interior. Mr. Allehakoon has given one of our representatives an account of his experiences in that country, and his description of the tea gardens, and process of tea manufacture there will be found interesting reading

Mr. Allehakoon, who was formerly tea-maker on Atgalla, Gampola, under Mr. G. C. Bliss, left Ceylon on the 16th January last in the steamer *Sydney* for Shanghai, from where he went on to Hankow, 600 miles distant, by a small coasting steamer, the trip occupying five days; while from Hankow he had to go some 114 miles into the interior, his destination being a place known as Yung-lo-den, the journey from Hankow being made my river boat and palanquin. It is described as a fine tea district, lots of tea all round, but in small patches, ranging from about 30 to 60 acres, all belonging to the Chinese. Messrs. Molchanoff, Pechatnoff & Co. have started a factory there, and buy large quantities of green leaf from the native growers. Work is carried on for about six months and when the season is over there is practically nothing to do. The factory, however, is equipped with only a small oil engine and a 32-inch tea-roller, while the

FIRING IS DONE BY THE CHULA PROCESS

—as still obtains in some of the small native gardens in Ceylon—the Chinese using wood charcoal for the purpose, and the firing being done fairly well. Of green leaf, some 4,000 lbs. to 5,000 lbs. were brought in daily to the factory during the season, which, as above stated, only lasted six months,—from the end of March to the end of September,—while the other six months there was no green leaf to be found, the cold being very severe and the ground covered with snow for long periods. As a contrast to this, the summer months were hot, at times the heat being very trying. When Mr. Allehakoon reached Yung-lo-den he says the winter was not over and he suffered from the cold considerably. For two months there was no work done, but after that large quantities of made tea were turned out of the factory. A much larger amount could be purchased if it were not for the native buyers, of whom there were large numbers. They, however, carried on their work in a very primitive fashion, so that there was nothing much to fear from them as regarded competition. A large quantity of this native-made tea was also bought at the Russian firm's factory, but required to be re-fired. About 200 to 300 male coolies were employed in the factory for sorting and packing, while about 300 to 400 women were engaged only in picking out of the tea the stalks and other rubbish, of which there was plenty; and finally the different grades, from broken orange pekoe to dust, were packed in lead-lined half-chests, containing about 50 lbs. each. The lead used was very much thicker than that used in Ceylon, and the outside of the chests was ornamented with paper, covered with Chinese characters and floral designs. The tea, however, it may be mentioned, was

PRESSED INTO THE CHESTS BY THE BARE FEET

of coolies. The native wood used for the chests was good and durable, and with the lining, &c., must have weighed an additional 15lbs. All the tea was despatched to Hankow and then shipped to Russia. Yung-lo-den itself is a thickly-populated district, and the green leaf is brought from 2 to 13 miles by the natives, and delivered at the factory door at a cost of 5 Mexican-dollar cents a lb. The tea is a fine, small leaf, with a soft flavour, but on the whole is not so good as the Ceylon product, and infusion being very light with about half the strength of Ceylon tea. In plucking there is no distinction observed, and coarse and fine leaf are mixed together, which necessitates much sorting and picking of the made tea. Pruning is an unknown practice there, and the bushes are left to grow at will; nor are the gardens weeded, with the consequences that there is a lot of scrub among the tea. The bushes are strong and healthy ones, about 3 feet in height, but a great many useless branches are allowed to remain. Mr. Allehakoon was in the factory about two months, from March to May, as a month after his arrival there another tea-maker from Ceylon turned up, and his time being over, he having gone only on a six months' agreement, Mr. Allehakoon returned to Ceylon.

BRICK TEA FACTORIES.

Whilst at Hankow he took the opportunity of visiting the Russian tea factories there. Messrs. Molchanoff, Pechatnoff & Co., and Messrs. Tokmakoff, Molokoff & Co., and another Russian firm having huge buildings there. Messrs. Molchanoff, Pechatnoff & Co. had the two largest factories, which are very much bigger than any in Ceylon. The number of hands employed in these was also enormous, there being over 8,000 coolies and carpenters employed in each factory during the tea season; and in these factories only brick tea for the Russian market was manufactured. Souching and other low grades were chiefly used and the process of manufacture consisted in steaming the leaves and subjecting them, while damp and pliable, to great pressure in wooden moulds, about 4 lbs. of tea being used for each brick, which was afterwards hardened into the consistency of stone, when it was ready for export.

CALCUTTA TEA SALES.

"J." writes in *Capital*:—

The prices of teas sold on garden account in Calcutta cannot but be depressing to those interested in the industry. The question which naturally suggests itself to those who are affected by the present slump is, why the present depression? Is it justified, or otherwise? Some little time ago we reviewed the position, and we then pointed out that the inflation in Calcutta was not justified by the statistical position, and that there could but be grief if it was carried on; and our forecast has, unfortunately, been more than justified by the sales held to date, and we venture to say that there is just as little reason for the present slump as there was for the former boom. 'Tis true that London regulates the values of most articles of produce, but with regard to tea this is, according to our brokers and experts, to a certain extent in Calcutta, held in check by the Persian Gulf and other outside markets. To a certain extent this may no doubt be true, but as these markets take only what we might term whole leaf teas, the heavy burden of all the brokens is thrown upon London, with the result that we see it reflected in the values realised for these classes in the sales held up to date. In former years a planter looked to his brokens running up his average, but the result now is that, if he makes much brokens, he lowers his averages. All the same, we cannot but think that the price now paid for brokens in Calcutta is very much below the values obtaining in London, and those who lost so heavily in the first auction in buying are now recouping themselves in what they are bidding for these classes. The commonest tyro knows that a Broken Pekoe liquor is far stronger than a Souchong or Pekoe Souchong one, *i.e.*, it makes more cups of tea, and after all this is what should regulate the values, yet we see Souchongs alongside of Broken Pekoes, at 5 annas per lb. or thereby.

The prices in London realised for garden invoices in 1898 worked out on an average the same as the year before, but according to the Administration Report of the industry by the Assam Government the Calcutta sold teas only realised an average of $\frac{\text{Assam}}{\text{Cachar and Sylhet}}$ $\frac{6A\ 9P}{5A\ 0P}$ against $\frac{7A\ 8P}{5A\ 11P}$ in 1897. This would point to a good season for buyers. What are the reasons then of the present slump? The statistical position is good, notwithstanding the increased export of, say, five million lbs. This year when the season commenced the stock was considerably more than this under the year before, and some three millions of this increased export is due to increased facilities of transit, and also to Sylhet and Cachar sending in their usual quantity. The large companies are to a great extent to blame for this sort of panic, for most of them instructed their managers to rush their teas down to Calcutta at no matter what cost. Such general instructions cannot be kept secret, and in addition they left the impression behind that those most interested had no faith in their own property. We imagine if it were possible to get at correct figures that of the five millions extra shown as exported, there is really only about a million lbs. extra as compared with a normal year, the four million representing Cachar and Sylhet, increase over an abnormal year, and the rest by all districts combined hurrying forward their crops. These figures are calculated on the year ending 31st May, as per reviews of the season 1898-99 received by mail before last. Were we to take the figures which will be out ere this can appear in print, *i.e.*, to end of June, the position would be more accentuated. As June has been a most unfavorable month in all districts, in fact, has not been normal in many, so that the

uge leaps and bounds will not be increased by any but new gar-dens' produce. It will be noted that the earlier highly speculative prices paid by buyers had the effect of driving out those of the Persian Gulf, who have now that things have sobered down come to the front again and we hope may continue to do so, although we doubt if the prices they pay are more than equivalent to London ones, but they have this good effect, that they lighten London of so much weight, that it is bound to do good, even at equal prices. It's a thousand pities that outside markets for the lower class of Broken and higher class of dust such as Pekoe kinds cannot be opened up, as we believe it would ease the market more than the taking of any of the whole leaf grades Such a market, we think, might, with proper pushing, be found amongst the lower castes in Northern India. The fact that tea shops are in existence where the Indian Hodge can drink his cup just outside the gates of some of our jute mills, is proof positive that he has only got to have the article put before him properly to appreciate it, and look what seeming millions there are to consume it, could it be but properly pushed.

TEA, &c., COMPANIES.

International Tea.—The balance brought down on the profit and loss account is £90,933, against £76,113 for the previous year. It is proposed to pay a final dividend on the ordinary shares, making 3 per cent. for the year, and to carry forward to the next account £4,219.

Mojuli Tea.—For the year ended December 31st last the crop produced amounted to 1,123,632 lbs., being 89,632 lbs. in excess of the estimate and 223,942 lbs. over the outturn of 1897. Quality showed a slight falling off, which, combined with the low range of prices ruling during the greater part of the sale season, resulted in the rather unsatisfactory average of 8¾d. per lb., against 9¾d. in the previous year. The revenue for the year amounted to £41,385, and the expenditure to £36,757, leaving a surplus, after payment of commission to directors and European staff, of £4,140. The directors recommend the declaration of 2½ per cent. final dividend on preference shares and 5 per cent. on the ordinary shares. The balance of revenue will then amount to £5,090. From this sum the directors recommend that £5,000 should be carried to a reserve fund. The crop for the current season is estimated at 1,128,000 lbs.

Moabund Tea.—The crop of tea produced during the past season amounted to 1,017,291 lbs., which, as compared with the yield of 1897, shows the satisfactory increase of 233,748 lbs. The average sale price of the crop was 9 9/16d. per lb., against an average of 10⅞d. obtained for the produce of 1897. The amount realised for the crop, notwithstanding the lower range of prices, was £5,354 in excess of the returns from the teas of 1897. The directors recommend a final dividend of 2½ per cent. on preference shares and a dividend of 5 per cent. on ordinary shares, leaving £229 to be carried forward. The estimates for the current year provide for a crop of 1,180,000 lbs., or an increase of 160,000lbs. on last season's outturn.

Attaree Khat Tea.—The crop, *viz.*, 836,414 lbs., fell short of the estimate by 83,586 lbs , being also 15,836 lbs., less than that of the preceding year. The average price obtained for the crop was 9 1/16d. per lb. The accounts show a profit, after deduction of commission to European staff, of £1,964 which, added to the amount at credit of revenue, gives a total of £5,989, from which it is recommended that a dividend be paid of 4 per cent. on the capital, leaving £3,319 to be carried forward.

Assam Frontier Tea.—The report for the year ended December 31st, 1898, states that the total crop was 3,444,940 lbs., which realised a gross average of 10·52d. per lb., as compared with 10d. per lb. in 1897, and 10·77d per lb. in 1896. The directors consider that the profit of £27,334, as shown in the crop account, is most satisfactory. The revenue account shows that after paying the 2 per cent. dividend on the preference shares accumulated from 1897, and an *ad interim* dividend of 1 per cent. on the preference shares on December 31st last. debenture interest, income-tax, and £5,000 towards the redemption of debentures, there remains an available balance of £13,286. The directors recommend a further dividend of 5 per cent. on the preference shares and a dividend of 4 per cent. on the ordinary shares, leaving a balance to be carried forward of £461.

Borelli Tea Co—Owing to a low price for tea, an advance of 9 per cent. in ocean freights, and expenditure upon buildings, the profit last year was only £431, being little more than sufficient to pay the preference dividend. Including the balance brought forward, the sum of £2,703 remains at credit of profit and loss, but this is so employed that it is not available for dividend.

Imperial Tea Co., Ld.—Whilst showing a net deficit of 247,072 lbs. on estimates, the actual outturn of 2,617,488 lbs. is 524,979 lbs. in excess of 1897. Of this outturn there was sold in Calcutta 1.839 931 lbs., at an average of 5 annas 6¼ pies, and in London 777,517 lbs , at an average of 7·693d, compared with 6 annas 1 pie, and 7·564d. respectively in 1897. Quality from Assam and Dooars was generally fair, but that from Sylhet and Cachar was exceptionally poor. Darjeeling teas again showed inferior quality throughout the whole of last season. The 600 acres estimated for have been added to the land under cultivation. The revenue account for the year, after crediting £1,106 brought forward from season 1897, shows a balance at credit of £7,017, of which the dividend on the cumulative preference shares at the rate of 5 per cent. per annum, absorbed £6,000, leaving a balance of £1,017, which it is proposed to carry forward.

Scottish Assam Tea Co., Ld.—The estimated crop for 1898 was 544,000 lbs., or about 59,000 lbs. more than the actual crop of the preceding year. The season ended, however, with a total crop of only 524,378 lbs., being an increase over 1897 of 39,012 lbs. The total revenue for 1898 has amounted to £21,547, and the total expenditure applicable to the year has been £19,818, showing a surplus on the year's transactions of £1,729. To this add balance (£184) brought forward from last year, making at credit of profit and loss account, as at 31st December, 1898, £1,912. The directors recommend that this be applied as follows:—In payment of a dividend of 2 per cent. £1,592, and to carry forward to next account, subject to deduction for directors' fees, income-tax, and commission to manager, &c., all for year 1898, £321. The directors trust, however, that the reduction of dividend will prove only temporary, and meantime it is satisfactory to reflect that during the last sixteen consecutive years the company has not only been able to pay an average dividend of fully 5¼ per cent. but has also during that time very considerably reduced the average capital cost per acre by additions out of revenue, besides accumulating a reserve fund of £4,000.

The Anglo-Ceylon Tea Co.—The profit on the year's working of the Company is £18,650 allowing a dividend of 4 per cent.

MARKET REPORT.

Per Mail Advices of 23rd June 1899.

COFFEE.

The *London Commercial Record* says:—At the commencemet of the week the tone of the market was very dull, and prices, except for fine qualities, shewed a declining tendency. Subsequently there was a rather better feeling, and with more competition a fair quantity, chiefly Costa Rica, was disposed of at steady prices, but yesterday tone became very quiet again. The bulk of the East India has again been of inferior quality, for which bidding has been very slow, but fine lots continue to sell fairly well. Jamaica and Mocha neglected. Owing to reported damage to the Santos crop by frost there was at one time a rise of about 1s per cwt. in the price of Brazil futures, but the improvement has not been maintained, and closing quotations only shew an advance of 3d per cwt., *viz.*:—

London ...	... Santos ...	Sept. delivery	... 28s. 3d
New York	... No. 7 Rio...	„ „	... 4·80 cents.
Hamburg...	... Santos ...	„ „	... 28½ pf.
Havre ...	... Santos ...	„ „	... 34¼ francs.
Holland ...	... Good ordinary Java ...		... 26¾ cents.

At the Dutch Trading Company's public sale on Tuesday in Amseterdam, 23,670 bags 20 cases sold at 26¾c. for good ordinary, against 28c. the valuation, and 27¾c. last sale.

Imports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
Tons ...	24,943	18,026	29,833	28,414
	Home Consumption.		Export.	
	1899.	1898.	1899.	1898.
Tons ...	8,091	7,324	11,237	12,669

The preceding figures exhibit—

In the Imports an increase this year of ... ... 1,419 tons.
In the Home Consumption an increase of ... ... 767 „
In the Export a decrease of... ... ... 1,432 „
In the Stock an increase of ... ... 6,917 „

Auctions this week have passed off as under:—

CEYLON.—*Plantation.*—6 casks 6 tierces 2 barrels 1 bag sold, smalls 67s, low middling to middling 93s to 97s 6d, bold 102s, pea-berry 95s

EAST INDIA.—2,252 bags partly sold as follows:—*Mysore*—Smalls 26s to 38s, low middling to middling greenish 37s to 58s, middling dull colory 63s, bold 80s to 90s, pea-berry 43s to 49s. *Neilgherry*—Smalls 38s 6d to 47s 6d, low middling 44s, middling 58s good bold 80s, pea-berry 58s to 65s. *Nelliampathy*—Small 37s 6d to 42s 6d, low middling 49s to 50s 6d, fair to good bold 66s 6d to 71s, pea-berry 63s to 68s. *Shevaroy*—Smalls 40s, low middling 48s 6d, bold 60s. *Wynaad*—Bold cherry 41s 6d.

MOCHA.—41 half-bales retired.

JAMAICA.—166 barrels 154 bags bought in.

COSTA RICA.—5,799 bags mostly sold, smalls 26s 6d to 37s, fine 54s, good to fine ordinary 33s to 42s fine fine ordinary 42s 6d, low middling to middling blue 45s to 65s 6d, good middling 66s to 70s, good to fine bold 73s to 96s, pea-berry 33s to 76s

GUATEMALA.—4,955 bags partly sold, smalls 25s to 37s 6d, good to fine fine ordinary 32s to 40s 6d, low middling to middling 43s to 45s, good middling 50s to 58s, fine middling 76s to 77s 6d, fine bold blue 91s, pea-berry 38s to 83s.

COLOMBIAN.—2,050 bags partly sold, smalls 25s to 33s, good ordidary 32s to 32s 6d, fine ordinary to low middling 36s to 42s middling to good middling 42s 6d to 58s 6d, good bold 59s to 64s 6d, fine 81s to 85s 6d, pea-berry 38s to 56s 6d.

SALVADOR.—1,159 bags half sold—good to fine ordinary 32s 6d to 39s 6d, low middling to middling 40s 6d to 46s.

NICARAGUA.—415 bags sold, good to fine ordinary 33s to 36s, fine fine ordinary to low middling 37s to 41s 6d, middling 46s 46s 6d, bold 59s 6d, pea-berry 30s.

ECUADOR.—49 bags sold at 27s 6d for good ordinary pale.

BOLIVIAN.—20 bags sold at 29s 6d for good ordinary greenish.

GUATEMALA.—37 bags withdrawn.

MEXICAN.—Of 724 bags offered, 300 bags sold, triage 18s, small 32s to 35s, low middling to middling 41s to 50s 6d.

VERA PAZ.—297 bags sold, smalls 34s to 43s 6d, middling to good middling 50s 6d to 63s, good to fine bold 74s 6d to 95s, pea-berry 70s to 81s.

COBAN.—44 bags sold, low middling 44s, middling to good middling 50s to 58s.

BRAZIL.—29 bags Santos sold at 29s landed terms for bold pale foxy.

Receipts in Rio and Santos.

Since July 1	1898-9. Bags.	1897-8. Bags.	1896-7. Bags.	1895-6. Bags.
Rio	3,133,000	4,263,000	3,509,000	2,357,000
Santos ...	5,505,000	6,104,000	5,042,000	3,039,000
Total ...	8,638,000	10,367,000	8,551,000	5,396,000
Crop ...	—	10,461,000	8,680,000	5,489,000

To-day's catalogues comprised 756 bags East India, 5,193 bags Costa Rica, 592 bags Colombian, 160 bags New Granada, 639 bags Salvador, 297 bags Nicaragua, 100 bags Guatemala, and 277 bags Mexican. The sales went off irregularly; good coloury qualities sold well at full prices, but faded E.I. and common qualities were flat and lower.

Prices realized at auctions for some of the principal marks of East India—

MYSORE.

	0	A	B	C	PB	T
M B Honeyvale Mysore ...		55-0 bid	41-0	35-6	55-6 bid	30-0
Badnekhan Mysore		47-0	37-6	35-6	no bid	27-0
Mysore ✠ Q		65-6 bid	47-0 bid	35-0 bid	68-0 bid	30-6
Hyathkhan G Mysore		70-0	49-0	44-0	63-0 bid	28-0
Do. M do.		73-6 bid	50-6	41-6	79-0	30-6

	0	A	B	C	PB	
H C K Mysore		96-6	74-0	43-6	85-0 bid	27
Horikhan Mysore		no bid	no bid	36-6	no bid	26
R K Mysore		no bid	no bid	36-0	no bid	25
H E I Mavinkere Mysore ...		no bid	45-0 bid	36-0	no bid	28
M B Honeyvale Mysore ...		42-0 bid	33-6	31-6	41-6	26
H C S Mysore		89-0 bid	69-6 69-0	36-6	88-0 bid	32
M B Merthikhan Mysore ...		48-6 bid	42-0 bid	36-6	48-0 bid	29
H C S S Mysore		90-0	64-0 64-6	41-0	no bid	28
D C G Kooshoor Mysore ...		no bid	46-6 bid	40-0	70-0	28
Teerbidykhan Mysore		75-0 bid	63-0	41-0	77-0 bid	40
M B Merthikhan Mysore ...		48-6	38-0	32-0	46-6	30
H E I Mavinkere		45-6	37-6	34-0	43-0	28
C V G ◇ Mysore		80-0	58-0	37-6	no bid	28
D C G Kooshoor Mysore ...		63-0 bid	46-0 bid	37-6	65-0 bid	30
B A B Mysore		48-0	37-0	35-0	49-0	28

	1	2	3	PB	
Edwin Hunt's Caugnoor Mysore ...	65-0 bid	no bid	37-0	70-0 bid	27

NAIDOOBATUM.

	A	AA	B	PB	
Helen W P C	93-0	77-0 bid	48-0 bid	40-6	68 bi
Barwood do.	78-0 bid	71-0 bid	50-0 bid	39-0	68 bi
Hope do.	107-0	99-6	70-6	47-6	89
Suffolk do. ...	94-0	91-0	60-0 bid	40-6	64 bi
Barham do.	89-0	77-0 bid	53-0 bid	39-6	no bi
Kelly do.	100-0	83-6 bid	61-0 bid	42-6	70 b
Tulloes do. ...	100-0	97-6 97-0	58-0	40-0	67 bi
Guynd W P C	95-0	87-0 bid	60-0 bid	41-6	69 bi
Do. do.	93-0	87-0	60-0	47-6	70 H
Lauriston do.	88-0	76-6 bid	52-6 bid	43-6	70
Do. do.	94-0	87-6	53-6	40-0	70
Kelly do. ...	97-0 bid	91-0	60-0 bid	42-6	72 b
Hope do.	109-0	101-6	63-0 63-6	48-6	81
Goodaloor Mullay	100-0	99-0	70-0 73-0	52-0	85
Naidubatum T	29-3	45 6	—	53-6	

COORG.

	A	B	C	PB	
Bajee Collie South Coorg ...	51-0 bid	42-0 bid	35-0 bid	no bid	29
D B C Coorg	80-0 bid	no bid	40-0	81-6	29
C 1 Pulkimad Coorg	75-0 bid	53-0 bid	34-0	73-0	31
School Coorg	70-0	46-6 bid	35-0	67-6	31
C 1 Pulkimad Coorg	66-0	43-0	35-0	60-0	27
Cota Kadoo Coorg	no bid	no bid	no bid	no bid	
Chisholm's Coorg Corringa Betta (Cherry)	42-6	39-0 38-6	—	40-6	27
C S Moornaad Coorg	no bid	no bid	31-0	66-0 bid	2

	1	2	3	PB	
Arbuthnots Coorg Polli Betta ...	no bid	no bid	—	no bid	3
Do. do. do. × C ...	47-6 bid	43-0 42-6	40-0	44-6	2

NELLIAMPATHY.

	A	B	C	PB	
Chundra Mulla Nelliampathies ...	75-0	50-0	42-6	60-0	34

WYNAAD.

	A	B	C	PB	T
rrumaculla	45-0 bid	40-0 bid	36-0	50-0 bid	24-6
olarie	no bid	40-0 bid	33-6	no bid	24-6
anora Estates (Cherry) ...	37-6 39-6	—	—	36-0	—

NEILGHERRY.

	A	B	C	PB	T
ailoor	no bid	no bid	no bid	no bid	27-6
eriashola...	no bid	42-0 bid	35-0	no bid	24-0

SHEVAROY.

	A	B	C	PB	T
arara	61-0 bid	46-0 bid	40-0	no bid	33-0

TEA.

China.—Congous are in fair demand at steady prices. During e week 3,867 packages have been offered at auction and mostly ld as follows:—Oolong 7½d, common 4⅞d, Panyong 6¼d to 6½d, ingchow 6d to 9d, Kintuck 7¼d, Moning 6½d to 7¼d, Keemun 1s, ouchong 7d, Ching Wo 6¼d, Foochow 8d, Scented Caper 7½d, ekoe Congou 7d, Paklin 7½d; Green—Gunpowder 4⅝d to 7¾d, Sow ee 5¾d to 9d, Foong Mee 8d to 10¼d, Young Hyson 3⅞d to 7¼d r lb.

Indian.—As is usual during June public sales have been moder- e, *viz.*, 9,500 packages, of which 1,184 packages were new season's, mpared with 10,400 packages (3,800 new season's) last week, and 700 packages (3,600 new season's) in 1898.

This year's crop was chiefly represented by Darjeelings, and those ssessing point induced more competition, higher quotations being gistered in some cases. Old season's imports marked a firmer ndency for the upper grades and a weaker one for parcels under l per lb.

Catalogues included 780 packages of Travancore tea, mainly of eful quality, though they did not meet quite such a favourable ception as of late and results were lower.

For 963 packages (New Season's) on Garden Account 9½d per lb. as realised against 8¼d per lb. for 3,500 packages in 1898.

Ceylon.—Auctions were much smaller, amounting to 18,800 pack- ges, whereas on the 13th instant 25,900 packages were submitted, d 23,900 packages twelve months ago.

There was a good demand at a fractional decline for common ekoes and Pekoe Souchongs which occasionally touched 6½d per lb. air to medium leaf kinds also in most instances ruled easier, rtly due to the paucity of Continental orders, and to their being o light for many home buyers. Broken Pekoes, over 9d per lb., re again better supported, and a few stand out lots rose 1d r lb., owing to the scarcity of these descriptions from all quarters. The average is 7⅝d per lb. On the 15th instant it was rather er 7½ per lb., and 7¾d per lb. in 1898.

Java.—Nearly 2,000 packages, principally of direct import, passed e hammer, and although the greater portion were attractive in yle, prices, in sympathy with other growths, eased off a little. present 1,000 packages are advertised for next Monday and the d proximo.

Mauritius.—A small consignment from this island of a saleable aracter as regards both leaf and liquor was disposed of, consist- g of 55 half-chests of Orange Pekoe which fetched 7d per lb., d 64 half-chests Broken Pekoe 6½d per lb.

Deliveries.—The clearances of all Tea (on which duty has been id) from the London warehouses, as per official returns, were—

om 1st to 20th June, 1899	9,666,740 lbs.
„ „ 1898	10,659,474 „

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea port, dated June 23rd, 1899, says :—

QUANTITY BROUGHT TO AUCTION IN LONDON FROM 1ST JUNE TO DATE.

	Indian.	Ceylon.	Java.
99-1900 ...	... 39,973 pkgs.	80,736 pkgs.	4,056 pkgs.
98-1899 ...	... 30,668 „	80,846 „	1,912 „

11,715 pkgs. Indian
19,375 „ Ceylon
1,908 „ Java
} Total 32,998 packages were offered in public auction this week.

The Indian Tea Association of Calcutta have recently published ailed figures showing the distribution of tea from Calcutta to ious places outside the United Kingdom, thus affording an amount of useful information which, if taken advantage of, may lead to the development of some new markets. The total shipped to these markets was lbs. 18,657,841 (1898-9), against lbs. 14,532,618 (1897-8).

The most important places where Indian Tea goes direct are shown in the following table, and in addition to the large markets of Australia, "Indian Ports" and North America, Turkey has taken a considerable quantity, as well as Persia, Arabia, Germany and Russia. It would be interesting to know the destination of the large quantity headed "Indian Ports," but probably a large portion of it goes from Bombay to some of the Asiatic markets in the neighbourhood of the Persian Gulf.

Direct exports of Indian Tea from Calcutta (in lbs.) to places outside U. K., 1st April, 1898, to 31st March, 1899.

Australasia	6,293,950	Straits Settlements ...	34,299
Indian Ports	3,919,018	Africa	34,436
N. America	3,232,027	France	26,294
Turkey	1,994,507	Norway	8,480
China	883,295	S America	1,000
Germany	526,418	Austria	4,145
Persia and Arabia ...	1,504,845	Other places	17,223
Russia	49,958		
Egypt	127,946	Total lbs.	18,657,841

Indian.—In Monday's small auction, the proportion of New Season's Tea was somewhat small, in addition to which a large quantity of second-hand Tea was included in the sale. Speaking generally, prices showed a disposition to give way, Teas from 7d. to 8d. being especially weak.

The official telegram gives exports to U. K. for first half of June as lbs. 5,430,000 against 3,750,000 same period last year, making the total from 1st April to 15th inst. lbs. 11,132,000, against lbs. 6,457,000 last year. An official telegram also states that too much rain has fallen in most Tea districts, but that in the Dooars and Terai the weather has been fairly favourable.

Week's av. of New Season's Tea sold on Garden Account 1899, 1,608 pkgs., av. 8·53d. 1898, 4,741 pkgs., av. 7·60d.

New Season's Tea sold on Garden Account 1st June to date 1899 6,973 pkgs., av. 8.04d. 1898, 10,032 pkgs , av. 7·46d.

Ceylon.—19,375 packages were brought forward, against 26,181 last week. The quality of arrivals recently to hand, as is frequently the case at this time of year, has been poor; the lower quotations this week are in a measure due to this fact, although prices have given way for most descriptions excepting for fine Teas, and there were more priced Teas selling at 6¾d. this week than has recently been the case, while in one or two instances 6½d. was paid. For the few fine liquoring Teas buyers competed with considerable animation, and in many cases a distinct advance was noticeable in price. The official wire from Ceylon gives exports to U. K. from 1st to 15th June as lbs. 7,700,000 against 4,500,000 same period 1898, and estimates the quantity available for the month as lbs. 12,000,000, against lbs. 9,750,000 in June, 1898.

Average for week 7·62d., against 7·59d. in 1898.

Ceylon Tea sold on Garden Account 1st Jan. to date 1899, 496,113 pkgs., av. 8·27d. 1898, 541,125 pkgs , av. 7·63d.

Java.—A fair selection was brought forward, but prices were generally inclined to be weak, a large quantity being withdrawn for higher limits. The highest average was made by 59 pkgs. Tannawattee, 8¾d. per lb., and 108 pkgs. Perbawattee 8½d. per lb. 650 pkgs. are advertised for sale next week.

Bank rate 3 per cent. Exchange on London three months' sight. Calcutta 1/4 $\frac{5}{32}$. Colombo 1/4 $\frac{5}{32}$.

IN AMERICA.

Messrs Osborn & Lindsey report tea market slow but steady. The business done is so small that the peddling system is the only term that can be used adequately in connection with the present trade, and this character has been maintained for the past two or three months. Formosa Oolong are most in favor along with Japans, but so far as Messrs. Osborn & Lindsey have been able to observe the Ceylon and India consumption is not increasing. Even at its abnormal figures, it really means 5 per cent. of the whole tea consumption.

COCOA.

Auctions on Tuesday offered 9,584 bags, and, as importers were desirous of clearing, at a reduction of 1s to 2s per cwt. fully 5,000 bags sold. Of 1,482 bags Trinidad catalogued 1,200 bags sold,

good to fine red 69s to 71s, middling to fair ditto 65s to 67s, being 1s to 2s below valuations. Of 4,174 bags Grenada brought forward 3,450 bags found buyers, also at 1s to 2s per cwt. depreciation: superior bright red 68s, good to fine ditto 62s to 65s, and common to fair ditto 57s to 61s. 139 bags Demerara about half sold at 65s for fine red. 241 bags Jamaica, 83 bags St Lucia, 465 bags Dominica, and 186 bags Surinam were withdrawn. 72 bags Puerto Cabello about half sold at 130s for superior, and 75s for No. 2. Of 858 bags Guayaquil about 120 bags sold at steady rates, greyish red Arriba 69s. 1,884 bags Ceylon were offered, but, the quantity of desirable quality being very small, only 280 bags sold, and then at lower rates, *viz.*, good bright medium and small red 74s 6d, Native mixed with small plantation 63s to 68s per cwt.

PEPPER.

Black.—The market is dull and value has declined this week. About 200 tons Singapore have been sold—at $5\frac{5}{16}$d. down to $5\frac{1}{4}$d for fair quality on the spot, at $5\frac{3}{8}$d. May-July shipment, at $5\frac{7}{16}$d down to $5\frac{3}{8}$d for June-August, at $5\frac{1}{2}$d for July-September, and at $5\frac{9}{16}$d for August-October.

At public sale on the 21st inst. 204 bags Penang were bought in at $5\frac{3}{8}$d. 54 bags Ceylon realised $5\frac{1}{2}$d for fine clean brown and $5\frac{1}{4}$d per lb. for good ditto, rather smaller.

White is also lower and dull of sale. About 60 to 70 tons are reported sold—at $8\frac{5}{8}$d for fair Singapore on the spot and at $8\frac{13}{16}$d for August-October (s.); at $8\frac{1}{16}$d down to 8d for fair Penang on the spot; for arrival no sales of the latter description reported.

Of 357 bags offered at auction on Wednesday, only 15 bags sold —fine bold Singapore 10d, fair limed Penang 8d per lb.

Nepaul.—8 cases yellowish (lying at a private warehouse) sold "without reserve" at 6d per lb.

Sweet Red.—8 cases were placed at 46s to 59s per cwt.

GINGER.

Cochin.—Last week's improved trading and prices have turned out extremely evanescent, although a sen'night back they bore the impress of stability. Speaking in round terms, no sales have been consummated privately since our last issue, and Wednesday's auctions only served to prove more definitely if possible that the market had had a bad relapse. Almost a dead calm prevails, and although it is hardly possible to register any tangible decline yet it would not be difficult for a wide-awake buyer to shade last week's currencies. The catalogues included 115 cases 682 bags of which 47 cases 105 bags sold, viz.:—small to medium, a little bold, roughly cut and scraped 40s to 41s, small ditto 29s to 30s, small to boldish hard brown rough 23s, medium and small ditto, but brighter 23s per cwt.

Jamaica.—919 barrels, &c., were offered, but there was little enquiry, and only 125 barrels, &c., sold at higher prices for good plump washed, but at 2s to 3s per cwt decline for other qualities Good bright plump 75s to 78s, fair ditto 70s, good medium 67s to 68s, ordinary to good ordinary 54s to 63s, dark Rhatoon 46s 6d to 51s 6d per cwt. *Barbadoes.*—4 barrels realised 57s 6d per cwt.

INDIA RUBBER.

Prices of fine Para are again higher, and not much offering; business in Bolivian, fine old up to 4s $2\frac{1}{4}$d, newer 4s $1\frac{3}{4}$d, hard fine Para 4s $1\frac{3}{4}$d, soft ditto 4s 1d, scrappy negroheads 3s $1\frac{1}{2}$d, Islands ditto 2s $7\frac{1}{2}$d. Peruvian neglected.

CINCHONA.

The Monthly Public Sales.—Tuesday's public sales presented a very small total of 717 bales, of which 520 bales were placed at an average unit of $1\frac{5}{8}$d, being fully equal to the values realised at the last Amsterdam auctions.

28 cases *South American* retired unsold.

Of 244 bales *Ceylon Cinchona* 155 bales sold, Succirubra chips and shavings $3\frac{3}{8}$d to 4d; Hybrid, chips $3\frac{1}{4}$d, root $3\frac{3}{4}$d per lb.

323 bales *East India Cinchona* catalogued, 250 bales sold, Officinalis chips and shavings $4\frac{1}{2}$d to $5\frac{3}{4}$d, ditto renewed $3\frac{1}{2}$d to $6\frac{3}{4}$d; R chips $4\frac{1}{2}$d per lb.

122 pkgs. *Java Cinchona* rather more than half sold, Succirub chips 6d to $8\frac{1}{8}$d; Ledgeriana chips $5\frac{3}{4}$d to $7\frac{5}{8}$d, branch 6d to $6\frac{3}{4}$ and root $4\frac{3}{4}$d to $7\frac{5}{8}$d; Hybrid chips 6d to $8\frac{3}{4}$d per lb.

We give approximately the quantities purchased by the princip buyers:—

	Li
American and Italian factories	60.2
Zimmer & Co.	21,5
Imperial Quinine Company	20,6
Druggists, &c.	4 2
Messrs, Howards & Sons	4,1
Brunswick factory	2,4
Total quantity sold	113,2
Bought in or withdrawn	36,2
Total quantity offered	149,4

The following were the prices paid for the bark which sold:—

Ceylon.—For fair succirubra chips $3\frac{3}{8}d.$ to $4d.$ per lb. was read obtained, and $3\frac{1}{2}d$ to $3\frac{3}{4}d$ per lb. for hybrid.

East Indian.—Officinalis chips sold at $2\frac{1}{4}d.$ to $3\frac{1}{2}d.$ per lb. for dark stem and branch chips. Some superior kinds fetched $4d.$ lb. For succirubra the demand was exceedingly active, and hi rates were obtained, most of the bark being purchased on Americ account at from $3\frac{3}{8}d.$ to $4\frac{1}{2}d.$—the latter price being for bold chi For hybrid of strong succirubra character $6\frac{3}{4}d.$ per lb. was paid.

Java.—This bark was in limited supply, and was eagerly co peted for at prices ranging from $4\frac{1}{4}d.$ to $9\frac{5}{8}d.$ per lb. Most of t bark was crushed and powdery root and stem for manufacturi purposes.

The cinchona-bark auctions to be held in Amsterdam on July will consist of 5,611 packages of Ledger and hybrid, 577 cases a 677 bales of succirubra. The stock in first hands at Amsterda consisted, on June 20, of 2,044 packages Government bark, a 8,259 packages private bark, including the quantity to be offer in the next auction.

SULPHATE OF QUININE.

Quinine has hardened up $\frac{1}{2}$d per oz. this week with only sm transactions. In all not more than 50,000 ozs. H&B or B&S report done—up to 1s $4\frac{1}{4}$d spot, 1s $4\frac{3}{4}$d August delivery and 1s 5d Octob The market at the close is firm, but quiet, and as the availa stock is now in few hands any renewal of speculative demand wou soon place the value on a higher platform.

(Average for all India 7·92d.) *June* 23rd.

Garden.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dus and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price
Travancore ...	**648 p**	**7**												
BA ...	19	$6\frac{3}{4}$	...	...	...	...	..	...	...	...	19	$6\frac{3}{4}$	...	
BonAccord ...	133	$7\frac{1}{4}$	...	...	49	$7\frac{1}{4}$	65	$7\frac{1}{2}$	19	7	...	...	...	
Cherian Malay ...	121 p	$6\frac{3}{4}$	87 p	$6\frac{3}{4}$ 7	34 p	$6\frac{3}{4}$	...	...	...	...	...	...	...	
ME ...	11	$6\frac{3}{4}$	...	...	...	...	...	...	...	...	11	$6\frac{3}{4}$	...	
Merchiston ...	45 p	7	$12\frac{1}{2}$c	$7\frac{1}{4}$	25	7	$8\frac{1}{2}$c	$7\frac{1}{4}$	...	...	...	...	...	
P ...	19	$6\frac{1}{2}$	...	...	13	$6\frac{3}{4}$	...	...	...	...	6	6	.	
Poonmudi ...	249 p	7	28	$7\frac{1}{4}$	98	7	70	$7\frac{1}{4}$ $7\frac{1}{2}$	31	$6\frac{3}{4}$	7	$6\frac{1}{2}$	15$\frac{1}{2}$c	6 7
Vembenard ...	51 p	$7\frac{1}{4}$	...	...	21	$7\frac{1}{4}$	20	$7\frac{1}{2}$	6	7	...	...	$4\frac{1}{2}$c	6

PLANTING OPINION.

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WRITTEN BY PLANTERS FOR PLANTERS.

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SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 28th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, 17*th July*.—*Weather*—Light rain during the past two weeks. Between ·03 and ·10 inch latterly. High wind to-day as if indicating another advance of the monsoon, but the night is clear. *Plant diseases*—Removal of borer trees nearly completed. No signs of "leaf." Coffee looking fine. *Labour*—Plentiful. *General Health*—Good. Work on paddy fields, backward.

THE EXCHANGE QUESTION.

In our last issue, while remarking that a summary by cable could not be accepted as an absolutely reliable representation of the views expressed in a lengthy report, we commented upon the apparent neglect of the Indian Currency Committee in the matter of the requirements of India as an agricultural country, and its peoples as, for the most part, agriculturists. It cannot be supposed that the agricultural aspect of the Exchange Question has not been considered; but the summary of the report seems to treat it as a minor matter. The Indian Press also appears, to judge from its criticism, to be more interested in the question of the use of sovereigns as currency and the establishment of a gold reserve than in the probable effects of an artificially inflated Exchange upon the agriculture of the country. No doubt, this is but the natural sequence to what has gone before. The mercantile view of the Currency Question has from the beginning received more attention than that of the producer, and the deliberations of Government have been swayed by the opinions of the merchant and the

official financier, rather than by any consideration of the interests of the country as a whole. The first thing that attracted the serious attention of Government to the rupee was not any ill effect that a decline in its gold value exercised, or was supposed to exercise, upon trade, but the alarming increase in its own annual expenditure and in the rupee equivalents of its many sterling liabilities. To set this right, Government would no doubt have gladly fixed the rupee at par; but, ere its slow machinery got fairly to work, the fall in silver had become a collapse, trade had been disorganized thereby, and any sudden hoisting up of the rupee from the depth to which it had fallen would have caused a commercial cataclysm However, the Government compromised—at first temporarily; and now permanently, by essaying to fix the rupee at 1s. 4d.

When the proposal to close the Indian mints to the free coinage of silver was first put forward, there was a deluge of criticism, favourable as well as unfavourable. Time has served to show which portions of this were sound, and much that was then written might be reprinted with advantage now, if the question at issue were the general one, whether an uncertain or a fixed exchange is preferable. Gradually, however, the discussion wandered away from this point. Most men granted that certainty was better than uncertainty, and the next point considered was the level at which the fixture should be made. Studying its own needs more than the needs of the country, the Government of India at last made a trial of a 1s. 4d. rupee. We are not aware that the Currency Committee has attempted to gauge the effects that this has had upon the agricultural industries to which India mainly owed its past prosperity. As far as we know, no official attempt has been made to study "progress" during the period of the closing of the mints. It is perfectly clear that Government itself has benefited: its finances are in a more satisfactory condition than they were a few years ago; but this has been brought about by no magic on the part of the State-aided rupee, but by the imposition of additional taxation. This, again, has fallen heavily upon the agriculturist. During a period of low exchange he obtained high prices for his products, he was thus led into purchasing imported cloth, &c., for it is the nature of man that his requirements should increase with his resources. Now, the agriculturist in India is artificially deprived of a portion of the advantages that might have been his, and, at the same time, he has to pay more for the European cloth he has taken in place of former "country-made" textiles, because of the import duty that has been imposed.

The Tea and Coffee industries alone, among the producing industries of India, have consistently criticised Government's action. The other industries have been represented solely by the "voiceless millions." Yet it is not the Tea and Coffee industries alone that have suffered. If Government will study the course of India's cotton industry during the last few years, it may acquire a general idea of what has occurred. When the mill industry expanded, demand for Indian cotton naturally increased; but the resources of the country are great, and there was no reason why the supply should not be increased sufficiently to meet the requirements of the Export trade as well as those of the Indian mills. Has this occurred? On the contrary, in several European countries, the consumption of Indian cotton has decreased *on account of the high price* of this staple. America has ousted it. The trade that formerly flowed West now flows East, and India, fortunately for herself, finds, in alien Japan, a market for the produce that have been expelled from Europe by the financial policy of the Government of India. As for Coffee—Brazil, with an exchange that has fallen from, say, 2s. 3d. to under 6d. and that now stands under 8d., is in a position to undersell India all the world over, and is gaining ground daily. The prices of Indian coffee have been forced down to a level, that is, generally speaking, unprofitable, and yet Government would doubtless argue that this is not due to the manner in which Brazilian Exchange has fallen and Indian been forcibly propped up. That other influences have been at work, also, we do not deny; that a one-sided view of the Currency Question must necessarily be misleading is certain. But what we assert is that Government first, and, afterwards, the Currency Committee have not attached due weight to the agricultural needs of India. Probably a decade will have to pass before the matter can be put to the proof; but we submit that the statistics of the past seven or eight years give a general indication of what may be expected from those of the next ten. They are not statistics that point to increasing prosperity.

PEPPER.

We are nervous about commenting further on the boom in Pepper, for already at least one planter has jumped to the conclusion that it would be a fine thing if tea, coffee and all other products were abandoned, and pepper grown in all available land. He does not quite express himself in this way, but what he says points to something of the kind. Of course, if there is anything like a rush to grow pepper the inevitable fall of prices must come. However, we are glad to learn from London that one of the principal features in the latest Spice sales, of which we have advice was the large quantity of Tellicherry Pepper offered for disposal. The bulk of about 1,000 bags found buyers at 5⅛d. landed—a fact which, in the present quiet state of the market, must be regarded as a most astonishing sale. Hitherto it has always been said that Tellicherry Black, either for arrival or on spot, could be disposed of only in a rising Black Singapore Pepper market. But Tellicherry Black has been growing in favour, and now about 1,000 bags have found buyers at a time when black descriptions were stagnant. The *London Commercial Record* comments on the rapidly extending operations on this Pepper for forward delivery and says:—"We can hardly remember a time when Indian shippers have been courageous enough to test our market with consignments of such magnitude. The Continent, principally Havre, used to be the destination and recognised market for black Tellicherry consignments and shipments, London being always considered the most unfavorable field for unsold parcels. The first attempts at trying our market with consignments of some importance will, we feel satisfied, be followed in the ensuing season by many more similar ones. Not because the prices realised have been exceptionally brilliant, but simply because the cultivation of Pepper in India has received an impetus by the increased demand and the enhanced values established this season, and because London has shown that it is now in a position to dispose of large quantities of Tellicherry

Ve are informed on good authority that the cultivation of epper is receiving serious attention on the part of Coffee lanters who, in planting and cultivating this spice, see a hance of escaping the ruin threatening them by the normous decline in the value of Coffee. In some instances, e understand, Pepper planted as a bye-product has been he very salvation of some luckless Coffee estates." Our ontemporary even adds that "It does not follow that y an increased planting-area the value of Pepper must ecessarily decline, for with the steady diminishing supplies f black Singapore the demand for and consumption of lack Tellicherry in the East will steadily increase." But his depends on the *extent* of the increase and we must ommend to our readers St. Paul's advice about "moderaon in all things."

The following figures may be of interest:—

Exports of black Tellicherry during the month of May.

	To India.	To Europe & America.
1899	about 530 tons.	about 265 tons.
1898	„ 350 „	„ 50 „
1897	„ 90 „	„ 835 „

Total exports from 1st January to 31st May.

	To India.	To Europe
1899 ...	...about 1,730 tons	about 2,525 tons
1898 ...	... „ 2,191 „	„ 690 „
1897 ...	... „ 1,030 „	„ 4,640 „

BLACK AND WHITE PEPPER (INDIGENOUS TO NORTH QUEENSLAND).

(By "Diogenes.")

I.

I have been much interested in the various articles and nquiries on this subject, especially those cuttings from he *Straits Times*, a "low country planter in Ceylon" nd "Mensu's" enquiries. The two former, as nearly as ossible, answer the latter's enquiries, and appeared in the *lanting Opinion* of February 4th and 7th respectively.

The mistake that "Mensu" has made is evidently in usting to seed germinating, where, by his own admission, oted cuttings are abundant on the ground, or, on the ther hand, if a new seed was necessary, in not obtaining from the Straits or some other district, and then carelly nursing it under shade until fit to plant out. Next, drying *seed*, it should never be dried entirely in the sun: few days in the sun just to shrivel the pulp is ample, the est of the curing should be done in the shade, and not too uch even of that. Then raise in a well-sheltered nursery nd he will have more like 99% of success. This, with best ishes, to "Mensu" from "Muliga."

While interested in the above I was much amused at our reprinting our (Queensland) Popular Botany on the ubject of Pepper from the *Q. A. J.* Fancy making *white epper out of black by simply letting it ripen before it is icked*, and then going-off into a long-winded screed on the ubject of Aleric and the Wisgoths (whoever he or they ere) taking part payment of their war indemnity in ,000 lbs. of pepper. The writer also informs us that this as 1,490 years ago; so, if Mr. Aleric is not dead yet, we re all hoping that he will give us some *useful* information e Pepper. The rest of the information we get from this epartmental wiseacre is, "How it is grown in India," nd he winds up by saying, "This would prove a good "way of trying this plant in the scrubs, near the margins "of some of our northern rivers." Now, we have no less than four distinct kinds of indigenous pepper already here in our scrubs, of the existence of which "Popular Botany" knows nothing. From one of these varieties, the writer last year cured a sample of "Black Pepper," and sent it to the "Minister for Lands;" but, needless to say, neither he nor any one else have heard anything more about it. Doubtless some departmental know-nothing will discover it after the Wisgoths conquer Queensland.

The five indigenous "Pipers" we have here, as far as I have at present discovered, I will endeavour to describe (unbotanically of course); but I have taken care to obtain their botanical names, for which I am indebted to Mr. F. Manson Bailey, F.L.S., Government Botanist of Queensland, as I like to have a name for any pet or fad of mine, be it dog or donkey, Possum or Member of Parliament.

I. *Piper banksii.*—This is a creeper found growing prolifically in all the northern scrubs, even as far south as within fifty miles of Brisbane. It has dark green, heart-shaped foliage, and is seldom found bearing fruit, except at the margins of streams or roads, where sunlight and air have been let in. In the dark primeval forest the creeper will frequently be seen ascending a giant tree without a leaf to indicate its genus; but, if that tree is felled in July or August, the creeper will be found in full crop among its sunlit branches. An old abandoned bullock-yard in the scrub is a sure place to find both this and other kinds, in bearing, near the ground; hence it is not so much water, as sunlight and air, that it requires. On felled and burnt scrub-land pepper is seldom, if ever, seen again spontaneously. The fruit of this variety I can best liken to a bunch of ripe red currants, only that the currants are opaque, not semi-opaque, like the English fruit; in fact, each fruit is like a Holly berry. Last year's sample I cured from this variety and the process I used was the same as I used in Mysore over twenty years ago. The result was a pretty, rather small round, crinkly, shotty, black, which would have obtained notice in the London market, and a fair price.

II. *Piper novæ hollandiæ.*—This variety is very similar to the above in the shape of the leaf, but of a somewhat darker green, and closer stem joints. The fruit, however, differs considerably, the bunch of fruit standing out direct from the flower-stem, and the whole bunch forming a cone. It appears somewhat more pungent than *Piper banksii*, but this I have not thoroughly tested, but intend doing so this year. It is far more scarce than the above, but is evidently a better cropper.

III. *Piper triandrium.*—This is a very scarce variety, the leaves differ in being more eliptical than either of the above; but the fruit differs entirely, being set in three distinct rows close up to the flower stem, and somewhat flattened upon it. I have not yet seen a bunch fully ripe; but the berries are of a metallic blue to green tinge. When cured, it has a peculiar spicy flavour of its own.

IV. This is another distinct variety that I have only just found and a sample is on its way to the Botanist to be christened. It is a very robust and large leaved variety. I have not yet seen its crop; but the leaves have the self-same property and appearance as the *Piper fragrans* or "Betal-leaf," so dear to the heart of the Mysore coolie or even the high-caste Brahmin.

I do not know if the fruit of the Betal *Piper fragrans* is utilized in India, but I remember seeing it grown in Areca Palm swamps for the sake of the young and tender aromatic leaves.

V. *Piper sulpheltatum.*—This is entirely different from any of the above, and is a ground or standard shrub, not a creeper like all the above. It has large heart-shaped leaves and closely jointed stem. I first noticed it through its likeness to the plant from the root of which the South Sea Islanders make their "Kava" or "Angona," botanically known as *Piper methysticum*, but it turns out to be only another variety of the same thing. Out of these five indigenous peppers I am convinced that three at least can be made into a marketable product, and it would be interesting to know if the variety grown in the Straits is the same as that grown at, say, Tellicherry, as I am inclined to think that they are not all *Piper nigrum.* "Mensu" should kindly take notice of the wild pepper, which I am aware is to be seen in all the jungles round Saklaspur and down the ghât past Beltungady and Upununygady, and note, when the crop is visible, any difference in the shape of leaf or mode of growth in the fruit, if any. In any case, he should send a sample to the nearest Botanist of any wild pepper to be found, as I think it quite possible that he will find that it is not *Piper nigrum* or, if it is, there are probably other varieties which it would pay him to watch, as it is by no means certain that *Piper nigrum* is the best, or what the London market would like best.

MAY COFFEE MOVEMENT IN THE UNITED STATES.

The deliveries of coffee in the United States during May were, says the *American Grocer*, the lightest for any month since November last, except February of this year. They were 493,347 bags, against 524,021 bags in April, and 471,199 bags as the monthly average for the present trade year, and 537,982 bags average monthly deliveries since January 1, 1899.

The deliveries in Europe were 759,764 bags, against 688,118 bags in April, and 648,898 bags as the monthly average for eleven months of the present trade year.

The following statement shows the combined movement in Europe and the United States for the month of May:

	Bags.	Bags.
Stocks, May 1, 1899—		
United States	1,235,721	
Europe	3,867,473—	5,103,194
Receipts during May—		
United States	573,380	
Europe	745,839—	1,319,219
Total supply		6,422,513
Less stocks, June 1—		
United States	1,315,754	
Europe	3,853,548—	5,169,302
Deliveries, May		1,253,111
Deliveries, April		1,212,139
Deliveries, March		1,316,514
Deliveries, eleven months, 1898–99 ...		12,321,065
Deliveries, eleven months, 1897–98 ...		13,534,767
Deliveries, eleven months, 1896–97 ...		11,163,521

The total visible supply on June 1 was 6,261,302 bags against 6,341,194 bags on May 1 (a decrease of 79,8 bags), and 5,475,022 bags on June 1, 1898; 4,173,943 ba on June 1, 1897; and 2,444,949 bags on June 1, 18 The maximum visible supply was on November 1, 189 when it reached 7,128,800 bags, or a reduction in seve months of 867,598 bags.

The total receipts at Rio and Santos for eleven month were 8,229,000 bags, against 10,109,000 bags at same tim the previous year.

The market ruled steady throughout the month at 6 @ 6½ cents for spot No. 7 Rio. The lowest price on th Exchange was 4·80 cents for June; highest, 6·10 cen for April.

THE 1-lb. DRAFT.

The following circular was lately issued by the Secre taries of the Indian and Ceylon Associations, London:

1-LB. DRAFT ALLOWANCE ON TEA.

The Joint Committee of the Indian and Ceylon Associa tions in London appointed to deal with the question of th abolition of the 1-lb. draft on tea sold at public auction i London beg to report as follows: On April 26th last a circu lar was issued to tea growers and importers, by the Join Committee, setting forth the principal reasons why, in th opinion of the Association, the draft allowance should b abolished, and requesting those who approved the propos to signify their assent by returning the paper duly signe and stating the weight of tea the signatories represented The Committee have received assents from tea companie firms, and individual growers and importers representin 211,298,000 lbs. of Indian and Ceylon tea, and this is exclu sive of replies from Ceylon which have yet to be received Last year the amount of Indian and Ceylon tea importe into London from these two countries was 227,283,000 lbs so that taking into consideration the number of smal growers and importers the Committee were unable to reac the response in favour of the proposal may be taken as being practically unanimous. On May 24, the Wholesale Te Dealers' Association proposed that your Committee should meet them and discuss the subject, and in reply were advise that your Committee would be pleased to meet them at date to be fixed later on.

The dealers, retailers, and grocers' representatives, how ever, held a meeting at the Commercial Sale Rooms i London on June 7, and passed resolutions condemning an proposal to abolish the draft allowance and formed a specia Committee to protect their interests. The lengthy proceed ings of that meeting have been published. The propose meeting with your Committee and the wholesale dealers fixed for June 21, was cancelled by the latter body, and meeting was arranged with the Special Committee represent ing the wholesale and retail tea trade. At that meeting which took place on the 26th instant, the representatives o the trade stated that the conditions of their trade would not allow of any change being made and confirmed the re solutions passed at the meeting of June 7, and they further stated that, if importers persisted in carrying out th proposal, it would completely disorganise the tea trade of th country and could not but cause loss and inconvenience to al

concerned, and expressed the hope that the situation would be seriously considered before the importers adopted a course which they intimated would be strenuously resisted by the trade. A lengthy discussion followed, but your Committee regret to report that no settlement could be arrived at, the Special Committee representing the buying trade refusing even to consider the question of any compromise. Whilst the form of agreement signed by importers gives the Joint Committee power to act, should they consider it advisable, they have felt that the exact position of affairs should be made known by them to importers at a general meeting, which it is decided to hold on Monday, July 3, at the Chamber of Commerce, Eastcheap, at 2-30 p.m. Signed for the Committee by joint secretaries, Ernest Tye, Secretary, the Indian Tea Association (London); Wm. Martin Leake, Secretary, The Ceylon Association in London.

Calcutta telegrams, dated 13th instant, state that at the Tea Sales on the 17th instant 20,258 packages were offered, and 11,496 were sold. There was a good competition for suitable teas for Colonial and Foreign markets at fully last sale rates, about 7,000 packages being taken off the market. Common pekoe souchongs were a shade easier. The sales were held on the following conditions:—That buyers guarantee to ship tea only to markets other than the United Kingdom, and that all teas bought for London shall be held here until the 1-lb. draft dispute is settled.

On the 14th instant, at a Special General Meeting of the Indian Tea Association, Calcutta, the following Resolutions were adopted:—"That the meeting is in favour of holding sales for outside markets only for the present." (2) "That the opinion of the Indian Tea Association, London, as to the question of stopping all exports of tea for London, be invited."

From London next day came advices that forty-eight Ceylon estates were offering tea for sale, and that much Indian tea was also announced for sale at the auction on Monday the 17th instant. At that sale Assam and Java teas with the draft allowance were plentiful. Prices were below the average. The sale of some tea without reserve and with no draft allowance is advertised for the 24th instant; but if dealers keep up to their word, no offers will be made.

On the 19th the following telegram was received at Calcutta from the Indian Tea Association:—Delay shipments as long as possible; delay sales this month. Sales yesterday second hand, mostly withdrawn; 2,000 chests will be offered at next sale, 24th July, without reserve or draft sales. Do not re-commence till 14th day of August; Committee will regulate further offerings. Colombo arranging to restrict sale. With the exception of one Ceylon importer all are quite firm." At the Meeting of the Indian Tea Association at Calcutta on 19th instant a resolution was passed condemning the failure of Ceylon to support London and Calcutta. The Association further resolved to hold no sales in Calcutta this week, but to resume ordinary sales without restriction on the 28th instant. It is assumed that this will meet the wishes of the London Association.

From Colombo, advices, dated 15th instant, bring us news that the following resolutions were passed on 14th instant by the General Committee of the Planters' Association assembled at Kandy:—(1) That this Committee will use their influence to withhold teas for sale for London Markets until such time as the pound draft dispute is ended. (2) That this Committee request the Tea Traders' Association to suspend the sales of tea held under the present conditions, and substitute auction sales under special conditions corresponding in other respects to the former conditions, but with the addition that teas shall not be delivered for London until the London sales are resumed, and that until such time all Proprietors, Directors of Companies and Agents representing absent Proprietors, be urged to support the action of the Ceylon and Indian Association in London. (3) That the Indian Tea Association be requested to cable the conditions of recent sales.

Later news, dated 18th instant, states that by the Planters' Associations' Resolutions already telegraphed, the Colombo Tea Traders' Association had received the following cables:—London—telegram to Colombo says:—"The Public auctions are weakening the position; strongly urge Calcutta to plan private auctions for foreign markets." Telegram from Calcutta says:—"Are you holding sales this week, if so under what conditions? Please wire to-day." Consequently a special General Meeting was convened for the 19th, immediately preceding the usual weekly sales.

On the 19th it was reported:—The Tea Traders' Association to-day threw out its Committees motion that the present auction sales should be suspended and that brokers be requested to hold private auctions under such conditions as will meet the requirements of the Resolution passed by the Planters' Association. To-day's sales, therefore, have proceeded without restriction.

TEA FROM SEED TO CUP IN SOUTHERN INDIA.

(By Thomas Brown, Glendale, Coonoor.)

VI.

Care of the Young Fields.—The fields must be kept perfectly clean of weeds, or the percentage of failures will be very large from this source alone. Care must be taken that stones and rubbish are not allowed to get on to the plants or into the drains. We will suppose that your planting has been completed at the end of November. No attempt at opening up the shade must be made till the spring showers of April have fallen, when the tops can be opened out a little allowing the plant to grow out. The shading may then be allowed to rot away of itself. Sudden exposure of the plants causes blistering of the leaves and death of a large number of the plants.

Nurseries.—We find it difficult to remember all that might be said upon each subject when it is being dealt with and will have frequently to recur to the same subjects again, as fresh points come to our mind. Just now we remember visiting the nurseries of a Tea estate in which, after the plants had been pricked out into beds, some ferns had been stuck in as shading and the beds had been so left from December to April, the result being, thready little, bleached plants, that were fit only to throw away. We had been at a loss to account for the almost complete failure of thousands of plants that had been annually put out and the weak slow growth of such as survived and found in this condition of the nurseries, the full explanation. Such shading is advisable for a fortnight or three weeks until *pandals* can be erected.

Germinating Bed.—Be careful that all seed is put out, as soon as the radicle is an inch long. Examine your bed from time to time, after the sixth week and remove all germinated seed for putting out into beds, returning the remainder to the same place. This disturbance of the seed seems to be beneficial rather, than otherwise.

Red Spider.—That is a very great trouble. Now-a-days is almost sure to appear upon the young plants about August. We have found that mixing half an ounce of nitrate of potash and superphosphate mixture to a can of water, and watering the young plants with the solution, helps them to overcome the results of the damage from these mites. We do not propose, in this work, to deal with pests and remedies (except in a very casual way), as Dr. Watts' excellent work on this subject deals more learnedly and exhaustively with it than we can ever hope to do, and the young planter cannot do better than invest in a copy at once. Another excellent work, which ought to be in the hands of every agriculturist, is "The Chemistry of the Garden," a Primer by Cousins, Publishers, Macmillan & Co., New York. A mixture advised in this work, called the Wye mixture, a modification of the now well-known and famous Bordeaux mixture, would, we fancy, be found an excellent remedy against the Red-spider in nurseries and upon young plants on the field. The application to old trees is rather expensive, and the work can hardly be efficiently done. The Wye mixture is as follows :—

Blue-stone	1 lb.	10 gals. water.
Lime	1 „	
Agri-treacle	1 „	

Boil the lime and treacle in a quart of water and add, when cold, to the blue-stone dissolved in the water previously.

We trust that these hints may be of some immediate benefit to the readers of *Planting Opinion*.

TELEGRAPHIC QUOTATIONS.

LONDON.— July	15	17	18	19
Bar Silver	27⅛	27⅛	27 11/16	27⅝
Bank Rate	3½%	3½%	3½%	3½%
Coffee		[dull.]		
Mysore av. (B) size.	...	54s.	54s.	...
Stock, tons ...	...	...	26,142	...
Fortnight's ldgs. ...	...	...	2,400	...
Do. del. ...	...	...	1,900	...
			[steady.]	...
Cinchona per unit ...	...	...	1½*d.*	...
Monthly sales pkgs. ...	...	...	900	...
NEW YORK.—				
Coffee—Fair Rio ...	6	6	6	5⅞
„ Futures, Sept.	5·47	5·49	5·53	5·62
Silver—Comml. Bars ...	60¼	60¼	60¼	60⅜

NOTES.

Tactics. It is asserted that London dealers lately, "as a piece of bluff" put up some Ceylon and Indian teas and thus made up "a moderate auction." Not a bad idea!

Erythrina Lithosperma. The question of the *quality* of coffee produced on old soil manured solely by means of this leguminous tree is still unsettled. It would be interesting if those who have made experiments with the tree would now begin to jot down their experiences for the benefit of their brother planters.

Bulking on the Estate. The *I. P. G.* refers to satisfactory prices realised by the Doom Doom Tea Company as chiefly attributable to bulking on the gardens; and remarks :—"What we ought to devote attention now to is the placing on the market teas of a uniform blend to suit all buyers; in fact, less science and more practical work."

The Destruction of Locusts. The "Imperial Bacteriologist" (ye gods, what's in a name!) has obtained from South Africa a culture of the fungus which is said to have been found very efficacious in destroying swarms of locusts in that country and has suggested that district and other officers be informed that cultures with instructions as to their use will be supplied on application.

Packet Tea. A Calcutta contemporary rightly says :—"Regarding the sale of garden put up packets (or tins), a great number of our planters might create a trade in such by urging upon their friends and relatives at home, the help they would give in popularising the use of Indian tea by recommending its adoption among their acquaintances." The difficulty here lies in the fact that estate packets (or tins) do not contain *blended* teas, which are usually preferred.

Colombo Tea Sale. At the public sales of tea at Colombo on 12th instant about 8,5[illegible] pkgs. = 682,610 lbs. were offered, of which about 7,32[illegible] pkgs. = 578,659 lbs. were sold. Despite the fact that there are not any tea sales being held in London, all tea in the auction met with keen competition, the prices ruling being fully up to previous rates for all grades. Among the best teas in the sale were Iona, High Forest, Sutton, and Errollwood.

Bored Trees. The Coorg correspondent of the *Planter* advises all those in Northern India who have borer to deal with to cut the stems of the affected trees down to within a few inches of the ground and thus give them another chance. The chances are that the stumps will have no grubs in them, occurring as they mostly do in the stems, and they will throw up suckers which will make decent sized trees in a year, and thus fill up gaps much sooner and more satisfactorily than supplies.

Paratriptics. Tea, coffee, and tobacco are classed by scientific men under the designation "paratriptics." Their use is based upon their power to prevent waste in the body. They are mild stimulants that enable men to do more work and endure more privation with a smaller amount of actual food. Tea, coffee and tobacco are not food, although temporarily and continuously they supplement it. The physiologist Moleschott calls them the "savings banks" of the tissues. Used in moderation, they have for many people a beneficial effect.

Divided Houses. A house divided against itself cannot stand. Some alarm has been

aused by the announcement that certain Ceylon and ssam teas are being put up to auction notwithstanding he dispute about the 1-lb. draft. Fortunately, perhaps, here is as much division among dealers as among nporters, for the "Tea-*cum*-paper" weight question has aused a good many to range themselves together against he great Lipton. That dealer's counsel declared that it vas the custom of the trade to include the weight of the aper when regulating the 1-lb. packet; but a number of thers have declared this to be a libel on themselves and heir fellows.

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ssam.

Capital says:—Very heavy floods are reported from the Sibsaugor istrict, where the water has burst the Dehing and Desang unds, and a large tract of country was submerged, causing onsiderable damage to crops, especially early rice. The oods are now subsiding. The heavy rain has also caused loods in the districts of Goalpara, Kamrup and Nowgong. he prospects of tea have much improved in the Sylhet nd Cachar districts. In Kamrup the plucking of tea has een delayed owing to excessive rain and too little sun; ed spider is still prevalent in this district. In Darrang, ibsaugor and Lakimpur districts more sun is required lthough prospects are improving.

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he American and Foreign Market Fund.

The Secretary of the Indian Tea Association (London) states that his Committee lately passed a resolution appreciating the manner in which Messrs. James, inlay and Co. are pushing the sale of Indian tea in merica, Russia and Turkey, and agreeing to subsidise heir Agents on a basis similar to that of last year, provided that the new levy is equally well subscribed to. This would make a beginning in the opening out of the Russian Market, while the Paris Exhibition would afford an opportunity for making Indian teas better known in France. he work in America would be carried on in conjunction vith the Ceylon Planters' Association through their representative Mr. Mackenzie.

'ea Consumption in Germany.

Mr. Frederic Harford, Second Secretary in Her Majesty's Legation at Münich reports that the consumption of tea in Germany, which averaged 05 kilo. per head p till 1897, rose to 07 kilo. per head in 1898, and the nports of tea from 2,660 tons in 1897 to 4,116 tons in 898. This increase is chiefly due, he says, to the import f tea from China, rising from 1,661 tons in 1897 to 2,593 ons in 1898, from which it would appear that Indian teas re not so much appreciated in Germany as Chinese teas. n any case coffee is still the national drink of Germany, nd not tea, *which is twice as dear as it is in England.* Ve italicise the last few words, as a hint to South Indian lanters.

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ifting and Sorting.

It is difficult to know, writes a planter to a contemporary, how to ift and sort one's teas. At one time the trade takes a ancy to some particular grade because it is "whole leaf," r because it is "tippy," or because it is something else, nd there is a run on it just for the time, but just when we ink we have struck oil and hit on the right way of sifting nd sorting for the market, we find the caprice of the hour has changed, and the teas for which we hoped to get a good price are "not wanted." The above observations are just, but so long as blending in India is impossible we should recommend each planter to use his own judgment as to sifting and sorting, and not to try to meet the varying requirements of markets by following the guidance of broker's reports.

Tobacco in the Tea Districts.

Mr. H. A. Pickford, late Manager, Pusa Tobacco Concern, has suggested that experiments should be made with a view to testing whether tobacco of a marketable kind could be grown in the tea districts, and has offered his services in the event of such experiments being undertaken. Mr. Pickford is of opinion that it would be possible in some districts to grow such tobacco, and he thinks it is a crop which might be cultivated as supplementary to tea in Assam and the tea districts generally. The Indian Tea Association has declined to take the proposal up, but has forwarded a copy of Mr. Pickford's letter on the subject to Mr. Buckingham, C.I.E., Chairman of the Assam Branch, for information and for such action as may be considered necessary.

A Tea Scientist.

Dr. Watt's remarks on this subject are given elsewhere. It will be seen that he thinks there is work for several scientists for a lifetime, not merely for one for a brief term of years. In this, planters will heartily agree with him, but if the Northern India tea men cannot settle the question wholesale, they may as well make a start with some particular branch of it. A demonstration by some specialist of the advantages gained by means of his investigations might possibly induce the Government of India to bring itself into line with modern progress in regard to matters scientific. Planters in Cachar appear to think that a start should be made with an entomologist, as they consider the question of pests and blights the most important. The Assam men want him to have some knowledge of bacteriology.

Draft.

When the 1-lb. draft allowed in London was complained of, Colombo and Calcutta sales were referred to as "so honest." Now, a planter in Ceylon contends "that we sellers lose 3 lb. tea on every grade we send to Colombo for sale. If I send a 50-lb. half-chest for sale, I only get 47 lbs. I have been a seller of teas in Colombo for twelve years, and for ten years and three months there was no draft or "sampling allowance." I enclose you two sales list for you to see, one March 1898 and one April 1898. In the former you will see there is no "sampling allowance" kept off, but from that date we have lost 3 lbs. on each grade, however small the package. This is a new tax on us from April 1898 until now." Whatever else it does, the tea-fight will certainly cause various hitherto submerged grievances to come to the surface.

Local Tea Sales.

The *I. P. G.* remarks:—The Indian Tea Association seem to consider that the retailment of tea among the native population presents insurmountable difficulties—an opinion in which we are by no means inclined to concur. Great headway in creating a taste for tea has been made among the lower orders, such as *ghariwallah,* boatmen, and people of that

grade. Domestic servants, as every housekeeper knows, appreciate the morning and afternoon cup quite as fully as their masters and mistresses, but it is only these latter that, in all probability, ever taste tea properly made. At both the Medical College and General Hospitals the large staff of attendants get their panniken at the same time as the patients do, according full justice to it, and these being of the lowest caste (or rather none at all), our impression is that if kiosks were established in the vicinity of those intramural *bustees* inhabited by these sort of people, where tea could be dispensed by properly-trained men, the demand would expand with rapidity.

Cinchona Grafting. In his recently-published Volume X of "Quinological Studies," Mr. van Leersum, the Director of the Government Plantations in Java, mentions some peculiar results observed in the propagation of cinchona by means of grafting. His researches have confirmed the previously known fact that *Ledgeriana* grafts derive cinchonidine from the lower stem of the *succirubra* plant upon which the *Ledgeriana* had been grafted, whilst conversely the *succirubra* grows richer in quinine. Mr. van Leersum also found that the influence of the *succirubra* was strongest at the lower part of the graft, decreasing at a distance of some 6 or 8 inches, until at about 12 to 15 inches from the joint it was practically *nil;* and, further, that the richer in quinine the graft the greater also the quinine-contents of the lower stem of the *succirubra*. The practical result of Mr. van Leersum's researches is therefore that such *succirubra* root-bark is not, as hitherto considered, valueless, but, on the contrary, should well pay the trouble and expense of gathering it.

Tea Statistics. Announcing the Incorporation of the U. P. A. S. I. under the Indian Companies' Act, the *Planter* observes:—"Periodical and accurate statistics of exports of tea from Southern India (as from other tea districts) are urgently needed, and we trust the new Association will furnish the Indian Tea Association with the same, as well as keep closely in touch with it in all matters relating to the interests of the tea industry in the South. Northern India should follow suit. We have before pointed out the necessity for the Planting Associations in Northern India supplying the Indian Tea Association with full statistics regarding tea in their part of the world. At present the statistics relative to both Northern and Southern India, published by the Indian Tea Association are most unsatisfactory, and we would, therefore, once again, draw the attention of Secretaries to this most important matter." Unfortunately, statistics cannot be made by Secretaries unaided, and so long as planters decline to supply the necessary figures, Associations cannot furnish reliable statistical statements.

Tea at the Paris Exhibition. The estimated cost of the arrangements tentatively proposed by the Indian Tea Association (London) for the display of tea at the Paris Exhibition is £6,600, and the space to be allotted is about 1,960 square feet This comprises two verandahs for the service of Indian tea in the cup; two tea rooms, one in the Indian Imperial Court, and one in the Private Exhibitors' Court, for the exhibition of samples of tea, photographs of tea estates, machinery, etc.; and two tea kitchens. These proposals had been considered in circulation by the General Committee, and on the 22nd of June they addressed the Government of India asking for a grant-in-aid of £6,000. In this letter the advantages derived from other similar exhibitions in the past were set forth; it was also stated that all the expenses in connexion with the representation of Ceylon tea, amounting to £10,000, were being paid by the Government of Ceylon and it was urged that it was the highest importance that India should be as well represented as Ceylon, which would be impossible without liberal assistance from Government. In response to these representations and with a view to assist the effective representation of the Tea industry at the Paris Exhibition, the Government of India have agreed to meet any expenditure falling against the undermentioned heads of the Association's estimate within the limit of a sum of £3,250:—(1) Open air space and royalty. (2) Space in courts and royalty. (3) Decorating and furnishing. (4) Carved wood screen, and also to pay a sum of £750 towards other expenses.

Sale of Nilgiri Estates. Mr. T. C. Anderson has sold his Nilgiri properties to Mr. A. E. Scovell, who recently reported on them and placed their value at Rs.1,25,000 or £8,333, after deducting for a Government assessment of Rs.514 a year. The acreage is 438·88, 145 being old tea, 62 cinchona, 30 forest and 201 88 waste land, chiefly old cinchona fields. Mr. Scovell has, the *Ceylon Observer* thinks, got a bargain. Our contemporary remarks:—There is a considerable extent of tea planted on good soil in a perfect climate for high-class produce, hitherto neglected, and only wanting careful cultivation and management for the tea to get a special price and name for itself. And then there is a valuable area under cinchona, with many thousands of trees of a mature age. Altogether, it is the property and opening that would, in our opinion, be jumped at, if on our Ceylon hills; and we cannot see that, being on the Nilgiris within easy reach of Ootacamund, should make a great difference, although no doubt the Labour Supply question is not so easily dealt with in the Nilgiris as in Ceylon. Still, for a planter understanding his business, with the needful capital, there could be no great difficulty in successful management.

Java Government Cinchona. The quarterly report on the Government cinchona-plantations in Java for the three months ending March 31, 1899, has just been published. It is somewhat less satisfactory than the last one, mainly owing to the fact that the rainfall has been more than 50 per cent. below the average; this was particularly the case in the Bandong district, where the average of March equals 14 per cent. of the total rainfall for the year, but in March, 1899, it only reached 4 per cent. In March damage was done by heavy gales, and also by insects, but several plantations usually affected by insects escaped, owing to the method adopted of regularly burying the fallen leaves. The expense of increased labour has as yet prevented a general adoption of this plan; but with the experience now gained, it will no doubt be largely extended in future. The harvesting of bark commenced as early as January—earlier than in previous years—as some plantations had been left over in 1898, so as to keep down the production of that year. The number of plants in the nurseries was 1,580,000 (1,240,000

edgeriana, 315,000 *Succirubra*, and 25,000 *hybrids*), and the plantations 2,602,300, of which 1,616,000 were *Ledgeriana*, 494,000 *hybrids*, 444,300 *Succirubra*, and 48,000 *officinalis*.

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ale Coffee Plants.

The following from a contemporary may interest, though it will not instruct:—"It is hard to say whether there are any male coffee plants. The coffee is an hermaphrodite, the pistil and stamens occurring in the same flower. Natives call all 'chick' trees which are characterised by throwing up their branches almost vertically, *gandoo gidas*, or male plants; but the chick tree bears crop and so cannot be a male tree. Once there was an amusing discussion between a planter and a missionary who was a bit of a botanist. The former said that he had some male trees. He meant chick trees and pointed out one, but the missionary objected that it could not possibly be a male tree as it had crop on it. The planter, however, stoutly maintained that it was a male tree, as its structure was so different to the others. I am afraid he owed the idea entirely to the natives. But there are some trees with very narrow leaves to be met with here and there on an estate which never bear crop. I don't know whether they ever bear blossom. I must watch one of these trees during the next blossoming season. I suppose it is merely an undesirable hybrid, but if the flowers discover only stamens and the pistils are entirely absent, I suppose it will settle the fact that they are male trees. A mixture of male trees among the others would, of course, be utterly useless; and they would only be worth keeping as a curiosity."

Currency and Exchange in Ecuador.

They seem to have a nice little way of settling exchange troubles in Ecuador; would that India could find an equally successful method. The British Consul in Ecuador reports:—The agréement between the merchants and the banks to sustain a uniform rate of exchange, *viz.*, 100 per cent 90 days' sight bills on London, or, say, 24d. per sucre, has been conscientiously carried out by all concerned throughout the year. On July 14, it was decided by a meeting that the agreement should remain in force until the Congress of 1898 came to a decision respecting the projected new currency law establishing a gold basis for the Republic, and further that, if such new currency law were adopted, the agreement would remain binding without further ratification until the law came into force. It is with great satisfaction that I am able to report that this law actually passed, and the preparations to establish a gold standard are already well advanced. The Bank of Ecuador has already accumulated about £45,000 in gold and the Banco Commercial y Agricola £110,000 and the Government has agreed to sign contracts for the conversion of more than 2,000,000 sucres (silver) into Ecuadorian gold condors, the nation paying the loss in the silver to be exported between its actual value and the nominal value of the sucre of 24d., and all expenses of freight and coinage, &c. The law is to come in force in 1901. One of its principal features is that the British £1 is declared legal tender in the Republic for the same value as the Ecuadorian condor, and the latter is to be coined of exactly the intrinsic value of the £1.

LETTERS TO THE EDITOR.

THE CURRENCY QUESTION.

SIR,—A friend has just sent me a copy of your Journal of the 1st July, and I note the little para. "Tu Quoque." You are quite right in both your surmises. I have lived too long in this world to be aware that an occasional letter of mine to the papers would have any influence with Government. Still, there is no harm in giving them a word of warning. I was out of the country during the time of the discussion of the subject of the Financial Policy of the Government by the U. P. A. S. I., or, perhaps, I might have lifted up my voice to some effect.

When I left the country I was of opinion that my brother planters were as keenly alive to what was best in their interests as I was; but, judging from results, I find these were in a minority. From the recent correspondence in the *Mail*, I observe that the majority is now feeling the effects of that policy; but, judging from the numerous remedies advised by which the evil may be met, the main point is lost sight of.

The question of fixing the rupee at a value which in reality it has not got is a most momentous one, not only to Coffee Planters, but to every producer in India. The position taken up by the *Madras Mail* is not what I should have expected from a paper of such high standing, and from what I have seen of *Planting Opinion*, I do not think it has done as much as it might have done in counteracting the influence which the *Mail* undoubtedly carries.

JOHN LOGAN.

SIDAPUR,
15*th July* 1899.

GENERAL ARTICLES.

QUESTIONING A QUINOLOGIST.

Mr. David Hooper, F.I.C., the Curator of the Economic Section of the Indian Museum at Calcutta, is now at home on furlough, and we had the opportunity the other day of renewing our acquaintance with him. Mr. Hooper is one of our old Students' Corner prizemen, and is well known to many pharmacists at home. He had a distinguished career as a student. Before entering the School of Pharmacy, he obtained, in 1878, the bronze herbarium medal of the Pharmaceutical Society of Great Britain. He then entered the School of Pharmacy, and in the session of 1880 obtained distinction in every subject, but especially in Botany and Materia Medica for which he carried off the bronze and silver medals, and in Practical chemistry he was silver-medallist. After passing the Major examination, he carried off the blue ribbon of Pharmacy—the Pereira medal. Mr. Hooper then became an Assistant Chemist in Messrs. Corbyn, Stacey & Co's Laboratories, after which he was appointed Chemist to Messrs. Southall Brothers & Barclay, of Birmingham. While there Mr. Hooper applied for and obtained the appointment of Quinologist to the Government of Madras at Ootacamund, and there did excellent service, investigating many chemical and botanical problems, and making the arrangements for the manufacture of quinine. It is as a pharmacognosist, however, that Mr. Hooper is best known to scientific pharmacy. The preparation of "Pharmacographia Indica" was largely his work. The late Surgeon-Major Dymock, whose knowledge of Indian Materia Medica was so intimate, was a prominent co-author, also Surgeon-Major Warden, of Calcutta.

Mr. Hooper may be regarded as lieutenant to Dr. George Watt, the Reporter on Economic Products to the Indian Government. As Curator of the Calcutta Museum, his work has wider application

than Pharmacy, and, during his visit home, he is spending his time in inspecting the principal economic museums of Europe, inquiring into their systems, so that his own museum may be perfected in arrangement.

We were glad to hear from Mr. Hooper that the Indigenous Drugs Committee, of which he was Secretary during Dr. Watt's recent furlough in England, is making steady progress with its investigations. A certain number of Indian drugs are being systematically examined and reported upon in all their aspects, especially with regard to their origin, commerce, pharmacy, and therapeutic action. The last point embodies the chief difficulties, pharmacologists being scarce and full of work, so that most of the work in this department must be done in India with such resources as the medical officers have at their disposal. These are not ideal, but the results, as a whole, Mr. Hooper believes, will put Indian Materia Medica on a better platform than it has been hitherto, and there will be a better chance for the employment of Indian drugs in general practice throughout the world, and a decided opinion will be given on those qualified for inclusion in future Pharmacopœias.

The future of cinchona-cultivation in India naturally came up in the conversation This is now practically concentrated into the Government's hands, and as time goes on the *Cinchona officinalis*, which is the tree best adapted for India. and a rich yielder of quinine, will, to a large extent, displace all other kinds. *C. succirubra* provides the best cinchona febrifuge, but the trees are gradually being uprooted. We questioned the wisdom of reducing the cultivation of red-bark trees considering the present demand for cinchonidine, which is solely derived from this species ; but Mr. Hooper thought that this is probably a temporary prejudice, cinchonidine having no special advantage over the alkaloid quinine with its well-established anti-malarial properties. We innocently expressed the hope that the Ledger tree would be cultivated in India ; but Mr. Hooper made short work of that suggestion by saying that after many years' trial in different localities it cannot be profitably grown there, the soil, unlike that of the island of Java, being unsuitable for propagating the varieties of *C. Calisaya*. Mr. Hooper will not return to India until the autumn, and, if arrangements permit, he will attend the Conference at Plymouth, in order to make a communication and to renew old acquaintances. —*Chemist & Druggist.*

"REDDISH BROWN" TEA LEAF.

In reply to an inquiry as to "what errors in the manipulation of tea leaf could cause the *dry* leaf to have a reddish brown appearance," Mr. Geo. Thornton Pett writes to the *Ceylon Observer:* Here are a few suggestions, at his service, towards an answer:—

Under-withered leaf kept rather long in wet weather, gives, as you say in your note, a large percentage of red leaf.

Over-withered coarse leaf also gives a very large percentage of red and reddish leaf.

One seldom gets a good colour on tea made from fields in which the bushes have run a long time from pruning. Leaf carelessly treated in the withering lofts, left in heaps, and trodden on by coolies also turns out a reddish tea ; so does leaf that has got heated in bags or baskets whilst in transit to factory. The remedy for these is obvious.

I believe it is the almost universal experience in Ceylon, and I know it is a fact in several districts at medium elevations, that leaf plucked during a prolonged drought, and especially if there is any wind at the time, gives tea with a very pronounced reddish tinge, however fine the plucking may have been, and though there may be no actual red leaf in it. This tea, though wanting in black appearance, generally sells well, as the flavour is decidedly augmented: this is notably the case in Uva ; witness the sale prices of teas made on estates there in July and August, the dry months of that side of the country.

Re a second query : " Does the handling of the leaf in the drawers of drier cause greyness of the dry leaf?" Mr. Pett says: If he fills his drawers or trays properly, there should be but little handling required, and the *necessary* amount of such handling will not perceptibly "grey" the tea. A mistake some tea makers are apt to make, under the false impression that they are saving time, is allowing the firing coolies to lump on to the drawer or trays as much rolled leaf as they possibly can, when a good deal of turn over is, of course, required to get all the leaf fired equally. The should always be spread thinly, and pushed or worked the quickly. It is well to bear in mind the rule that was in force w we used chulas, *i.e.*, that it should be possible to see the fire thro the leaf on the loaded tray. Leaf *saturated* with water just be being put into the drier will, however, come out rather g much handled by the firing coolies, and a sort of black " bloom will be found adhering to the coolies' hands and the me the tray. I have ascertained this from actual experiment. bloom is, of course, sap from the leaf cells broken up in the roll and which has got diffused over the surface of the leaves. follows from this, I think, that leaf which has been carelessly mented, and allowed to get dry during the process, should be slightly moistened with water before firing and not saturated, have seen it done, by some tea makers.

PLANTERS'. ASSOCIATION OF CEYLON.

The following are extracts from the minutes of a Meeting the Committe of the Planters' Association of Ceylon, held at Kan on Friday afternoon, the 14th day of July.

MR. PHILIP'S ILLNESS.

The Chairman reported Mr. Alexander Philip's serious illn which necessitated his immediate departure to England. Resolve —" That the Committee desires to record its great appreciation the services of Mr. Alexander Philip as Secretary of the Associ tion during the past 23 years, and its deep regret that illn should have been the cause of his sudden departure, and its earne hope that he will regain his health and be again able to resu these duties which he has always carried out to the entire sat faction of the Association."

ACTING SECRETARY.

Resolved :—" That Mr. W. D. Gibbon be elected acting Secr tary during the absence of Mr. A. Philip, or pending furth arrangements."

DUTY ON TEA.

Read Secretary's reply to the Indian Tea Association relative British Import Duty on Tea, and acknowledgment from them, in mating their intention to comply with the request contained the Resolution forwarded after meeting of Committee on 12th Ma

DRAFT OF 1-LB. ALLOWANCE ON TEA.

Read letter from Mr. Wm. Martin Leake forwarding circul letter issued by the Indian Tea Association and Ceylon Associati in London, to all producers and importers of Tea. Read telegra Read letter from Secretary, Chamber of Commerce, enclosing co of Resolution passed at a General Meeting of the Chamber Commerce and Tea Traders' Association, held on 11th July.

The Chairman submitted copy of telegram from Indian Tea As ciation in Calcutta, and his reply.

Resolved :—" That this Committee will use their influence withhold teas for sale, for London market, until such time, as th 1-lb. draft dispute is ended. (II) That this Committee reques the Tea Traders' Association to suspend the sales of tea, held und the present conditions, and substitute auction sales, under spec conditions, corresponding in other respects to the former condition but with the addition that tea shall not be delivered for Londo until London sales are resumed, and that until such time a Proprietors, Directors of Companies, and Agents representi absent proprietors be urged to support the action of the Ceylon a Indian Associations in London : That the Indian Tea Associati be requested to cable conditions of recent sales."

REDUCED PASSAGES TO ENGLAND FOR PLANTERS.

Read letters from Colombo Agents of Steam Ship Compani acknowledging Resolution passed by this Committee at th Meeting on 12th May. Resolved :—" That the Agent of the Pen sular and Oriental Steam Navigation Company be asked to forw the Committee's Resolution to the Head Office in London, wh contains the arguments in favour of the request asked for."

EXHIBITS FOR THE PARIS EXHIBITION FOR 1900.

Read letter from Messrs. Tarrant Henderson & Co. Resolved — "That the District Associations be asked by the Chairman to sel an Estate or Estates, according to size of district to make comme

ial teas of three grades 5 lbs. of each grade, with copy of invoice, for he Paris Exhibition: That two estates be selected to make green ea and four estates to make fancy teas each of three grades: That he Northern Districts Association be asked to collect samples of eylon *cocoa*. That Messrs. J. Westland and John Spence be asked o collet samples of cardamoms: That Messrs. W. H. Wright and . Vander-Poorten be asked to collect samples of vanilla: That he Haputale Planters' Association and Badulla Planters' Association be asked to nominate two estates to send samples of 10 lbs. each f Ceylon Coffee Arabica: That the Northern Districts Planters' ssociation be asked to nominate two estates to send samples 10 lbs. ach of Liberian Coffee: That the Northern Districts Planters' ssociation and the Kalutara Planters' Association be asked to ominate two estates each to collect samples of rubber: That he Northern Districts Planters' Association be asked to collect mples of pepper: That the following gentlemen be asked to col-ct samples of cinchona:—Messrs. George Christie, ledgeriana; dward Rosling, officinalis; F. G. A. Lane, succirubra."

The Chairman intimated that all exhibits should be sent to the ecretary of the Paris Exhibition Committee, Colombo, by 15th ovember, 1899.

TOBACCO.

Read letter from Mr. H. A. Pickford relative to tobacco cultiva-n. Resolved:—"That he be informed that the matter must be t to private enterprise."

PRODUCE AND PLANTING.

No Change.—The latest report of the Commissioner of Customs Shanghai does not confirm the reports circulated freely some ne back that the Chinese were about to reform their methods of manufacture. The hopes expressed that the mandarins were last awakening to the advantage of preparing tea by machinery, are told, have been disappointed. There has been no improve-nt, says the report for 1898, in the treatment of tea, "nor is re likely to be as long as Russia takes nearly all the crop of ck as it is."

The Sorrows of the Tea Retailer.—The *Grocer* reproves those o foster the demand for cheap tea. It says "Consumers of tea e willing to pay a fair price for a good article, and it may be ped that those retailers who are fostering the demand for 'the illing canister,' and who are by so doing throwing away another ance of making a legitimate living profit, will curb their zeal and ilanthropy. Generally speaking, profit on sugar is almost an known quantity; at any rate, retailers do not get a fair return the labour and capital involved in its distribution. It will be great misfortune if the tea trade is allowed to drift in a similar rection, and an effort to check the diminution in the margin of ofit ought to be made before it is too late. Would the retail tributor's determination to secure a fair return on all his tea es limit the demand? We think not." Touching lightly upon sorrows of the retailer, the *Grocer* adds: "The tea trade been the subject of a great deal of attention during the last weeks. In several of the general newspapers statements have ently appeared to the effect that a quantity of tea containing appreciable percentage of 'dirt' has found its way to Mincing e, and sensation-mongers have been urging consumers 'to be heir guard against retailers who desire to charge them for tea to foist upon them an inferior article containing substances grown upon the tea plant.' It is a pity that such writers do make inquiries of the Commissioners of Customs before perpe-ing such libels on a trade which is generally conducted on as e a basis as any that could be mentioned. Following upon this aging statement came the assertion in the prosecution of on, Limited, last week that it is 'the universal custom of the e to weigh tea with the paper in which it is wrapped.' We ish this week another batch of protests against the assertion, it is to be feared that among the readers of some of the daily papers which did not give sufficient prominence to the radictions of the statement quoted above, distrust of retail tea-ers will be created."

Tea and Coffee in America.—They are trying tea as a rival to beer in New York. Tea saloons have been opened where it is sold for a penny a pint, and the buyer may have it hot or cold. Colonel Hadley, the inaugurator of the movement, is going to try and convince the poorer class of consumers that: "Tea builds up; alcohol burns up. Tea quenches thirst; beer starts a thirst." The plan also includes a scheme to induce the beer-drinker to substitute tea and place the daily saving in a bank. To encourage this the society start the account with a gift of 4s, with the understanding that the money formerly spent for beer, less that spent for tea, shall be deposited daily. This would mean a saving, where a pint of tea is taken instead of a pint of beer, of £17 12s, to which the society will add the balance to bring the year's saving up to £20. Coffee finds a more ready sale than tea in some quarters, because the former can be purchased at 4½d to 5d per pound, with a coupon for a gift in each package. This makes one gallon of coffee cost 2½d, while one gallon of tea of a poor sort costs 4d.

A New Use for Tea.—A correspondent who writes to a contemporary on the subject of fortune-telling "in the name of common-sense of society, and of religion," states that fees are now being extorted for the revelation of future events by the medium of tea leaves. He tells us that a professional lady attends at private houses, bringing her own teapot, and dares "to predict the future by the position of the tea-leaves when poured with due solemnity into a cup." These fortune-tellers have no preference for Indian and Ceylon tea unfortunately and can perform their cabalistic mysteries with either high or low grade teas.

THE SCIENTIFIC OFFICER FOR THE TEA DISTRICTS.

VIEWS OF DR. WATT.

The following is the text of the letter from Dr. Watt to Sir Patrick Playfair on the subject of a scientific officer for the tea district:—

DEAR SIR PATRICK PLAYFAIR,—I shall answer your enquiries categorically. You ask my opinion regarding the proposal to employ a Scientist to investigate numerous difficulties connected with the cultivation and manufacture of tea. Hitherto I have been consulted mainly as to the employment of an officer to investigate the problems that hinge on the pests and blights of the tea plant. It is true these would be very nearly covered by the investigation of the difficulties connected with cultivation, but I presume are altogether unconnected with the problems of manufacture. It would thus seem to me that the first step would be to definitely fix the field of operations contemplated for the proposed Scientific officer. If the Association expect to find a man capable to deal as an expert with every aspect of tea I venture to think that they are mistaken. It might be possible to secure a Biologist who could conduct useful and practical investigation into pests and fungal blights of the tea plant (but even here Entomology and Mycology are two widely different studies, and no single person can be an expert in both sciences). But that a Biologist could be an expert chemist at the same time, is contrary to all experience in such matters. Some few years ago the Association brought to India a chemist (Mr. Bamber), and he furnished a report which no doubt most of the members of the Association have read. Its practical value is, therefore, a point I need not deal with. At the present moment the Ceylon planters have engaged Mr. Bamber as Chemist, but they have secured also the services of Mr. E. E. Green, an Entomologist of the very highest European repute. Mr. Green is himself a tea planter of many years' experience, but has consented to become Government Entomologist mainly with the view to devote his entire energies to the investigation of the pests of the tea plant. With a Chemist and Entomologist at work, Ceylon may reasonably hope to make some progress, but I do not look with much favour to a scheme that would secure one officer, in the hope that he would be an expert on every scientific problem of tea planting. I should, therefore, recommend the Association to carefully consider whether they want a Chemist or Biologist as the first and most important consideration.

You ask me whether I approve of the proposal. Yes I do, subject to the qualification involved by the above remarks. That those responsible for the tea industry should bestir themselves to (*a*) discover remedies for the pests and blights, (*b*) to bring to light practical improvements in the quality and treatment of the plant, and (*c*) to perfect their methods of manufacture seem to me truisms that I should hardly be asked to state. I know of no industry of a similar magnitude where empiricism is allowed to have such limitless sway. In my report I have given numerous illustrations of diametrical opinions held by well informed and successful planters on almost every aspect of the industry. And this statement is admissible because of the immense capabilities and vast powers of endurance of the plant. Both opinions may be equally wide of the mark and the profits obtained far short of the practical possibilities. But there is a limit to this blindfold trusting to Providence and to the endurance of the plant, and that limit, in my opinion, is not very remote. I would, therefore, urge that there is scope for not one scientific expert for a few years but for half a dozen for a life time. If funds will not admit of the whole question being dealt with, the Association should decide whether they wish to secure a Biologist to investigate (*a*) above, or an Agriculturist to enquire into (*b*), or a Chemist to suggest improvements in (*c*).

You next ask me. could the officer work in connection with my Department. I have no doubt he could, and that I should be able to suggest many lines of enquiry that would save him from much loss of time through fruitless investigations. I was asked a similar question on a former occasion, and the Government of India submitted to your Association the appended passage from my reply (of which for convenience of reference I furnish herewith a copy). It will there be seen that I assumed chemistry was to be the primary qualification of the officer. That I also proposed (para. 5) his association with the laboratory of this office, but that he would require several other laboratories and a camp laboratory to conduct investigations while on tour through the tea districts.

You next ask me how far my investigations would render the employment of such an officer desirable or unnecessary. My personal investigations were conducted in one province only—Assam. They lasted for 2½ months, and were and are now intended purely and simply as denoting the urgency of the work. If they serve the further purpose of affording a useful programme for detailed and final operations they will fulfil all that I ever contemplated. I may add, however, that my report has been so favorably received that I have been looked upon as more or less an expert and have been constantly consulted, since its appearance, by planters all over India. As the result, much new information has been brought to light, so that already a second edition (if called for) would be a considerable improvement on the first.

What remuneration should the scientific officer receive?

The answer to this question turns on the term of years for which employed. If the Association were to seek for the services of an officer to be permanently employed the course which I should recommend—it might be possible to get a doctor of science with special qualifications in the chemistry of plant-life for Rs.1,000 rising by annual increments to Rs 1,500. This appointment would of course carry no pension, therefore would have to commence at a higher figure than would be the case with a Government servant. But if the appointment is to last only five years and it is desired to secure an officer of made reputation, the Association would have to offer not less than Rs 1,500 a month, with all expenses paid to and from India. The Government of India engaged an agricultural chemist and paid Rs.1,500. That circumstance, I think, is a fairly good reply to the question you put to me. Of course whether permanent of temporary, provision would have to be made for travelling-allowance, framed on the scale granted by Government to its servants, *viz.*,—double first class ticket by train or steamer. This covers servants, excess luggage, etc. A halting allowance of Rs.5 a day while away from head-quarters should also be made. In Assam everything is very expensive, hence the rates allowed in that province are higher than in most other provinces. The planters would no doubt assist the Scientific officer very greatly, but I may say that with all the assistance rendered to me, I was out of pocket by my tour in Assam, over and above the allowances made to me according to rules under which I come. I mention this circumstance in order to show that the scale I have proposed is the lowest possible rate that should be contemplated. In some instances Government commutes travelling allowances into a monthly grant, but I should think the Association would be safe in putti down Rs.300 a month as sufficient to cover these charges.

Where should his head-quarters be?—That is a very di question to answer. Were he to be employed in Assam o should instantly have said Shillong. There is a no occasion he should be confined to an unhealthy climate, or one in wh laboratory work would be difficult if not impossible. But would, I presume, have to investigate tea in Darjeeling, the Du Assam, Cachar, etc., Shillong might not be the most central. half think that if Calcutta itself was thought too far off, he m be located in Darjeeling. But he should have a small house laboratory constructed in Dibrugarh and in one or two centres well. I should insist that he spent a distinct period of every y on tour and visited in turn every garden under the Association should also lay down a hard and fast rule that every discovery made, connected with tea, became the property of the Associati In other words he should not be allowed to patent any proces method within a fixed term of years.

I think the above fully disposes of all the questions raised you, but if there were other points on which you wish my opin I shall be happy to be of service.

THE FUTURE OF CINCHONA.

The note which we published last week regarding the troubl the company which established the Bandong quinine-works says the *Chemist & Druggist*, fair evidence that all is not ba there, but more recent news which has come to hand indic that the trouble has been smoothed, if not settled, and a deci arrived at which will have a far-reaching influence upon the sup of cinchona-bark and quinine to the world. On June 16 a mee of bankers and cinchona-planters was held at Bandong to consi the whole question of the export of cinchona and quinine, whe was decided to establish in Batavia a regular cinchona-mar whence the bark will be sent and sold by auction to exporters the same time an agreement was entered into with the Band Quinine-factory, under which that company agree to send to Batavia market before the end of January, 1900, not less t 10,000 kilos. (350,000 oz.) of quinine sulphate for disposal auction, and the company also undertake to supply adva samples of the quinine, so that samples may be distributed buyers in the neighbouring colonies, and in Australia in Oct next. These are the brief details which have come to hand cable. Brief as they are, it will be seen that they embody a pri ple which has not hitherto been recognised by the cinchona-p ters, and it is evident that if the planters are all in it, and s together, the days of cheap bark and quinine under 1s per oz practically over. It is well known that the planters live by vi of advances made to them by bankers and financiers, who always grumbled at the want of control over the European mar This new proposal seems to supply what they lacked, for it wi least give them the grip on the local market, and ensure mini rates for the bark—always assuming, of course, that there Batavia a sufficient number of buyers to ensure the compet requisite far fair prices. The Java people have learnt by the dents of this year that the world is practically dependent upon t for this indispensable drug, and although speculators are m responsible for the great appreciation of bark and quinine speculation was based upon the insufficiency of Java supp Seeing, therefore, that the supplies to the European market w future pass through the Batavia gauge, and that that gauge w controlled by those having pecuniary interest in keeping it b does not seem likely that we shall see a return to penny u India and Ceylon are now out of the running in cinchona-pr tion. They cannot grow the rich Ledger trees for want of suitable soil at the requisite elevations. Gradually India is ping all the species except Officinalis, and although Mr. Star visit to Java may help him to more hopeful experiments Indian Government plantations, no marked influence can be for from that quarter during the next dozen years if ever. are in the hands of Java, and the Batavians know it. Wh new convention comes into force the despatch does not say, imagine that it is forthwith.

THE SCIENCE OF TEA-BLENDING.
II.

(WRITTEN BY AN EXPERT FOR "THE GROCER.")

In the Special Summer Supplement of *The Grocer* of June 10 was published the first portion of an article on "the science of tea-blending," which we quoted in our last issue. The following is the concluding instalment:—

SPECIMEN BLENDS

To make the matter still more simple, it may be well to submit particulars of several specimen blends, which are not intended so much to be exactly imitated as to indicate the lines upon which practical blending may be most advantageously carried on. The following specimen blends are of the simplest possible character, and are merely intended as a basis or guide for those commencing the work of scientific tea-blending. As the complexity of the blends increases, the possible variations become so numerous that it is obviously impracticable to indicate them within the limits of such an article as the present, but to a practical man keeping pace with the times fresh developments and new combinations growing out of these foundations will constantly suggest themselves. The lowest-priced tea usually sold by grocers to-day is the shilling canister, and this must be made up according to the Mincing-lane Market from time to time; very decent Indians may usually be obtained at prices low enough to show a profit; at other times carefully selected Javas must be substituted, and where admissible low-priced scented capers may be worked in to decrease the cost and increase the pungency. A fraction of a penny in buying low-priced teas will often make all the difference between a good and common tea; it is false economy to inflict nasty rubbish on your customers to save a farthing.

Specimen Blend No. 1.—Medium-priced tea. Principal ingredients: Brisk flavoury Ceylon; rich Dooars. Note.—Above will make a strong, thick tea, which should come out well in all waters. Scented orange pekoe or oolong can be used where desired.

No. 2.—Medium-priced tea. Principal ingredients: Brisk pungent Assam; rich Dooars. Note.—This will, perhaps, be more taking than No. 1 in districts where water is very hard. Ouchaine scented tea very useful for giving extra rasp and grip.

No. 3.—Good medium tea (2s. canister). Principal ingredients: Flavoury Celon pekoe; rich Dooars pekoe. Note.—Well selected and carefully blended, the above should produce a rich, delicious tea May be flavoured with a dash of finest oolong.

No. 4.—Good medium tea (2s. canister). Principal ingredients: Fine flavoury pungent Assam pekoe; rich Dooars pekoe. Note.—A grand liquoring tea for medium hard water. Flavour with finest oolong.

No. 5.—Good medium tea (2s. canister). Principal ingredients: Hard leaf strong Assam pekoe (whole leaf or semibroken). Note.—Suitable for very hard water. Scented caper or Ouchaine pekoe may be added.

No. 6.—Fine to finest tea. Principal ingredients: Fine Ceylon broken pekoe; rich Dooars pekoe. Note.—Suitable for soft water. Flavour with very little of the finest oolong.

No. 7.—For fine to finest tea. Principal ingredients: Thick Ceylon broken pekoe; flavoury Assam pekoe. Note.—Suitable for medium water. The character of this blend can be freely varied according to the class of Assam pekoe used; if a very pungent kind is selected no scented tea should be used.

No. 8.—For fine to finest tea. Ingredients: Assam broken pekoe (Jorehaut kind); Ceylon pekoe or broken pekoe (mountain-grown tea). Note.—For very hard water. Oolong or fine Namuna pekoe may be used to give extra grip.

DISTRICT ASSOCIATIONS.

NELLIAMPATHY.

PROCEEDINGS of a Meeting held at Cottengadi Bungalow, July 6, 1899. PRESENT:—Messrs. Burnett, Denny, H. M. Hall, Hendry, Welchman, and J. C. Abbott, Honorary Secretary. Mr. J. B. Burnett, in the chair.

Proceedings of last meeting were taken as read.

Proposed Amended Labour Act.—Read letter from the Honorary Secretary to Secretary, U. P. A. S. I., giving the views of this Association.

Adulteration of Coffee.—*Read* correspondence.

Paris Exhibition.—*Read* correspondence.

Registration of U. P. A. S. I.—*Read* letter from the Secretary stating that His Excellency the Governor had granted a license for the registration of the United Planters' Association of Southern India under the Indian Companies' Act with limited liability.

Stamp Fees on Hypothecation Deeds.—*Read* letter from Messrs. Arbuthnot & Co. to the Secretary, U. P. A. S. I., stating that under the new Stamp Act a crop agreement, *i.e.*, an instrument under which a planter hypothecated his crop as security for advances made to him, is chargeable with about four times the duty now leviable under the existing Act.

Resolved,—That this Association fully approves of united action being taken with a view to getting the duty altered.

Subscription to U. P. A. S. I.—After some discussion it was resolved that the annual subscription should be the same as before, *viz.*, Rs.160.

Bangalore Meeting.—*Resolved*,—That only one delegate should be sent to the Meeting in August. Mr. Abbott was elected to represent this Association.

Theft of Manure in transit.—*Read* letter from Mr. H. M. Hall stating that he had found a considerable quantity of artificial manure in the possession of ryots in the low country who were using it for their fields, and that, as the manure was presumably stolen, he had reported the matter at the Nemmara Police station.

Read letter from the Honorary Secretary, to the Inspector of Police, Nemmara, calling his attention to the serious extent to which manure consigned to planters in these hills was being stolen or tampered with, and asking what steps he was taking to charge the men reported by Mr. Hall.

Read reply stating that a searching enquiry was being made into the matter.

Resolved,—"That no effort should be spared by this Association to endeavour to obtain a conviction and put a stop to the present heavy losses."

A vote of thanks to the chair terminated proceedings.

(Signed) J. BURNETT BURNETT,
Chairman.

(„) J. C. ABBOTT,
Honorary Secretary.

SOMETHING IS AFTER YOU.

Far away, in the Jungle of Central India, a village lies asleep. Only a solitary human figure can be seen, following the winding jungle path in the moonlight. It is early night, and the native who comes has been delayed on his way home.

But what is that dark shadow that crosses the path behind him? Quite oblivious, the man marches on. He looks neither to right nor left, nor behind him, where crouches that dark shadow. A few yards more and he will be out of the jungle. A few minutes more, and he thinks he will be sleeping in the bosom of his family. But see, the shadow moves! With two noiseless bounds like a giant cat the tigress is upon him. One despairing scream and all is quiet. Bitten through the head, the victim is snatched up and carried by the grim man-eater to her lair in the hills. Meanwhile, the village slumbers peacefully on.

Was it the man's fault? Yes, I think it was. Had he not lingered, he would not have been caught. The tigress would not have attacked him in broad daylight. But he was no worse, I think, than those in this country who are to-day doing the very same thing. Thousands and thousands of English men and women have a shadow in their path. It is after them. The time will come, if they do not take heed, when they will feel, like Mrs. Lydia Golding, "as if something had overtaken" them. Here is a letter from her in which she tells her experience:—

"All my life I had been a strong healthy woman, and up to the autumn of 1891 I never ailed anything. At this time I began to feel weak, weary, and tired, and *as if something had overtaken me.* I had a foul taste in the mouth, my tongue being furred, and a sour fluid would rise into my mouth. I had no appetite to speak of, and the little food I took gave me no strength. After eating I had

a heavy weight and pain across my chest, and a gnawing feeling in my stomach. I belched up a deal of frothy fluid, and in the night I awoke with a suffocating feeling. Cold clammy sweats broke over me, and what with loss of appetite, and not being able to sleep at night, I soon got so weak that *I found it hard work to get about.*

On December 23, 1892 (one Sunday morning). whilst preparing breakfast for my husband, I was suddenly *seized with paralysis*, which affected the whole of my right side. I had no use of my hand or leg on that side, and a numbness took me on *both left and right* sides. My husband got me to bed, and fetched a doctor from Northfleet, who gave me medicines. After this I lost my strength rapidly and what I suffered I could not tell.

"I could not rest night or day and I was in and out of bed every now and again. I got little sleep, only dozing off for a short time and then starting up. I was afraid to be left alone, and often in the night I have been so nervous and frightened I could scarcely bear it. I took medicines of all kinds, but was little better for anything, until one day in August, 1893, my husband read in the paper, "Weekly People," of Mother Seigel's Curative Syrup, and got me a bottle from Perry and Son, Chemists, High Street, Gravesend. After taking it a short time, I began to gain strength. and got stronger, and stronger until I was free from the effects of the seizure. I now keep in good health. You can publish this statement if you wish."—Yours truly, (Signed) Mrs. Lydia Golding, 12, Carter's Road, Perry Street, Gravesend, May 14th. 1896.

What was this shadow that had crossed Mrs. Golding's path? What was it that "overtook" her and laid her helpless and suffering upon a bed of sickness? Surely you can recognise the monster that sprang upon her as the dreaded disorder Dyspepsia, which attacks you when you are most defenceless and weakest. Paralysis; yes, Mrs. Golding had it, and could feel it, but what she could *not* feel was what it was that had so acted upon her nerves and muscles as to cause them to become so helpless. Nor could she, I suppose, understand *how* Mother Seigel's Curative Syrup cured her so quickly, though *we* know now that it was because the dyspepsia was got rid of.

But, as the native was never heard of more, so there are *some* who cannot get out of the clutches of Dyspepsia, even with such help as Mother Seigel's Curative Syrup, if the help comes too late. Hence the best way of all, say I, is to keep out of the jungle after dark; and, if you *must* go, *walk quickly.*

MARKET REPORT.

By Mail Advices of 30th June 1899.

COFFEE.

The *London Commercial Record* says:—During the week auctions have continued to make slow progress, and the demand shews the same tendency which has so long marked the course of this market. Any fine samples meet with a good demand both from the home trade and export, but the greater proportion of the supplies consisting as it does of undesirable quality, has been more or less neglected, and low qualities have been pressed for sale at a decided reduction. Taking a general survey the week's decline on all growths may be put at 1s to 2s per cwt. "Futures."—There has been a rather firmer tone lately, and closing prices shew a slight improvement.

London ...	... Santos ...	Sept. delivery	... 28s. 6d.
New York	... No. 7 Rio...	„ „	... 4·85 cents.
Hamburg...	... Santos ...	„ „	... 28¾ pf.
Havre ...	... Santos ...	„ „	... 34¼ francs.
Holland ...	... Good ordinary Java ...		... 26¾ cents.

Imports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
West India ...tons	904	583	1,240	1,485
Ceylon ... „	115	81	260	157
East India ... „	5,860	2,694	8,652	5,255
Mocha ... „	486	449	411	398
Brazil ... „	4,604	3,073	2,094	2,009
Other Foreign „	13,365	11,689	18,222	20,325
Total tons ...	25,334	18,569	30,879	29,629

	Home Consumption.		Export	
	1899.	1898.	1899.	18
West India ...tons	177	221	561	1
Ceylon . „	73	83	137	
East India ... „	1,353	1,431	2,365	2,2
Mocha ... „	351	368	81	
Brazil ... „	469	575	680	1,3
Other Foreign „	5,948	4,855	7,790	8,3
Total tons ...	8,371	7,533	11,614	13,1

The preceding figures exhibit—

In the Imports an increase this year of	1,250 ton
In the Home Consumption an increase of	838 „
In the Export a decrease of...	1,509 „
In the Stock an increase of	6,765 „

Auctions this week have passed off as follows:—

East India.—3,125 bags partly sold as follows: *Coorg*, smalls 3 to 44s, low middling rough greenish to colory 37s to 58s, middlin blue 63s, bold 73s to 78s, pea-berry 44s to 93s; *Neilgherry*, small 39s 6d to 44s, low middling to colory 45s to 50s, good to fine bol 71s to 84s 6d, pea-berry 54s 6d to 62s; *Nelliampathy*, smalls 42s 6 low middling 44s to 44s 6d, bold 65s, pea-berry 60s; *Wynaa* smalls 40s, low middling 43s, pea-berry 58s; *Tellicherry*, smalls 3 low middling 39s to 39s 6d, pea-berry 35s.

African.—*Liberian.*—6 bags bold yellow realised 26s.

Jamaica.—Of 27 bags 52 barrels offered 52 barrels sold—picking 25s, ordinary to fine ordinary 27s to 32s 6d, small hard ding greenish 56s 6d.

Honduras.—14 bags realised 31s 6d.

Costa Rica.—3,287 bags partly sold—small 27s to 58s, ordinar to fine ordinary greenish 27s 6d to 39s, fine fine ordinary to lo middling 41s to 48s, middling 58s, good to fine bold blue 85s to 90 pea-berry 34s to 85s.

Guatemala.—Of 5,338 bags offered a fair part sold—smalls 22s 6 to 35s 6d, ordinary to good ordinary 28s to 35s, fine to fine fin ordinary 36s to 39s 6d, low middling 40s, middling 44s 6d to 45s, goo middling colory 49s, pea-berry 32s to 57s.

Vera Paz.—60 bags mostly sold—low middling 40s 6d.

Salvador.—2,430 bags mostly sold—smalls 24s to 30s, good ord nary 32s, fine fine ordinary 38s to 39s, low middling to middlin 40s 6d to 46s, bold 51s to 62s, pea-berry 42s 6d to 60s.

Mexican.—301 bags nearly all sold, smalls 25s to 28s 6d, fine fi ordinary 39s 6d, low middling to middling 41s 6d to 46s 6d, goo middling colory 53s 6d, pea-berry 43s.

Nicaragua.—1,141 bags mostly sold—smalls 25s to 27s, fi ordinary 33s, low middling to middling 40s to 45s 6d, bold du colory 56s, pea-berry 40s to 54s 6d.

Colombian.—1,968 bags half sold, smalls 24s 6d to 37s, ordinar dull palish 30s, fine ordinary 34s 6d to 35s, low middling to mi dling 39s 6d to 48s, good middling colory 49s to 55s 6d, good to fin bold 59s 6d to 77s 6d, pea-berry 40s 6d to 55s.

Guayaquil.—55 bags sold at 28s for good ordinary foxy pale.

Receipts in Rio and Santos.

Since July 1	1898-9. Bags.	1897-8. Bags.	1896-7. Bags.	1895-6 Bags.
Rio	3,176,000	4,288,000	3,579,000	2,398,00
Santos ...	5,561,000	6,151,000	5,101,000	3,091,00
Total ...	8,737,000	10,439,000	8,680,000	5,489,00
Crop ...	—	10,461,000	8,680,000	5,489,00

Rio Exchange 8$\frac{1}{32}$d, previous day 8d.

Havre, June 29—Santos good average June opened quiet at 33 and closed steady at 33½f., July opened at 34f. and closed at 33¾f.

Hamburg, June 29—Good average Santos May opened quiet 28¼pf. and closed steady at 28¼pf., September opened at 28¾pf. an closed at 28¾pf.

New York, June 28.—Closing prices of No. 7 Rio were as follow

	June.	July.	Aug.	Sept.	Oc
June 28 ...	4.65	4.65	4.75	4.85	4.9
June 27 ..	4.60	4.60	4.70	4.85	4.9

To-day's auctions offered 7,644 bags, principally Costa Rica an Guatemala, with about 1,600 bags Salvador and New Grana The sales were only partially finished and the market was dull

es again lower—2s to 3s per cwt. down on the week. Some vador sold to-day at 10s per cwt. under the price refused a nth ago.

rices realized at auctions for some of the principal marks of East a—

MYSORE.

		0	1	2	3	PB	T
non C M ◇	... ...	74-0	60-0 & 52-6 bid	37-6	—	55-0	28-6
o. C B ◇	...	no bid	36-0	28-0	—	40-0	26-0
rnards Mysore R D B □	...	no bid	37-6 bid	33 0 bid	—	45-0 bid	—

		0	A	B	C	PB	T
derson K Mysore	... ...		42-0 bid	37-0	28-0	50-0	27-6
ket (G) Mysore	...		89-0	58-0	37-6	80-0	27-6

COORG.

		A	B	C	PB	T
rghully	...	45-0 bid	39-6 bid	34-0	55-0 bid	27-6
Santi Coopa ...	...		88-0	63-0	44-6	93-0
nt & Abbs Cowerie Betta Coorg .			87-0	56-0 bid	38-6	85-0
igles Covercoly Mountain	...	64-0 bid	no bid	36-6 bid	65-0	27-6
od Suntikoppa ...	...	40-0 bid	37-0	30-6	44-0	26-0
Heroor	...	no bid	39-0 bid	33-0	46-0 bid	24-0

		1	2	3	PB	T
heson's Coorg Nulla Cottay	...	83-6	57-6	42-6 bid	78-0	40-0
Do. Chenen Cottay	...	82-0	55-0 bid	40-0	82-6	39-0
Do. Chickenhully No. 1		77-6	52-6	40-0	78-0	39-0
Do. do. No. 2		78-6	54-0	44-0	80-0	41-6
Do. Balancolie	...	65-0 bid	no bid	38-0	68-0	37-0
Do. Balamannay	...	84-0	no bid	42-6	81-0	39-0
Do. Coorg A F ◇	...	73-0	48-0 bid	37-6	75-6	31-6
M Coorg Abial Mountain	...	88-0	no bid	—	85-0	37-0
Monappa ◇ Betta Kerry Coorg...		no bid	no bid	no bid	no bid	—
chi Betta Coorg ...	...	83-0	54-0 bid	—	80-0	36-0
vrie Cadoo Coorg ...	...	82-6 bid	51-0 bid	—	80-0 bid	—

PEERMADE.

		A	B	C	PB	T
rmade Paycanum ...	...	43-0	35-0	25-6	45-0	27-6
Do. Penshurst ...	...	40-0	35-6	25-6	—	21-0

NEILGHERRY.

		A	B	C	PB	T
N ◇ Hallacarry Nilgiris	...	52-0	39-0	38-0	43-6	28-0
o. Dolphin Nilgiris	..	57-6	43-0	35-6	43-6	29-6
an	...	53-0 bid	41-6 bid	34-0	50-0	29-0
N ◇ Dolphin Nilgiris	...	61-6 bid	45-0 bid	40-0	55-6 bid	27-0
acumbie	...	66-0 bid	45-0 45-6	40-0	54-6	33-6
per Waverley ...	...	68-0 bid	46-6 bid	41-6	62-0	31-0
erfall N ◇ ...	...	50-0 bid	40-6 bid	39-6	53-0	27-6

		A	B	C	PB	T
ekull	...	71-0	50-6	44-0	57-0	34-0
tsworth	..	no bid	40-6 bid	33-6 bid	50-0	24-6
acumbie	...	84-6	49-0 50-0	44-0	60-0	33-0
arashola	...	no bid	no bid	38-6 bid	no bid	32-0
Woodlands ◇ Nilgiris	...	46-0	39-6	34-0	45-0	29-0

TRAVANCORE.

		A	B	C	PB	T
ne	...	50-0 bid	30-0 bid	22-0	50-0	23-0

NELLIAMPATHY.

		A	B	C	PB	T
inda Mulla Nelliampathies	...	60-0	44-6 44-0	42-6	60-0	29-0

WYNAAD.

		A	B	C	PB	T
Chulika		no bid	36-0	31-0	42-0	25-0
Wright's Wynaad Plantation	...	58-0 bid	43-0	40-0	58-0	31-0

TELLICHERRY.

		A	B	C	PB	T
Lutchmi Estate London	...	39-0	39-6	35-0	42-0	26-0

TEA.

CHINA.—Transactions are not of great importance and prices have declined. During the week 3,127 packages have been offered at auction and sold as follows:—Oolong at 4⅝d to 4¾d, good 9d. Congou 6¾d. Souchong 6¼d to 6½d. Ningchow 6¾d. New makes 5¼d. Scented Orange Pekoe 7d to 7⅛d Scented Caper 7½d to 7¾d. Green:—Gunpowder 5⅝d to 7¼d, Imperial 3⅞d, Foong Mee 8½d to 9¾d, Sow Mee 6d to 6¾d, Young Hyson 3⅞d to 6½d per lb.

INDIAN.—The auctions included a larger quantity, *viz.*, 13,600 packages, of which 6,700 packages were New Season's, against 9,500 packages (1,184 New Season's) in the previous week and 9,500 packages (3,300 packages New Season's) at the corresponding period a year ago.

With only a quiet business doing in the country, buyers were not very eager to increase their holdings of the new crop, and the bidding was rather languid, a good many parcels being withdrawn on account of offers being under the ideas of importers Common to fair Pekoes and Pekoe Souchongs were wanted, though for these a somewhat lower quotation was established, the former selling down to 6½d and the latter 6¼d per lb., the better grades also often ruling irregularly and easier. Old Season's were also more difficult to quit except at a decline.

For 4,500 packages (New Season's) on Garden Account 7¾d per lb. was realised *versus* 9½d per lb. for 963 packages on the 19th instant, and 8d per lb. for 3,300 packages in 1898.

Total number of packages printed in June was—

1899.	1898.	1897.
47,700 pkgs.	37,000 pkgs.	24,300 pkgs.
(12,700 new season's)	(8,800 new season's)	(8,800 new season's)

CEYLON.—An increased amount was brought forward, embracing 26,500 packages contrasted with 18,800 packages on the 20th inst., and 23,600 packages at this time in the year before.

There was a weaker tendency for common kinds and those with inferior cup. Pekoe Souchongs occasionally went at 6¼d per lb., while for Pekoes and Orange Pekoes with a little flavor in many cases only 6½d per lb. was obtainable, marking a fall of fully ¼d per lb. on former rates. Broken Orange Pekoes and Broken Pekoes on the whole were in somewhat better request. those possessing good quality meeting with strong competition and bringing higher prices.

The average is slightly over 7¼d per lb. On the 22nd instant, it stood at 7⅝d, and the same in 1898. In 1897 it was 7¼d.

During the month the following were catalogued:—

1899.	1898.	1897.
105,600 pkgs.	99,600 pkgs.	115,600 pkgs.
(Avge. 7⅝d per lb.)	(Avge. 7¾d per lb.)	(Avge. 7¼d per lb.)

JAVA.—About 600 packages, principally of direct import, passed the hammer, the majority going rather under the range current lately. For the 3rd prox. 1,200 packages are advertised.

Offerings in June were—

1899.	1898.	1897.
4,600 pkgs.	3,400 pkgs.	3,800 pkgs.
(Avge. 7⅜d per lb.)	(Avge. 6¼d per lb.)	(Avge. 6d per lb.)

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns, were—

From 1st to 20th June, 1899 ... ... 12,966,420 lbs.
" " 1898 ... ... 14,997,160 "

During the week the following have been printed for sale by public auction:—

	Sold. Pkgs.	Withdrawn. Pkgs.	Total offered. Pkgs.
India ...	10,150	3,451	13,601
Ceylon ...	24,914	1,617	26,531
Java	565	41	606
Total ...	35,629	5,109	40,738

Also 1,852 packages from second hands.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated June 30th, 1899, says:—

QUANTITY BROUGHT TO AUCTION IN LONDON FROM 1ST JUNE TO DATE.

	Indian.	Ceylon.	Java.
1899-1900 ...	... 55,345 pkgs.	107,362 pkgs.	4,706 pkgs.
1898-1899 ...	... 41,235 „	104,676 „	3,353 „

15,372 pkgs. Indian
26,626 „ Ceylon
650 „ Java
} Total 42,648 packages were offered in public auction this week.

Movements of Tea in the United Kingdom as shown by the Custom House for the 12 months ending 31st May last, are given in the following table.

It will be seen that the bonded stock of all Tea in the country shows a considerable reduction compared with the same time last year, although it must be borne in mind that duty payments towards the close of the season were somewhat inflated by the possibility of an increase in the duty.

Stock of all Tea in United Kingdom at the end of May: 1899, 61,175,000 lbs. 1898, 67,876,000 lbs. 1897, 70,637,000 lbs.

Indian.—The auction comprised 7,569 packages of New Season's Tea, together with a number of closing invoices of last season. The new Teas were somewhat disappointing in quality and did not attract much attention from the trade. The market generally showed a decline on rates current last week for Teas under 9d. per lb.

Ceylon.—The market was again weak and Teas for price showed a further decline of about ¼d. per lb. Finest descriptions however, which were in short supply, were well competed for and showed a very steady market. Average for week 7·26d., against 7·46d., in 1898.

Ceylon Tea sold on Garden Account 1st Jan. to date 1899, 521,019 pkgs., av. 8·22d. 1898, 565,760 pkgs., av. 7·63d.

		1899.	1898.	1897.	1896.
Pekoe Soug	(Ordinary leaf; fair liquor)	7d.	6d.	6d.	6d.
Pekoe	(Ordinary leaf, little twist; fair liquor)	7¼d.	6¾d.	7d.	7d.
Pekoe Soug	(Rather bold leaf; indifferent liquor)	6¼d.	5¼d.	5d.	5d.
Pekoe	(Somewhat bold leaf; indifferent liquor)	6½d.	5¾d.	5½d.	5½d.

Java.—In sympathy with other grades the market showed a decline of ¼d. per lb. the only exception being the few Teas with really good liquor, which sold at steady prices.

COCOA.

This market goes from bad to worse. Auctions on Tuesday presented 5,346 bags, but barely 1,950 bags sold at again lower rates—1s to 2s per cwt. down generally. Of 2,140 bags Trinidad offered 740 bags sold—fine red 69s to 70s and fair to good red 64s to 68s, being 1s below last week's values. 2,312 bags Grenada less than half sold—superior red 65s to 69s, good to fine 61s to 63s, and common to fair 57s to 6 s, showing 1s to 2s decline for all except the common grades, which realised about previous rates. 9 bags fine red Montserrat brought 65s 6d, and 3 bags Dominica 56s. Of 267 bags Jamaica 110 bags found buyers at a good 1s depreci... 61s to 62s for good fermented. 172 bags Guayaquil were ... drawn; whilst of 112 bags African only one lot sold at 53s. C... met practically no offers, and only 12 bags sold at 62s per cwt. ... of 322 bags brought forward. Private transactions comp... bags Grenada at 62s, 100 bags Jamaica at 54s for ordinary, 2... Samana at 57s to 58s, 300 bags Guayaquil, greyish Caraqu... Arriba 69s to 72s 6d, and 300 bags Ceylon at 58s to 66s per cw...

PEPPER.

Black.—The spot market has exhibited more animation and p... have advanced; fair Singapore sold at 5¼d to 5$\frac{5}{16}$d. For arrival ... positions are steady, but distant shipment easier; Singapor... (s) sold at 5⅜d to 5$\frac{5}{16}$d, June-August (s) 5$\frac{13}{32}$ to 5$\frac{5}{16}$d, July-Septe... (s) 5½d to 5$\frac{7}{16}$d, and August-October (s) 5$\frac{17}{32}$d to 5½d per lb., ... being sellers at the close at the lowest figures; about 150 t...

Auction on Wednesday brought forward 893 bags Malabar C... of which 816 bags sold—good clean heavy brown 5¼d, smaller ... 5⅛d, good fair greyish 5d, one lot 5⅛d per lb. 5 bags Ceylon ... ed 5¼d. 200 bags Penang bought in.

White is quiet, with only a limited business in spot Penang... For arrival Singapore is cheaper, about 50 tons selling at 8½d ... August (s), and 8$\frac{11}{16}$d per lb. for August-October (s).

At public sale on the 28th inst. 20 cases 60 bags Singa... retired at 8¾d and 11⅜d as in quality, also 312 bags Penang a... per lb.

GINGER.

Cochin.—The auctions produced no improvement in de... and holders were constrained to again submit to lower p... 195 cases 735 bags, of which 80 cases 130 bags sold, me... and bold, some small, limed cut 45s 6d to 49s 6d, leanish m... and small roughly cut and scraped, limed, 27s 6d to 28s 6d, sm... bold rough Calicut limed (in cases) 35s, ordinary medium ... small washed rough 22s per cwt.

Bengal.—40 bags passed the hammer unsold.

Jamaica.—596 barrels offered and 256 barrels sold at a decli... 2s to 3s per cwt., *viz.*, good bright bodish washed 73s to 75s. ... dling to fair 61s to 66s, ordinary to good ordinary 51s to 58... common dark 49s to 50s 6d per cwt.

QUININE.

Very quiet, and during the past two days there has bee... business whatever. Prices remain steady, the second-hand q... tions being 1s. 4d. per oz. spot, August 1s. 4⅛d., and Octobe... 1s. 4⅞d. per oz. To-day the market is firmer, business having ... done at 1s. 4⅝d. for August delivery, and 1s. 4¾d. asked. M... rates are unchanged. The makers of Pelletier's brand wish ... make it clear that their price is 1s. 6d

The shipments from Java during April were 200 cases, all fo... U. K. From July 1, 1898, to April 30, 1899, the total amount ... ped was 1,251 cases.

	IMPORTS.			DUTY PAYMENTS.			EXPORTS.		
	1898-9.	1897-8.	1896-7.	1898-9	1897-8.	1896-7.	1898-9.	1897-8.	1896
Indian	137,250,958	135,796,435	133,026,515	138,605,197	127,575,718	123,735,157	7,866933	6,171,776	5,338
Ceylon	97,764,806	95,497,963	97,790,474	80,118,167	86,874,307	83,532,450	11,179640	10,935,440	9,682
China	25,858,614	30,496,929	32,479,996	15,756,300	15,706,916	19,515,804	13,480943	18,970,230	20,327
Other Countries ...	8,554,182	7,342,130	6,692,940	5,813,653	4,710,542	4,423,730	903560	1,149,487	93
Total lbs. ...	269,428,560	269,133,457	269,989,925	240,293,317	234,867,483	231,207,141	33,431076	37,226,933	36,283

Analysis of above export of Tea from U. K. during the last two years (not including transhipments

	INDIAN.		CEYLON.		CHINA.		OTHER COUNTR...	
	1898-9.	1897-8.	1898-9.	1897-8.	1898-9.	1897-8.	1898-9.	18
Countries in Europe	4,328,430	3,353,555	6,747,847	6,499,572	7,228,830	12,247,685	602,667	65
United States	592,723	694,829	1,029,872	1,518,076	566,350	1,475,835	65,269	14
British N. America	1,697,726	1,032,386	1,856,823	1,452,035	883,441	975,122	47,302	8
Newfoundland	41,396	13,234	91,635	78,706	122,938	122,147	1,643	8
Other Countries	1,206,658	1,077,772	1,453,463	1,387,051	4,679,384	4,049,438	186,629	23
Total lbs. ...	7,866,933	6,171,776	11,179,640	10,935,440	13,480,943	18,970,230	903,560	1,1

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

L. IV.] MADRAS, SATURDAY, JULY 29, 1899. [No. 30.

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UBSCRIPTION.—Payable in Advance: Yearly, Fifteen Rupees; Half-rly, Eight Rupees; Quarterly, Five Rupees, and Monthly, Two Rupees, uding postage. Single Copies, Eight Annas.

DVERTISEMENTS.—The charge for line advertisements is As. 4 line for the first, As. 3 for the second, and As. 2 for the third and succeeding insertions. Five-line (or shorter) advertisements from Subscribers will nserted for three issues for One Rupee; non-Subscribers will be charged Rupees.

OMESTIC OCCURRENCE.—The fee for inserting a domestic urrence will be *One Rupee* for each insertion, payable in advance.

.B.—Remittance should be sent to E. C. Duff & Co., Proprietors, anting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 4th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, 26*th July.*—*Weather.*—Very little rain again during the past week ended 22nd; only ·30 inch! Is the monsoon going to be a failure? More rain needed for supplies. *Plant diseases.*—If the bushes are closely looked into, specks of leaf-disease are found not to be altogether absent; but probably conditions will prove antagonistic to its getting any great hold of the trees. Prices of grains were high at last *shandy.* 13—16 seers raggi per rupee. Rice 8 seers per rupee, and gram 7 rupees the *pala,* or 100 seers.

BRAZILIAN COFFEE.

The rapid rise of Brazil's trade in Coffee has been the chief factor in bringing about the excess of production over demand that has made its effect so severely felt of late years through a heavy fall in prices. In 1817 shipments from Rio de Janeiro totalled 63,986 bags; in 1881 they reached 4,377,418. In 1850 nearly 100,000 bags were shipped at Santos; in 1897-98 some 6,000,000 bags, and the Santos figures, unlike those of Rio, are still on the up-grade. Present economic conditions are unfavourable to a considerable increase of exports of coffee from Brazil, but as regards Santos we may observe that it is the seaport of a State wherein the area available for coffee cultivation is practically inexhaustible, and where the soil is perhaps the most appropriate for the purpose that can be found anywhere in the world. Add to this that scientific cultivation is being urged upon planters by the authorities, and that

attempts are being made to offer to European capital guarantees that do not at present exist in regard to investments in Brazil. Add further the factitious advantage of abnormally low exchange; and though this is lessening at present, there still remain forces at work of a strength sufficient to guarantee that Brazil will retain for many years her supremacy in the Coffee trade.

Prospects could be more accurately gauged, if it were possible to calculate the minimum cost of production in Brazil. But with exchange varying daily a difficult task becomes a hopeless one. With the many differences there must be between the conditions of various estates, figures—however closely worked out— would probably vary so greatly as to cause their accuracy to be doubted; and it would be almost impossible to say when the "bedrock" of estimates had been struck, and the lowest possible arrived at. Meanwhile, however, we will add certain interesting figures for the information of our readers. They refer to the year's crop of a small plantation of only 3,000 trees, yeilding little more than 50 arrobas (1,650 lbs.) per 1,000 trees, which is considered a very fair yield for Minas and Rio, though small when compared with the average of 80 arrobas (2,640 lbs.) for São Paolo. The estate is at Itamaraty in the district of Cataguazes in Minas, distant from Rio about 366 kilometres (say nearly 230 miles). The accounts show that freight per rail cost about 3/3*d.* per cwt., export dues were about 2/7*d.*, cartage in Rio about 9*d.*, commission on sale about 7*d.* per cwt., making a total of 7*s.* 2*d.* per cwt. Figures, as regards cost of production, not including interest on capital outlay, work out about 13/2*d.* per cwt., making a total cost of 20/4*d.* per cwt. delivered at Rio, exclusive of interest on capital or allowance for supervision. The coffee was apparently not very good, for whereas the current price for No. 7 was about 9$703 at the time it was sold, it only realised 9$000. This works out just a fraction over 13*s.* 2*d.* per cwt., leaving in fact something like 1% to cover interest on capital and planters' private expenses! An analysis of the total cost works out as follows:—

	per cent.
Estate expenses (including picking)	64·8
Rail freight	16·
Export dues	12·5
Commission and cartage at Rio	6·7

The statement of expenses is said by the *Imperio*, of São Paolo, to be probably not exaggerated, except as regards the freight, which is perhaps above the average. It must, however, be borne in mind that the estate under reference is a small one, and that on a larger estate the cost of production would probably be smaller.

From the above figures, however, our Brazilian contemporary judges that "few, if any, plantations similarly situated can yield any profit at all under $9 per arroba," or, say, 20/4*d.* per cwt. exclusive still of interest on capital and planters' personal expenses. At that price, says the Brazilian paper, "it is certain that a great deal of coffee in the more distant plantations—at least in the States of Rio and Minas—must cease to be marketed, not only because it will cease to be profitable, but because it will, in every probability, leave a positive and irretrievable loss." Now, present quotations are little over $9 and exchange seems to be rising, which will force local rates down. Were we to judge by Rio and Minas alone, therefore, and to be guided by figures such as the above and by the notable falling-off that has already been brought about in exports from Rio since the great fall in prices began, we should certainly indorse the statement of the *Imperio*:—"The prospect of passing the limit of 9$000, at which it has been proved that coffee is unmarketable in many districts, seems, therefore, almost certain, and as it falls lower, more and more coffee must be kept back and the supply restricted in this manner until it becomes insufficient to satisfy the demand, and prices rise again. It is evident, however, that until a good deal of coffee has, in consequence of a series of such disastrous prices, actually gone out of cultivation, no improvement of importance can occur in prices, because, as soon as they go up, the invisible supply thus retained will become marketable and send prices down again. As yet we believe that comparatively few coffee plantations have been absolutely abandoned, but that many will be, if low prices continue to make their produce unmarketable for another year or so, there can be little doubt." Unfortunately, however, figures relating to cost of production in Rio and Minas do not apply to São Paolo, and we have still to learn that the maximum of production there has been actually reached. The chances are, we think, decidedly in favour of a rise in sterling value of coffee; but it is impossible to look forward to a movement of any great rapidity.

BOARD OF TRADE RETURNS.

FIRST HALF OF 1899.

Tables showing the Imports, Consumption and Exports of various articles for the six months ending 30th June in the present and two previous years, have been compiled from the Board of Trade Returns, with stock in U. K on the 30th June, and are given below:—

Coffee.—Home consumption shows a welcome improvement, but the large increase in imports has brought about a superfluity of stocks.

Coffee—	1897.	1898.	1899.
Import ... ... cwts.	557,157	671,359	752,313
Home Consumption ... „	129,463	132,701	137,847
Export ... ... „	212,447	286,165	277,192
Stock ... ... „	292,000	454,000	646,000

Cocoa.—The raw material has made great strides, so have Exports, but British manufacturers are no doubt rejoicing over the falling off in imports of *prepared* Cocoa, which leads us to hope that the Dutch are losing their former stronghold on the taste of the British Cocoa-drinker.

Cocoa—Raw.	1897.	1898.	1899.
Imported ... ... lbs.	23,106,077	27,783,115	29,062,330
Home Consumption ... „	14,717,588	16,434,210	18,882,000
Export ... ... „	6,990,904	5,233,959	5,682,700
Stock ... ... „	25,283,000	20,964,000	20,260,000

Cocoa—Prepared.		1897.	1898.	1899.
ported	lbs.	3,911,383	4,607,700	2,699,834
me Consumption ...	„	3,599,955	3,056,468	2,915,103
port	„	234,397	309,103	420,493
ck	„	158,000	1,618,000	684,000

Tea.—Imports shew a decline, small in 1898, large in 99. Home consumption shows an increase larger in 98 than in 1899, but satisfactory enough even in the ter year. Exports have dropped considerably, the result course, of the increasing direct trade of India and Ceylon, th markets other than the British. Stocks are smaller an in the two preceding years.

Tea—		1897.	1898.	1899.
port	lbs.	93,993,431	93,067,221	91,667,692
me Consumption ...	„	113,074,000	117,147,664	120,890,528
port	„	18,003,558	17,645,240	13,919,782
ck	„	64,407,000	58,366,000	56,031,000

CURE FOR DISEASED COFFEE.

In a recent issue we gave a long series of letters concern- g a discovery that Mr. Kenneth J. Cameron, of Namasi, ated that he had made with regard to the cause of spotted rry, light berry and diseased berry in Coffee. The llowing papers showing what has sprung from the corres- ndence attended to will doubtless interest many of our aders :

[Announcement in the *B. C. A. Times.*]

MR. CAMERON'S DISCOVERY.

It having been decided by the Chamber of Agriculture d Commerce to investigate Mr. Cameron's reported dis- very of the cause of spotted berry, light berry and seased bean, and Messrs. Miller & V. Cox having been pointed a Committee to investigate, subscriptions are vited from planters with a view to rewarding Mr. Cameron ould his discovery be found to have a tangible value to e planting community. Such subscriptions must be posited with the Treasurer of the Chamber of Agriculture d Commerce and will not be handed over to Mr. Cameron less the Chamber Committee are satisfied from the report the Investigating Committee that the discovery is of lue. Planters must be prepared to abide by the decision the Investigating Committee, who are meantime pledged secrecy, pending a result of the investigation. Planters e invited to observe that Mr. Cameron's own words are— "I offered to reveal the cause of light berry, chipped, spotted berry, and considering I have found out this ost important defect, the remedy is quite simple although has to be done with a little extra labour."

There can be no question but that a remedy for these iseases would add large sums to our yearly returns and r. Cameron states he has found the cause and that the medy is quite simple.

Planters are invited to send subscriptions, as soon as ssible, to the Treasurer of the Chamber, and, in the event of the Committee pronouncing adversely on the "discovery," all monies will be refunded.

Should the report be satisfactory, details of the discovery will be published in a small pamphlet, which will be nominally priced at five guineas. Companies and firms with several estates are invited to subscribe for two or more copies.

[Extract from the same paper—10th June 1899.]

With reference to Mr. Cameron's discovery, as some misconception seems to exist on the point, we may state that our own opinion is that it is of very great importance to every coffee-planter and to the country. There is absolutely no doubt about it and every planter will at once appreciate the bearings of the discovery as soon as the explanation is forthcoming. . . . Mr. Cameron does not expect, nor does he want, the much-talked-of thousand, but it is due to him that he should receive some reward for his labours. . . . There is a considerable quantity of spotted bean on even the best estates which will entail a considerable monetary loss to the planters, in the aggregate amounting to thousands of pounds, and the knowledge of the cause and remedy are surely cheap on the conditions offered, especially when it is considered that there is the guarantee of an independent Committee's report in addition to the disinterested opinion which we have expressed after our own investigation of the discovery. . . . We may say there is no question of it being only a temporary remedy provided there is good cultivation. It has also nothing to do with the fertilisation of the flower, nor the cutting of the roots, nor decayed rock. No doubt many people will say they knew all about it when it is declared, but Mr. Cameron is the first to have proved it to the hilt, so that immediate and certain action can be taken by planters.

[Leading Article from the same paper—27th May 1899.]

As a closure on the present discussion as to Mr. Cameron's secret, we have much pleasure in stating that Mr. Cameron has arranged with us with reference to the publication of his secret. He has gone further and entrusted us confidentially with the details of his find, and we have arranged to have his "secret" investigated by a Special Committee of the Chamber of Agriculture and Commerce, who will report on the subject for the guidance of the planting community. From what has been submitted to us, we have no hesitation in pronouncing it a genuine find and one which will be recognised by planters as exceedingly helpful. We are no believers in quack methods. We have said before that we do not think there is any royal road or any short cut to successful planting. Coffee culture is a combination of science and practice and only by the intelligent combination of the two, aided by a careful study of natural conditions, can success be attained. We were misled by Mr. Cameron's way of putting his find and we are sure most of our readers have also been misled. It is something utterly different from what any of us suspect and has nothing of quackery or secrecy about it. It is impossible to go into further details without letting the cat out of the bag, and so we will content ourselves with the opinion that the "secret," as we will still continue to call it, will be found of great value. It will not make coffee berries grow or revolutionise present methods. As before, success will depend upon industry and careful cultivation, but it will

remove, to a great extent, possibly entirely, spotted berry and probably empty berry. Mr. Cameron is wrong when he says he wanted to test the view of the planting community on the explanation of what has long been a mystery. The planting community has always believed that an explanation would be forthcoming of spotted berry, but they thought it would require an expert to find out the cause. Not only have they believed in this explanation, but they have repeatedly asked H. M. Commissioner to appoint an agricultural expert to conduct investigations on the spot. Owing to the guarded way in which Mr. Cameron had to write, the impression was received that he was going to overturn all our existing methods of culture, and, by some new method, win success. To this we were the first to take exception. Our planting practice is not the best possible, but, in the main, it follows the right principles, and we did not believe that any scheme, which departed from these principles, would be sound. As we have said, however, Mr. Cameron's find pre-supposes the best culture and savours nothing of quackery. Finally, we would point out that Mr. Cameron's desire to profit by his find is quite legitimate. We are all ready at giving advice for nothing, which is very often worth nothing. When we want real advice, for example, as to the nature of our soils, we are quite ready to pay for it. In this case, therefore, Mr. Cameron believes he has, not some old principle of our text-books to emphasise, but something new and unsuspected for the most part, which will directly benefit planters next year. Why then should he not be remunerated just as much as the inventor of a patent manure or a new agricultural machine? He is not paid by Government for making enquires for the benefit of the community, and, not being a millionaire, he has to think of such mundane things as hard cash. The secret has been suspected more than once, but only now has Mr. Cameron been able to prove it fully, and he deserves something for his pains. Lastly, we all remember the story of Columbus and the egg. Mr. Cameron's secret is not so simple as that, but after it has been published no doubt many of us will wonder why we did not discover it long ago.

[Extract from letter from Mr. Kenneth J. Cameron—16th May 1899.]

This is no "doubtful and half-suspicious speculation. I wanted to test the views of the Planting commnnity on the possibility of an explanation of what, for a long time, appeared to me a mystery. Those letters, which have appeared on the subject, are more valuable to me than if they contained the highest compliments and congratulations. All ridicule the idea as next to impossible and therefore raise the value of my find much higher. I admit that it is anything but a "commercial kind of speculation," but I make it quite public and take advantage of no one.

I am quite aware some plantations are a financial success, but without my find would they continue so? What I wish to point out is that they may be made more successful. . .

Coffee bushes do not grow much in the dry season, and in the wet season the hardest soil we have got is soft enough for it to grow in. No amount of digging will make them grow or keep colour in the dry season, and it is quite natural that coffee should have a rest then.

U. P. A. S. I. SECTION.

(Under the Control of the Secretary of the U. P. A. S. I.)

The Secretary of State having granted the necessa sanction, a Bill to amend Madras Act VIII. of 1878 w now be prepared for introduction in the local Legislati Council with a view to carrying out the suggestions of t South of India Planters' Inquiry Committee with referen to the prevention of Coffee-stealing. Should the bill co tain penal clauses, the sanction of the Government of Ind in the Legislative Department, will have to be appli for before its introduction. The Legislative Departme (Madras) has been directed to deal with the matter.

* * *

The following is the draft Agenda Paper for the Annu Meeting that is to be opened at Bangalore on the 14 proximo :—

1. Annual Report, and Statement of Accounts.
2. Confirmation of 1898 Proceedings.
3. Incorporation.
4. Chairman's Address.
5. Election of Office-bearers.
6. Election of a nominee for the Legislative Council Fort. St. George.
7. Statement with reference to Draft Labour Law.
8. Currency.
9. Paris Exhibition.
10. Coffee—
    - (*a*) leaf disease, Mr. Cameron's Report.
    - (*b*) classification of
    - (*c*) adulteration of
    - (*d*) deterioration of
    - (*e*) advertisement of
    - (*f*) scale pests and lady-birds
    - (*g*) state of the Market, and its effects on t Industry in India and modification of exi ing usages necessitated thereby
    - (*h*) local weight of the maund.
11. Cinchona Bark and Government Cinchona.
12. Tea—
    - (*a*) crop estimate
    - (*b*) 1-lb. draft on chests in London
    - (*c*) foreign tea market.
13. Agricultural matters—
    - (*a*) agricultural chemist
    - (*b*) import duties on manures.
14. Roads and Communications (including Railways, an Railway Freights).
15. Finances.
16. Malaria.

* * *

Delegates to the Annual Meeting are invited to tak with them typical samples of the Coffees grown in the respective districts, so that a comparison may be ma between these berries and certain Costa Rican and oth samples obtained by the U. P. A. S. I.

* *

It is also hoped that intending exhibitors at the Pa Exhibition will kindly send, for display at the meetin samples of the produce they propose to exhibit.

* * *

Apropos of this subject, a circular from the Indian Tea sociation (Calcutta) states that arrangements for the presentation of Indian Tea at the above Exhibition are w being made, and it is intended that they shall include ollection of samples of tea from the various tea districts in dia. The Exhibition will be opened in May 1900, and e Committee of the Association in London are desirous having samples prepared before the end of the manufacring season, so as to be ready for that date. The samples eferred are ordinary trade samples, say, of 2 lbs. weight ough there will, presumably, be no objection to fancy as), and they should be securely packed in lead, so as to sure their keeping until next year. The Committee also sh to procure samples of tea-seed of various descriptions, gether with dried tea-leaves of the different classes of tea.

THE 1-lb. DRAFT.

It is difficult to keep our readers *au fait* with the pross (?) of the great fight without inflicting upon them huge mass of literature of a very contradictory kind. Colombo, for instance, the two papers have taken sides d avail themselves of the opportunity for journalistic enities. However, the following cuttings may suffice give a fair idea of what has been and is being done :—

CEYLON.

On 19th instant the Ceylon Tea Traders' Association olved :—

That the present auction sales be suspended, and that the brokers requested to hold private auctions on such conditions as will et the requirements of the resolution passed by the Planters' sociation at their meeting in Kandy on the 14th instant."

The Chairman telegraphed to London that the Calcutta n had been rejected.

LONDON.

An influential meeting of growers and importers of tea was held Monday, the 3rd inst, at the London Chamber of Commerce, receive the report and recommendation of the Joint Committee he Indian and Ceylon Associations, by whom the meeting was vened, on the proposed abolition of the 1-lb. draft on tea. The ir was taken by Sir H. Seymour King, M.P., and there was a ge attendance.

The chairman, in opening the proceedings, observed that they re met to consider the abolition of an ancient custom. Everyone ew the necessity for economy in the tea industry, and if the grow had continued prosperous the present proposal would never had n raised. The growers had found it necessary to consider ether they could not save a considerable sum per annum by the olition of the 1-lb. draft on tea. They would have welcomed ne change in the methods of weighing, but that was found to be practicable. The question appealed to their pockets, and was e to give rise to complaint and opposition. The retailer could fail to recognise the condition into which the Indian and Ceylon ustry had drifted. The amount of Indian and Ceylon tea orted into London last year from these two countries was ,000,000 lbs., and firms representing 215,000,000 lbs. of tea had ressed themselves in favour of the proposal, which practically ounted to an unanimous assent.

Mr. H. Rutherford, Chairman of the Joint Committee of the Indian l Ceylon Association appointed to consider the question, said recommendation of the Committee was in the following terms:— esolved that it is the unanimous recommendation of the Joint mmittee of the Indian and Ceylon Associations appointed to deal h the question of the 1 lb. draft allowance on tea that notice be mediately given to the tea brokers and wholesale dealers' associaos that, on and after the 17th inst., all tea shall be sold on the dition that the 1 lb. draft allowance shall not be made to the buyers." He remarked that the more this question was studied the greater the injustice appeared to be to the importer. The dealers objected to the proposal on the grounds that it was an ancient custom, and that the draft allowance was necessary in order to compensate them for the loss they sustained in the leakage of the packages, and in the reweighment of the tea in small quantities. It seemed an extraordinary thing to him that in this free country of ours they should be countervailed to the extent proposed. They were staggered at the evidence given the other day in the tea case in the police-court. He considered it was high time that the ancient custom was swept away. (A Voice : "It is not a custom !") They were told in that case that it was a universal custom Whether the abolition of the draft was carried out or not, whether it was equalised by an arrangement of prices, he thought the present system of carrying on the tea trade of this country ought to be upon a more equable footing all round. (Hear, hear.) To his mind, the weakest argument of all was that the draft was necessary to cover the loss in defective packing. (Hear, hear.)

Mr. C. W. Wallace moved a resolution in accordance with the terms of the Committee's recommendation, and spoke upon the question from the grower's point of view.

Mr. A. Bryans, who seconded, stated that the tea growers had never had such a bad year as last year. He could not conceive that the taking away of the present gift of a pound of tea in every chest could be called an injustice. While he submitted that the dealers had a perfect right to offer their teas on their own conditions, he contended that those conditions required revision. They had never been in such straits as at present, and the fatal error of the 1s. canister throughout the country was spelling nothing but "ruin" for them (hear, hear). As long as the selling of tea below its value continued loss must attend them. Their proposal would remove the unjust tax.

Mr. McEwan, who said he represented dealers to the value of 8,000,000 lbs. of tea who had not agreed to the proposal, said he should be glad to see the draft done away with, and believed that if the dealers had been approached in a different manner they would have agreed to it.

The Chairman then put the Resolution :—"That this meeting adopts the recommendation of the Committee, and that on and after the 17th inst. all tea shall be sold on the condition that the 1-lb. draft allowance shall not be made to the buyer."

The resolution was carried with one dissentient.

The meeting having passed a vote of thanks to the Chairman, concluded.

The sales of tea under the new conditions advertised for 24th instant were withdrawn, pending further negotiations. A small quantity of tea under the old conditions sold slowly at about previous rates.

The following circular, dated Thursday, June 29, has been issued:—At a special meeting of the General Committee of Wholesale Tea Buyers, representing practically the whole of the wholesale and blended tea trade, held to-day at the London Commercial Sale Rooms, Mincing-lane, E.C., the following resolution was passed: "Pending the result of the meeting of importers on Monday next, and as a protest to what we have heard on good authority to-day, that, contrary to the understanding that the question of the abolition of the 1-lb draft should not be forced upon us, it is to be proposed by the importers at their meeting that the 1-lb. draft be withdrawn on July 17, we hereby resolve to absent ourselves from the tea sales on Monday next, and also not to buy, either directly or indirectly, any tea which is catalogued for that day's sales." The circular, which is marked "Important," does not bear any address or signature.

CALCUTTA.

There is nothing new to report. The latest resolutions on record are as follows :—

"That in view of the recommendation contained in the London telegram of 18th July, and the action taken by Importers there, this meeting is in favor of holding no sales whatever until 28th instant, when an auction without restrictions should be held, offerings being regulated by the Committee of the Tea Traders' Association. This meeting also strongly recommends that direct shipments to London on garden account should be stopped until after the sale of 28th instant."

"That this meeting views with much regret the action taken by Ceylon in continuing their sales in spite of the recommendations of the Joint Committee who represent India and Ceylon in the dispute concerning the 1-lb. draft."

The following telegram was received on Tuesday from the Committee of the Indian Tea Association, London:—"The *Times'* Allahabad correspondent telegrams concerning the collapse were absolutely false. The importers were never more unanimous. The buyers made overtures and a fresh conference was arranged for Monday. Feel absolute confidence." There is, says the *Mail's* Calcutta correspondent, some difference of opinion as to what the above telegram really means.

Reuter's Calcutta correspondent cabled to England on 5th instant:—

Thirty-four planters have arranged to leave India by the next mail steamer in order to commence business in the United Kingdom as agents for the sale of Indian teas. They are strongly supported by tea industry generally in India.

OPINIONS.

Capital says:—We cannot help thinking that, in attempting to abolish the draft pound allowance, the tea industry have taken up first that which should have been left for last. There were such things as "wharfage charges" in London, upon which buyers and sellers would have been agreed, but before attempting to attack the buyers, the sellers should have put their own house in order. Briefly stated, the 1-lb. draft allowance is a form of discount, which no doubt buyers take into consideration in offering a price; and inasmuch as the bids for tea advance by ¼d. per pound, a bid of that amount less would work out equivalent to something like a 3-lb. draft allowance. Buyers, therefore, have the settlement of the matter in their hands, because they have only to offer less money, and so adjust the loss of 1 lb. in discount.

We notice that at a tea auction held on Monday, 10,000 packages, out of 13,000 offered, were sold. These sales were under the old conditions, and there was a poor demand, medium sorts being ¼d. to ⅜d. lower. Reuter further telegraphs that Assam and Java teas with the draft allowance were plentiful, and their prices were below the average.

A sale of some tea without reserve and with no draft allowance is advertised for Monday next, and we shall not be surprised to learn that there is a further drop in prices.

The *Indian Daily News* thinks that considering the large area of tea outside the Association the question raised is of great interest And, of course, as outsiders are not allowed to do what they please, and run counter to the resolution arrived at by a representative body, they have a grievance! 'T was ever thus with tea. Union may have been strength in the good old "copy book morality" days; but now it is "each one for himself and the the devil take the hindmost." The *Indian Daily News* winds up. "What is, as we said the other day, the 1-lb. draft, that there should be all this unseemly squabble, showing up the utter want of business capacity of those in charge of shareholder's interests. If the dealer does not get his 1-lb. draft, he must find some other way to obtain a proportionate privilege, be it in price or otherwise, to make up for what he has lost. Can anyone for a moment imagine that the result of cancelling the 1-lb. draft will be all profit to the growers? No—a thousand times. We do not think one fraction of it will ever find its way into their pockets. Why then this stoppage of Calcutta sales? Why this piling up of the teas to be sold in a heap, thrown at the buyers heads perforce, and knocked down probably at a loss of 25 per cent. on former valuations like decaying apples at a Dock Roup? For the sake of the Indian tea industry, and all those who are interested in it, we hope planters and their agents will put an end to the farce which is now being played."

Mr. J. G. A. Lane, Chairman of the Planters' Association of Ceylon, has written the following vigorous letter to the Press, dated Dikoya, 22nd July:—

It appears to me the Chairman of the Tea Traders' Association has given the members of the Mercantile community, every opportunity of coming to a decision on the advisability, or otherwise, of suspending public tea auctions under present conditions; and the upshot of their recent meetings has been to prove that the brokers *dare not* stop the sales, or impose conditions, and buyers *won't* do so.

It remains now for the sellers to at once take action, and telegr instructions to their brokers to withhold their teas, or to sell th only conditionally on guarantee that they will not be shipped London. To withhold tea now is not a difficult matter, for recent bad weather has completely checked flushes and there very little tea being made.

We must all realize that this fight cannot be carried *without some loss*. We are told that by stopping the sales in Co we shall disturb foreign buyers, who have come here to buy foreign markets, and after years of patient exploiting these marke it would be suicidal to stop the Colombo sales.

But let us consider which is the greater loss—to lose the bat now being fought in London with the dealers, or the tempora disturbance of the local market?

In the first case, we are warned that, unless we give our hea support to the action of our friends in London and Calcutta, weaken the cause, and strengthen the opposition of the deal And if they win, we not only lose the 1-lb draft in perpetuity, b having once beaten us on a matter of trade allowances, they w in the near future, impose fresh conditions of sale to their g and our loss.

If, however, we withhold our teas from the local sales, and g the weight of our support to the London action, we only run risk of temporarily disturbing the local market, and those buyi for foreign markets can easily supply their wants by private rangements with the sellers, or their brokers, and we need not f that those who have rented offices and houses, will throw up th and leave the country, merely because the public auctions ha been stopped for three or four weeks.

To my mind there is no comparison which is the greater loss the two, and I strongly urge all proprietors, and duly authoriz agents of absent proprietors, to withhold their teas, or sell th with the conditions I have stated.

To all members of the Planting community I confidently app to take immediate steps which will strengthen and encourage action taken by our London and Calcutta friends, and to bear share of this battle over the 1-lb. draft, which is now being foug in the interests of all tea producers.

I have already said we must face *some loss;* but remember are fighting for that which will be a considerable gain, and must risk something, and all proprietors and shareholders m take their share of the risk. Prices may, and will probably, fa but competition will soon rectify this, and the fall can only temporary.

Had the Tea Traders' Association adopted their Committe resolution, and done something to help us out of this difficulty, would have been in the interests of all tea producers to have s locally, until the dispute had ended, and, by so doing, they wo have strengthened the position of those buying for fore markets, and, at the same time, kept shipments from London.

It behoves us now to give every assistance we can in this mat and any hesitation or neglect on our part to back up the uni action of the Joint Committee in London tends to weaken th position and court defeat; and I earnestly ask all those who can so to withhold their teas for the next two or three weeks at lea which time some decision may have been arrived at.

The *Indian Planters' Gazette* remarks:—

We shall begin by asking whether a grand mistake has not b made in forcing the abolition of the 1-lb. draft? This is a quest which all level-headed men, who have the interest of the tea trad heart, are asking at the present moment. No doubt this tax gardens is wrong, but whether it is sound policy to agitate for removal first, is another question: that it should be removed at present time, and in the way it is being done, strikes us as being q tionable . . . We consider that in forcing the abolition of the draft at the present time, and in the present fashion, is not short of a disgrace to the trade.

A correspondent of the same paper, giving "the Brok point of view," says:—

The opinion of these gentlemen in Calcutta is that the Indi Association, both here and in London, has acted in a weak and h tating manner. There was no plan of campaign, and no unanim among buyers, sellers and shippers of tea.

TEA AT HANKOW IN 1898.

A British Consular report states that the tea market pened very quickly, and buying was rapid during the hole of the first crop, with the result that prices were gh throughout. Business, as has been the rule of late ars, was almost entirely on Russian account, and the ders were considerably larger than in the previous year, here some firms took the chance of supplying themselves, some extent, from the London market. The total of the st crop was about 11,000 half-chests in excess of that of e previous season. Hankow teas were, as a rule, better an the previous year. Oopacks sold quickly, and as much 36 taels were given for some fine chops. Oanfas, though t fine, were better than those of 1897, and the prices ere much higher. The average price of first crop tea laid wn in London was 9d. per lb., as against 8¾d. in 1897; d. in 1896; 1s. 0¼d. in 1895, and 10¾d. in 1894. Second op teas were late in arriving. The scarcity of common a in the first crop had caused many orders to be left unecuted, buyers having been forced to wait for second op, with the result that prices opened high and continued

The high prices caused the bringing down of a large pply, and the total second crop was, in consequence, 3,000 half-chests, as against 67,000 half-chests in 1897. e third crop, it was expected, would be poor in quality, e long continued drought, it was said, had caused an nost complete failure of the crop; but the high prices ered encouraged business, and, in the end, the total crop ned out to be slightly in excess of that of 1897.

The London market opened quietly and at moderate ces for Khemuns. These teas were the best quality of e season, and, after a few days, prices rose considerably. mmon teas at from 4½d. to 4¾d. sold at ¾d. per lb. over e previous season.

The home consumption of Congou has fairly well held its n, the decrease, as compared with last year up to the end of tober, being small. In the export, the decline in the trade more marked, and this is to be accounted for by the ger quantity purchased here for Russia.

Supplies of Hankow teas for the past three seasons have en as follows:—

	Quantity.		
	1898-99.	1897-98.	1896-97.
	Half-chests.	Half-chests.	Half-chests.
st crop	458,189	447,758	568,000
ond crop	153,012	67,000	60,000
rd „	75,500	67,600	12,307
Total ...	684,701	582,358	640,307

The supplies for 1898-99 show an increase over those of previous season of 102,343 half-chests.

The supplies from Kiukiang districts were about the same during the previous season, being 224,515 half-chests, against 223,165 half-chests.

The total export was as follows:—

	Quantity.		
	1898-99.	1897-98.	1896-97.
	lbs.	lbs	lbs.
Hankow tea	48,644,900	40,475,933	43,990,933
Kiukiang tea	14,426,993	14,012,231	17,817,367
Total ...	63,071,893	54,487,754	61,808,300

The following table shows how the total export was divided up:—

	Quantity.		
	1898-99.	1897-98.	1896-97.
	lbs.	lbs.	lbs.
Great Britain direct ...	3.699,315	3,877,734	3,918,613
Russia direct and *via* Shanghai..	22,874,747	19,610,645	22,570,427
Russian Manchuria direct ...	.....	.....	2,370,288
Tienstin direct	.....	.....	15,944.936
Tienstin and northern ports *via* Shanghai	26,553,905	19,037,180	3,429,876
America and Canada *via* Shanghai	4,567,052	5,811,527	4,904,092

The steamship *Oanfa* was despatched for London with a full cargo on June 8 at £2 12s. 6d. per ton. This rate per conference steamers remained unaltered during the season.

Five steamers loaded direct for Odessa, and one for St. Petersburg, being the same number as in 1897. For Tienstin and northern ports, all shipments went forward by river steamer with transhipment at Shanghai.

No advance has been made in the direction of the introduction of machinery, or of improvement in the cultivation of the plant, or the preparation of the leaf.

Brick tea was exported to the extent of 570,792 cwts., as against 533,424 cwts. in 1897. There was a falling-off in the black, which was more than compensated for by an increase of some 40,000 cwts. in the green.

TELEGRAPHIC QUOTATIONS.

	July	22	24	25	26
LONDON.—					
Bar Silver		27¾	27¾	27¾	27 1/16
Bank Rate		3½%	3½%	3½%	3½%
Coffee					
Mysore av. (B) size.		52*s.*	...	52*s.*	...
Ceylon, M. P. ...		105	...	...	...
Cocoa		80*s.*	...	...	...
Cinchona, per unit ...		1½*d.*	...	...	...
Cardamoms		3·4*d.* to 3*s.* 10*d.*	...	...	...
NEW YORK.—					
Coffee—Fair Rio ...		5⅞	5⅞	5⅞	5⅞
„ Futures, Sept.		5·52	5·52	5·45	5·50
Silver—Comml. Bars ...		60⅝	60⅝	60½	60½

NOTES.

Obituary. We learn from Home of the death of Mr. T. B. Miller, one of the pioneers of Coffee in Travancore.

The China Tea Season, 1898-99. A telegram dated 3rd July reports a very strong market. The second crop is said to be 20% less than that of last year.

Scarcity of Tea in Australia. There is intelligence to hand of great scarcity of ordinary drinking teas throughout the Australian Colonies.

The Assam Dinner. The annual Assam Dinner in London was held at the Holborn Restaurant, on 29th June, the chair occupied by Sir H. Seymour King, K.C.I.E., M.P. The number present was not quite equal to that of former years.

Oil Engines. Correspondence in the *Times of Ceylon* leads to the conclusion that the cheapest cost of using an oil engine in tea-making is about ½ cent per lb. of manufactured tea. From this to ¾ cent appears to be a fair average range.

Powdered Tea. An African paper says:—It is asserted that if tea be ground like coffee before hot water is poured upon it, it will yield nearly double the amount of its exhilarating qualities. Which among our readers will have the enterprise to start the first powder factory, and cheer his brethren up?

Weight. The *Ceylon Observer* of 19th instant says:—"Cutting Teas Fine" as regards weight in boxes, seems to be the reputation attaching to Ceylon teas as a rule in Australia. Rightly or wrongly, dealers there declare they run much more risk of short weight with Ceylon, than with Indian or China teas.

Brazilian Currency. The burning of Brazilian paper money makes steady progress. Indeed, under the Budget law of 1899, "the paper money withdrawn from circulation in virtue of the funding arrangement of 15th June 1898 shall be deposited in the banks and burned." The total so destroyed, up to 17th June 1899, was 26,000:000$.

The London Tea Market. Reuter cabled on 21st instant:—"Markets generally steady; 16,000 packages offered, 15,000 packages sold; pekoe souchong 6⅜d.—down ⅛d.; average 7¼d." We should say that this points distinctly towards victory for the dealers. With stocks in hand they are not likely to need very large supplies yet awhile, and every chest they can get will help them to prolong the war. It is a contest of endurance.

The Cost of the 1-lb. Draft Struggle. The *Observer* says:—It is estimated that the campaign is already costing Ceylon tea proprietors many thousands of pounds sterling a week; and yet no one wishes to give up the fight, so long as the London leaders keep it on although it is found in practice impossible to interfere with the Colombo sales, so long as they are fed from the tea districts and buyers are ready to go on bidding without the 1-lb. draft allowance.

Coffee in New Caledonia. The British Consul reports:—"In my last report, only 178 tons coffee figured. This year (1898) 340 tons were exported. This was entirely New Caledonian produce; and, in consequence of better precautions taken in the preparation of the bean, a slight rise in the price has been obtained. Coffee cultivation still attracts the greater part of the immigrants with small capital." It also appears that a slight increase is noticed in the importation of vegetable produce, owing to a great many agriculturists having turned their attention to the cultivation of coffee.

Brazilian Coffee. The abundance of small bean and scarcity of peaberry appear to be characteristics of this year's crop of Brazilian coffee. The coming crop, 1899-1900, is considered generally to be considerably larger than the current one, and even should prices fall in consequence of this addition to already swollen stocks it is unlikely that the fall of price will counterbalance the rise in value altogether. There is, therefore, every probability that the supply of coffee bills will, during the coming season, exceed that for 1898-99, though unlikely that it will reach that of 1897-98, even should the crop be as large.

Ideas. The Tea Fight is offering a field for the man with ideas. One Ceylon writer suggests that London should be entirely abandoned for Manchester; and another proposes that two additional centres for tea sales be set-up. Our contemporary, the *Times of Ceylon*, foresees several "initial difficulties." We should be inclined to say that neither scheme is practicable, or will be, within another generation. The Nottingham Goose Fair could be closed; but we do not think it could be transferred successfully to London, nor ther can the the head-centre of the Tea trade be removed from London elsewhere at short notice.

Colombo Tea Sales. At the public sales of tea, Colombo, on 19th instant, about 12,861 pkgs. = 1,027,702 lbs. were offered, of which about 9,857, pkgs. = 781,901 lbs. were sold. The market opened with a steady tone at about last week's rates. As the sale progressed, commonest kinds marked a somewhat easier tendency, and the sale dragged considerably towards the close. Broken pekoes are also slightly easier, whilst fine and the finest were very firm. A considerable improvement in quality is noticeable this week. Amongst the best teas in the sale, says the *Times of Ceylon*, were Monkswood, Hornsey, Naseby, Middleton, Dunkeld, Mocha, Glasgow

eveland, St. John's, Ben Nevis, Agra Ouvah, Doonhinde, d New Valley.

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azil's Tariff. Although the United States is the chief market for Brazilian Coffee, at does not afford Brazilians a sufficient reason why there ould be a preferential import tariff in favour of the States. ie *Brazilian Review* says:—The fact that the United ates takes some 50% of Brazilian coffee has been advanced several occasions as a claim for preferential treatment Brazil of products from the United States, a claim for hich we can see no justification whatever, unless the nited States were ready to treat other countries in a milar spirit, in which case there can be no question whatver that Great Britain should receive better treatment at r hand than any other customer, the attitude of Great itain being, with regard to the United States, identical that of the United States towards Brazil.

"New Tea Pest." Some remarks from the *Ceylon Observer* are quoted elsewhere. The *mes of Ceylon*, dealing with the same subject, says:— ithout wishing to be alarmists—and there is no cause to so until we know how matters really stand—we cannot lp thinking that there is reason for some concern at the ws which reaches us from the Morowa Korale district. adds:—"We can only hope for the best and wait for rther reports; but we are reminded that the Morowa orale district has been the home of several other pests, d in few other places are the ravages of *Helopeltis* so vere. This new pest appears to be far more severe even an *Helopeltis*, and even worse than the worst pests of the ffee tree; for grub and bug were confined to certain calities, while leaf-disease, though effectual in the end, s slow in carrying out its deadly work."

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w Tea Company. A new Company entitled the Ceylon Tea Planters' Retailing mpany, Ltd, has issued its prospectus. The Company formed to take over the Dikoya Tea estate with a share pital of £40,000, and a debenture capital of £10,000. ie present issue is 20,000 ordinary shares of £1 each, and first mortgage debentures. The Company are to take er and carry on the business of tea planters and sellers, w carried on by Thomas Saumarez Dobree, Amalia icolls at Dikoya, and also the business of wholesale and tail grocers, hotelkeepers, timber growers, tea box manucturers, tobacco growers and exporters, etc. The Directrs are Mr T. S. Dobree, The Elms, Guernsey, (Chairman d Managing Director); Mr. F. Slaytor, 7 Regent Square, ncaster, Mr. J. N. Bryan, Bellevue, Chatham, and Mr. A. rwood, 61, Chancery Lane, E. C. The Bankers are the ndon and Provincial Bank.

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va Cinchona. The Bandong quinine-works have made a further delivery of sulphate quinine to the Government of the Dutch East Indian lonies. The present parcel of 467½ kilos was tested by . van Leersum, the Director of the Government Cinchona-ntations, and was found to answer all the requirements of the Dutch Pharmacopœia. That the Government support of the factories is not entirely disinterested is shown by the fact that on the above parcel they save fully 500*l*., after deducting all expenses and the value of the bark. The total deliveries of quinine by the Bandong works to the Government in the course of this year amount to over 1,000 kilos, the bark from which this is derived being all grown on the Government plantations. In any reckoning of the out-put of the Bandong quinine-factory the quantity consumed locally should be remembered. The factory now seems to be turning out 10,000 oz. a week altogether.

The Distribution of Tea. A Ceylon writer asks whether the present moment, whilst the Indian and Ceylon trade in tea is at a standstill, might not be seized as an opportunity for starting an Indian and Ceylon Distributing Agency, and break down effectually the combination against us? The Agency's duty should be to buy tea as required in the London market (no draft allowance) and supply outside dealers, grocers, and even take private orders of not less than a chest or box. Advertise in every paper supplies direct from importers at wholesale rates, expenses of starting to be guaranteed by Indian and Ceylon Planters' Association—latter out of Thirty Committee funds. He adds:—"I think the attempt to do away with the 1-lb. allowance has been a mistake, and has been undertaken without sufficient forethought or preparation and at an unfortunate time. I don't believe that the new arrangement, if carried, will benefit growers one bit. It is not wise to interfere with the channels through which trade passes; but now that the channel is blocked, why not make a new one?"

Allowances on Tea at Colombo. Questions having been asked as to what weight of tea is issued for samples from each lot of tea offered for sale at Colombo? and to how many buyers are samples granted? Messrs. Forbes & Walker reply:—"We draw from each lot of tea sent in for sale about 3 lbs., and send out samples to 30 regular buyers and generally about five others." Messrs Somerville & Co. say:—"3 lbs. of tea are drawn from each lot of tea for sampling purposes. We are now sending samples to 32 buyers." Mr. E. John writes:—"I send out 30 samples of all large lots and 32 of small breaks, and each sample weighs about 1½ to 2 oz." A merchant and proprietary planter states that 3 lbs. is the regular allowance taken from every break sent down to the brokers. An ounce is the usual size of a sample; but the local custom is for a buyer of any one lot to get from the brokers whatever remains of the sample 3 lbs. that he may send it to the importer along with the shipment. Sometimes very little remains as, in addition to the 1 oz. used in testing the liquoring properties of a consignment, a further sample is often obtained from the broker to judge better of the *look* of the tea; but the 3 lbs. for sample allowance is never exceeded.

Germinating Seed. A Central African planter writes that some two or three months ago he soaked some coffee berries for planting in nursery; putting them in a 2-lb. tin, with water (tight lid). After three or four days they were planted out; but some 200

or 300 berries were left in the tin, which contained enough water to cover the seeds completely. A full fortnight afterwards he opened the tin, examined the seeds, and it appeared that some showed signs of growing. He planted them out at once to try and see whether they would really grow and thought that if they did, something interesting may be discovered for minimising the heavy expenses connected with watering nurseries for two months and more before the longed-for seedlings make their appearance. Some are growing now, those planted the third or fourth day being only a few days ahead of them. He adds:—"They would have appeared sooner had the gardener not buried them too deep, and being irrigated, much ground washed and settled on the surface into the bargain, which was removed a few days ago, and the coffee made their appearance at once. We must remember that the seeds were in an almost *air-tight* tin, and, besides, under water, and the tin was kept in a cool place and got only a little morning sun."

Scientific Farming.

Planters should note that Brazil is awake to the fact that scientific farming is a modern necessity. The following passage from the last Message of the President of the State of Pará shows the official view of the subject:—"When our farmers are convinced of the wonders worked by scientific agriculture, when we are able with a minimum of labour and outlay to produce ten times what we do at present, by applying to our soil the methods of modern science, this State will, in all probability, develop into the richest and most prosperous in the Union, notwithstanding the scantiness of its population. Being assured of your co-operation in this matter, I have spared no efforts to distribute amongst agricultural colonies most of the immigrants arrived from the Northern States, and with that object have either founded new settlements or allied them to those of Europeans already in existence, that must derive great benefit from such experienced auxiliaries." In another passage he says:—"Agriculture still so primitive amongst us as to even use the prehistoric wooden plough, must modify its methods and adopt modern and mechanical processes. It must be taught to utilise labour-saving appliances, improve the existing cultivation and try other kinds suitable to the climate."

Liquid Air as a Nitrogen-fixer.

An American paper remarks:—Liquid air is perhaps the most sensational and interesting scientific phenomenon of recent times. If it will really enable us to get power from the air at normal cost, the industrial revolution that would be thereby created can hardly be imagined. Another very important possibility occurs to us as we look into this matter closely. The nitrogen of the liquid air is distilled off at a temperature 13 degrees below that of the oxygen. If now some economical process can be devised for "fixing" the nitrogen thus separated, liquid air would solve the problem of directly utilizing atmospheric nitrogen for manurial purposes. The air is four-fifths nitrogen, but heretofore no practicable means of extracting this nitrogen from the atmosphere has been discovered. It is still the most expensive element of plant-food, and if it ever becomes possible to draw on this inexhaustible supply, the price of nitrogen for fertilizing purposes wi fall to ridiculously low figures. Of course we all know th alfalfa, clover, soy beans, horse beans, cowpeas and certa other plants have the faculty of taking nitrogen from th air to some extent, so that if such crops are plowed und they add to the soil's stock of nitrogen. This is one of th basic reasons for green manuring, but is not to be confuse with the possibility above referred to.

Comparison of Methods.

A correspondent writes to t *Planter*:—While your Madras co temporary, *Planting Opinion*, says that "to compare India methods, or those of Ceylon, with the old-fashioned Chine system, would be considered ridiculous now-a-days, there still ample room for useful comparisons between the pr cesses in favour with different tea makers," (an opinion which I agree) your Council House Street contemporar however, thinks otherwise, and is recommending a retur more or less, to the systems which were in vogue when t industry in this country first started, and which we lear from the *Chinese*, who, if Mr. David Crole's statement correct "consisted of all the riff-raff from among the ca penters and cobblers of the Chinese quarter of Calcutt never taking into consideration the fact that probab none of them had ever seen a tea plant in their lives befo . . . a quarter of a century elapsed before this class experts (*sic*) in tea matters became extinct in the provin (Assam)." In any case the Chinese "experts," who we first imported into Assam and the North-West tea distric only knew how to manufacture black-tea, and others h to be again brought acquainted with the manufactu of green tea. At the best, it is certain that our earli mentors, hailing from the Celestial Empire, possessed b a superficial knowledge of the science and art of te making.

The Dumont Coffee Estate, Ld.

The following extract from t annual report of this (Brazili Coffee) Company for 1898 shou interest coffee planters in India:—"The terrible crisis th the coffee industry is passing through all over the count was more felt by this Company in consequence of its cr being much smaller than any for six years past. Again all provisions the crop only yielded 141,500 arrobas coffee, indeed, in our report for 1897, it was stated that increase over the yield for that year, which reached 226,5 arrobas, was then anticipated . . . . Distribution of dividen continues to be impracticable, principally in consequen of the causes already indicated, the fall of coffee and sm crop. Should our calculations not miscarry, we shall ha a crop of 280,000 arrobas, more or less, which, in order compensate the low prices current here, we shall endeavo to place directly in European and American markets." W may explain that the Dumont Coffee Company, Ld., w registered in 1890 to acquire the Dumont *fazenda* situated S. Paulo, the property still continuing to be vested in Brazilian Company, which, in accordance with Brazil law, has just published the scanty report we have tra lated. The vendors guaranteed for 1896 a net profit £120,000, which would now appear to have been sim a return commission on a preposterously heavy cap

00,000 preference, £400,000 ordinary shares and 0,000 debentures). In 1897 the estate yielded 226,500 obas and the crop for 1898 was calculated to be about same; it actually gave only 141,000 arrobas and the mate for 1899 is now 280,000 or nearly double.

NOTICE TO CORRESPONDENTS.

"D."—Declined, with thanks.

LETTERS TO THE EDITOR.

FREIGHT ON TEA.

SIR,—Freight on tea to London from the port of Madras still as high as 50 shillings against 30 and less from ombo.

Railage on a maund of tea, Mettapollium
to Madras, is ... Rs.1-2-4 for 327 miles.
Do. do. Bombay ... „ 2-6-5 „ 1037 „

re there is room for a considerable reduction on the cost transport of Nilgiri teas to London.

The Nilgiri Railway rates are—

For Tea	As.3-2	per maund.
For Coffee	„ 1-6	„
For Potatoes	„ 1-8	„

Time was when the higher value of tea could bear these actions on it; but, at this stage of the Industry, reductions, in cost of transport, must be obtained, if possible.

The railage of Tea shooks, too, from Madras needs looking into. I hope shortly to publish some information upon this point, but shall content myself, for the present, in-ecting attention to the matter.

THOS. BROWN.

GENERAL ARTICLES.

CANADA'S EXPORT TEA TRADE.

While the export of tea is not a feature of the foreign trade of nada in which regularity of quantity can be expected, or in ich a really large business can be done, measured by the export-n of goods, which are the product of the Dominion, yet, says *Canadian Grocer*, the experience of the past warrants hoping t a modest and permanent trade in this respect may be ablished.

Following are the exports, in pounds, of tea from Canada, and countries to which they were consigned, during the past five rs, ending with June 30, 1898:

	1898.	1897.	1896.	1895.	1894.
at Britain ...	58,400	1,599	34,980	400	3,031
ish Guiana ...	...	..	...	...	6
ish West Indies..	5,064	615	326	231	683
foundland ...	40,232	41,116	33,903	33,702	36,249
an ...	12	...	...	..	...
nce ...	...	...	...	...	5,888
Pierre ...	32,480	12,882	27,190	37,142	36,075
dwich Islands ...	...	...	...	...	264
ted States ...	1,558,794	3,406,763	223,266	882,057	565,498
ish West Indies.	190	...	...	...	...
Total ...	1,695,172	3,462,975	319,665	953,532	647,694

The large increase, during 1897 and 1898, was, it will be noticed, on United States account, and the increase on United States account was, in turn, caused by the free buying in Canada in 1897 by importers in the United States, who desired to get in as much tea as possible before the inspection laws went into force, while in 1898, the inducement to the same persons to buy in Canada was to anticipate the duty which Congress proposed to put on tea, and which it eventually did put on for the purpose of war revenue. The exportation of tea in 1897 and 1898 can, therefore, only be accounted abnormal. But the exportation of tea to Great Britain, British West Indies, Newfoundland, and St. Pierre, although small, is gradually increasing. This, together with the more or less quantity that may be expected to go to the United States, warrants believing that the average exportation of tea from Canada may be expected to be larger in the normal years of the future than in the normal years of the past.

No one living to-day may see a large trade of this character, but the geographical situation of the Dominion, with its steamship possibilities on the two oceans and its efficient transcontinental railway service, certainly tend to build up our faith in the possibility of a re-export trade in tea as well as in other kinds of merchandise.

RUBBER-YIELDING TREES IN THE FRENCH SOUDAN.

In the *Revue des Cultures Coloniales* of June 5, 1899, we find an article on "The Exploitation of Caoutchouc in the French Soudan" which shows how the French are now setting to work to make use of their colonies. We give a special translation of the summary referred to:—

"We have received from Kayes the following interesting particulars:—The Governor of Soudan some time ago empowered a technical Commission to investigate in S. Soudan the Caoutchouc bearing zone, particularly as to the density of the growth of the rubber-bearing plants, the quality of the latex and the native methods of extraction. The sittings have now ended, and M. Hamet, the head of the Commission, has just given in information, from which it is evident that any undertakings for exploiting rubber in the Soudan are bound to be very profitable and that there is room in the Soudan for many such undertakings.

The rubbers were originally collected there under the auspices and under the control of the French military, who gathered it partly as a tax and tried by this means on the one hand to prove to the natives the value of the exploitation and on the other hand to cause this Soudan product to be known in the European market. The rubber has gained a standing in the European market and often ranks after the rubber imported from Central America or even compares favourably with it. It was bought on the European markets at fr. 6·50 or fr. 7 or fr. 7·50 and the purchasers would still have freights, &c., to meet; and the price has risen of late. No trouble has been spared to secure the increase in value of the article. Schools of Agriculture have been started at Kouroussa to which natives from different rubber-growing districts come to learn the right methods for coagulation, &c.

M. Hamet also says "the Soudan rubbers compare favorably with those of the Belgian Congo, having all their purity, resistance and nerve and they also have greater resistance to heat."

M. Hamet and his co-workers have been studying the different kinds of milk-bearing plants native to Soudan: artocarpiæ, genus ficus, euphorbiacæ, apocynacæ, &c.

It is one of these latter, a Landolphia (hendolitic senegalensis) called, commonly *liane goi* or *gohive*, that gave the results referred to above. This creeper is one of the shrubs most abundant in the south of the Soudan. In places visited by the mission, its density attained to 100 to 150 plants to the *hectare* (about 2½ acres) 40 of the plants being very stout—rather thicker than a man's arm. These (8 or 10 years old) may give 8 to 10 gallons of latex a year. When the latex from this plant (the gohive creeper) is examined, says M. Hamet, one can see from the coagulation that it consists of two parts:—(1st) the liquid containing the rubber proper with albumi-

noid matter and a vegetable wax: (2nd) the serum which contains the constituent water, mineral matters and azotized matters which the rapid fermentation of the latex carries off before any coagulation takes place. On the other hand, these matters imprisoned in the bitter waters tend to deteriorate the rubber. It is these fermentable agents that it is absolutely necessary to destroy either before or during the coagulation.

These two operations are effected by the one stroke by using fluoride of sodium, –antiseptic and very strong in the proportion of 2% of the weight of the latex.

Other antiseptics, such as *formol, gaicol, salol acid, thymic* and ammoniacal acid do not coagulate.

M. Hamet has tried coagulation of this plant by the different processes in use in the country:—First mechanical; second by heat; third by smoking; fourth by chemical agents; fifth by decoctions of native plants. The yield of rubber has been independent of the process employed; practically, it has varied from 28 to 32 per cent. All the methods tried have given excellent results, specially the two last. Amongst the chemical agents employed must be signalized chlorohydric, sulphuric, oxalic and citric acid, marine salt, chloride of aluminium and finally ammoniacal and chlorohydric acid together. Finally, the native plants that have given equally good results are: the *guama*, the *do*, the wild sorrel, *somo*, lemons or limes and the tamarind. They have been used in decoctions which have been left to lie for a night and been filtered through a cloth the next day, then warmed up to boiling point before being used. The experiments have been made on *aseptized* latex and have brought about the coagulation of a rubber of very first quality.

But we must remark that, even treated by natives and without first being *aseptized* and with decoctions of plants of the country, the latex of the gohiva has given a rubber that fetches four to five fr. at Kouroussa.

M. Hamet sums up and concludes by affirming that the rubber furnished by the Soudan, especially the South, is of excellent quality, that the methods of collecting prevalent should be continued; that they are simple and easy even for children who go into the brushwood to collect it and that experiments are being made in the agronomic stations for the multiplication of plants.

NITROGENOUS FERTILIZERS.

A thoroughly practical bulletin has just been issued by the N. J. experiment station on field experiments with nitrogenous fertilizers. In this accurate scientific work has been carried through and reported in such manner that the farmer can take advantage of it, however unacquainted he may be with scientific phraseology. Director Voorhees has been eminently successful in carrying out and satisfactorily reporting a valuable series of experiments to test the relative values of nitrate of soda, sulphate of ammonia, dried blood and cottonseed meal, upon market garden and forage crops. The work was conducted principally by practical farmers and gardeners at different points in N J., and he has succeeded in securing results which are comparable, and which the farmers themselves have secured. We believe that if farmers at several points in New Jersey can accomplish the work that these have been able to do under the direction of Prof. Voorhees, there is nothing to prevent many farmers in other parts of the state and elsewhere from carrying out the same line of work and profiting by the results derived from these series of experiments.

One of the most striking experiments is with early tomatoes, in which Farmer C. C Hulsart at Matawan demonstrated that for every dollar invested in nitrate of soda applied to the land, a net return of $53.50 was secured. For every dollar invested in sulphate of ammonia applied to the land, a net return of $44.26 was secured. And for every dollar invested in dried blood applied to the land, a net return of $22.55 was secured. Similar results were obtained upon other crops by other farmers, such as early beets, muskmelons, white potatoes and sweet potatoes, and forage crops. In some cases naturally the results were not so large. The returns from the experiments with sweet corn last year indicated that dried blood acted the best, sulphate of ammonia the next best, and nitrate soda was the least remunerative upon that crop, whereas, upon other crops experimented upon, the soda was the most remunera the ammonia next, and blood next. The experiments with cot seed meal appear to have been made only upon sweet pota where it failed to produce as good results as soda.

Another object of the experimental work was to determ what effect a nitrogenous fertilizer would have upon the qua and early ripening of the crop. As is well known, the profit market garden crops depends very largely upon the ability of gardener to furnish a well-developed product as early as possi so as to sell off as much as possible before the great bulk of t product comes into the market and the price falls. In the periments conducted by Director Voorhees it was found that most effective agent to accomplish this was nitrate of soda app at the rate of from 150 to 400 lbs. per acre, depending upon nature of the crop and the condition of the soil. In all of experimental work of course it was necessary to have in the ample supplies of available phosphoric acid and potash.—*Amer Agricultural.*

TEA, &c., COMPANIES.

Suddia Road Tea Co., Ld.—Outturn 342,586 lbs.; ;average p 13·12d. Profit £2,614-4-11.

Majuli Tea Co., Ld.—Outturn 1,123,632 lbs.; average 8¾d. ; 2 final dividend on preference shares and 5% on ordinary sh recommended.

Borelli Tea Co., Ld.—Outturn 628,938 lbs.; average 9 5/16d. Pr on the year's working £431-7-3.

Budla Beta Tea Co.,—Crop 357,640 lbs.; average 15·23d. Gr profit £1,695.

Buxa Dooars Tea Co.—Crop 65,036; average 7¼d.

Assam Frontier Tea Co.—Crop 3,445,940; average 10.52d. Pr £27,334-7-1. Pay the 2% dividend on preference shares accumula for 1897, *ad interim* dividend of 1% on preference shares on Decr. last, £5.000 towards redemption of debentures; recomm further 5% on preference shares, 4% on ordinary.

Jorehaut Tea Co.—The report of the directors for the year I states that during season 1898 the company's estates have yiel a crop of 1,660,269 lbs. of tea, which, at an average sale price 9·87d. per pound, realised the sum of £67,427. As compared w 1897, the realisations show an increase of £7,277, the outturn be 97,310 lbs. in excess of the previous year, and the average p per pound being 0·53d. above the averaga for the 1897 gross profit on the year amounts to £12,061, from which h to be deducted commission to the staff, at the rate of 7 per ce as compared with 12 per cent. last year, amounting to £ and income-tax, £400, leaving a net profit of £10,816. Add to this the sum of £283 brought forward from 1897, the amo available for dividend, without encroaching on reserve funds £11.100. The directors recommend the declaration of a divide of 11 per cent. on the capital of the company, free of income-t payable on and after July 3, leaving £100 to be carried forwa

Makum (Assam) Tea Co.—The directors, in their report for t year ended December last, state that the actual yield was 451,200 as compared with 380,842 lbs. in the previous year Of this 2,020 were sold locally and 4,544 lbs. went in draft. Deducting 2,668 for loss in weight, the balance—*viz.*, 441,968 lbs.—was sold for sum of £24,091, as compared with £19,738, the proceeds of the c of the previous year The average sale price was 13·82d. pound, as compared with 12 75. per pound for the crop of 18 The net profit for the year was £5,759. Out of this an inter dividend of 2 per cent. was paid in December last, and the direct now recommend that a further 2 per cent. be paid, making a to of 4 per cent. for the season. This will leave a balance in profit loss account to be carried forward of £3,680. The manager es mates the crop of present season at 560,000 lbs. tea of qual similar to that just sold.

THE CURRENCY COMMITTEE'S REPORT.

The *Madras Mail* published the following Telegram, dated Simla, h July.—The text of the Currency Committee's Report has now ched the Government of India. The first portion is historical, second discusses and definitely negatives the proposals for re- ening the mints either immediately or by any gradual process. e third part discusses the principle of the gold standard and cludes that steps should be taken to avoid all possibility of doubt to the determination not to revert to a silver standard, but to ceed with measures for the effective establishment of a gold ndard. Section 4 deals with and rejects the Government of lia's proposals, principally on the ground of the objection to lting down rupees. The Committee, while sympathising with Government of India in their desire to shorten the period of nsition to inspire confidence in the commercial community and remove any impediment to the flow of British capital to India, not approve of their proposals and cannot recommend their adop- n. Section 5 deals with the question of a gold currency. Here Committee think that the habit of hoarding does not present h practical difficulties as to justify a permanent refusal to allow ia to possess the normal accompaniment of a gold standard— nely, a gold currency. The last paragraph runs, "we are in our of making the British sovereign legal tender and a current n in India. We also consider that at the same time the Indian nts should be thrown open to the unrestricted coinage of gold terms and conditions such as govern the three Australian nches of the Royal Mint. The result would be that under identi- conditions the sovereign could and would circulate both at me and in India. Looking forward as we do to the effective ablishment in India of a gold standard and a currency based on nciples of the free in-flow and out-flow of gold, we recommend se measures for adoption."

CHINA TEA PROSPECTS.

he Hongkong *Daily Press* of 4th July has the following interest- deliverance:—

xperts in tea are agreed that the *desiderata* to retrieve the unes of the China tea trade are improved cultivation and nipulation, and a reduction in the cost of production. "So long, ever," says Mr. Hughes in his Kiukiang Customs report, "as present heavy taxation exists in China all along the route from place of origin to the point of shipment—a taxation amounting bout 25 per cent. of the cost, whilst the tea of other countries dia, Ceylon, etc.) are free of duty, neither the improvement of leaf nor the reduction of the original cost can be reckoned as ne factors in the question The wonder is that an article so vily handicapped as China tea is in the matter of duty and taxes, uld still hold a respectable place in the world's markets and l retain such a large share of foreign patronage. It would ost seem as if, even without any other alteration in the present e of affairs, China tea, with a wise removal of, say, half its fiscal dens, could hold its own with its modern rivals, to the immense efit of the Chinese Government and people." The 25 per cent. ntioned by Mr. Hughes as the amount of taxation to which Kiu- g tea is subjected is somewhat less than the amount given by petent authorities at other ports. Mr. Brenan, in the Canton sular report for 1897, placed the figure at 35 per cent., while Cass, of Amoy, in a review of the tea trade supplied by him he Consul and incorporated in the 1896 reported, said the reason he decline was not far to seek: the entire crop realised $136,000, le the lekin paid amounted to $20,000 and the export duty to 000, or a total of $55,000, considerably more than one-third of value of the tea. The result is that at Amoy the tea trade practically ceased to exist.

he latest market report in the same paper is of interest:—

HANGHAI, 3rd July.—(From Messrs. Welch Lewis & Co 's Circu- —Our last "printed" tea market advices were under date 16th nt. From Hankow we hear of an active demand from Russian es for second crop Black Teas from the Liang Hu districts at s which make early purchases of first crop Teas look cheap.

GREEN TEA.—It is perhaps a matter for congratulation to find that the fear of rejection by the United States Customs Inspectors is no longer oppressing the dealings in good sound common Teas, and it is hardly to be wondered at that the craving for common Teas, in most of the consuming centres, should cause inflated prices here. Fine Teas are comparatively neglected, but lines which were going a begging last year at Tls. 12/14 are now eagerly taken at Tls. 20/21, and the lowest quotation for "skin" is Taels 14 a picul. We must not forget to say that there is no suspicion of adulteration about these Teas, and they are all sweet drawing. At the same time if these prices continue the supply of common Tea will be largely increased.

From the table of exports we see that the comparison in the case of shipments to the United Kingdom is as follows:—

	Black.	Green.
	lbs.	lbs.
Total to date, 1899	8,380,059	7,064
Do. 1898	5,914,986	10,068
Do. 1897	7,538,126	20,049

THE OTTO-OF-ROSE CROP.

We do not think, says the *Chemist and Druggist*, that any anxiety need now be felt in regard to this year's output of otto-of-rose, as the total this year amounts to 70,525 T. oz., and as this is almost double that of last year (48,000 T. oz.,) it is quite safe to predict lower prices. A Bulgarian correspondent informs us that his market up to now has been quiet. Owing to the financial crisis which is now passing over Bulgaria, producers of otto-of-rose are short of money, and will no doubt take the first opportunity of doing business at rates under those recently ruling—or, in other words, the abundant crop this year dispels the probability of an increase in values, and if prices should be altered this season they are likely to be in favour of the buyer. The following are the yields of otto obtained during the ten preceding years:—

	Oz.		Oz.
1898 ...	48,000	1893 ...	57,000
1897 ...	70,000	1892 ...	42,000
1896 ...	111,000	1891 ...	69,000
1895 ...	72,000	1890 ...	75,000
1894 ...	57,750	1889 ...	82,500

These are Turkish ounces. Our correspondent in Kezanlik writes in respect to each district, and we give his information as far as possible in his own words.

Kezanlik.—The harvest in this neighbourhood has been very satisfactory, owing to the abundant rainfalls, and the town of Kezanlik, together with the surrounding villages, has produced 24,500 T. oz., otto-of-rose. The distillation this season has proceeded slowly, owing to the continued favourable weather; and owing to this the otto produced this year is of a high grade, sweet in odour, and with a melting-point of 15° R. to 16° R.

Carlova.—The crop of this district, generally speaking, has been variable. In some places, such as Kalafer and Klissoura, the harvest has been backward, and commenced at the time of the recent heavy rains. Consequently the distillation began late and finished late, while the harvest was luxuriant. In the other Carlova villages the distillation lasted only a few days, owing to the great heat and dry weather, which caused the quick blooming of the flowers. However, the crop, which was at first assumed to be very poor, has turned out better than expected, the final result being an output of 28,000 oz. The general congealing-point is 14° R. and 15° R. The quality obtained is satisfactory, being sweet and strong in odour.

Ovtchehlm.—This little province produced 1,680 oz. only. Congealing-point, 14° R. and 15° R.

Pechtera.—The amount produced in the villages of Pechtera and Bratzigodo was 3,150 oz. Congealing-point, 14° R. and 15° R.

Saranagora and Brezova.—The entire harvest of these two districts amounted to 7,945 oz. The oil produced was not of a very high grade, owing to bad distillation, caused by some defect in the manufacturing-process. Congealing-point, 14° R.

Tchizpoa.—The crop was 1050 oz.

Eni Saghra and Eski-Saghra.—Both these districts produced 4,200 oz. only. Congealing-point, 15° R. and 16° R.

A NEW TEA PEST.

TEN ACRES DESTROYED IN TEN DAYS!

The *Ceylon Observer* writes:—We have received from Messrs. Boustead Brothers a tin containing numerous specimens of a queer-looking caterpillar-like insect that has been working havoc of the most unusual extent in the Morawak Korale. The record, which Mr. Maclean describes as accomplished by this remarkable "destroyer" upon new clearings of young, is no less than ten acres in as many days The insect, or "bug," we may call it until expert opinion has been obtained, is about one-third of an inch in length and varying in colour from the faintest sea-green to a pale vermilion. The specimens we have received were well stocked with green tea-leaf, and seemed thriving as happily as on their up-country "pastures new." We will not enlarge upon the destructive properties of this entomological phenomenon until it has been examined by more expert authority. Meanwhile, its achievements have been meteor-like, both in rapidity and power of destruction.

The next issue of our contemporary contained the following:—We regret the sensational heading inadvertently inserted in our columns yesterday; because, in reality, the attack on young tea in a corner in Morawak Korale must be quite a local matter, of no special importance, as regards the industry generally, even in the district referred to. We must, however, confess that we have not yet identified the insect concerned and that from the account given to us to-day by the Visiting Agent, it is a novel as well as mischievous and very disagreeable visitor. It cannot be called a beetle, for its motion is crawling, after the fashion of the lowest form of life. It is discovered running up the tea bush in all sizes from a green speck up to a creature half-an-inch long by one-fourth at widest, nearly oval, green, like the tea-leaf, save for one or two reddish or orange specks; but the striking peculiarity is in small bristles on the back and sides which, when touched, give a decided electric shock. This, of course, prevents the coolies from touching them with their hands and the process of gathering is therefore a slow one. There is no sign of the surrounding jungle being affected by them; but they do not despise cinchona leaves, while the tea leaf they devour, from the toughest to the tenderest. Still, an insect of this kind, attaining an appreciable size, can be dealt with as a local matter; a deep trench may, perhaps, prevent its crossing from one field to another, as its locomotion is so slow, and altogether it is a very different matter from a fungus pest blown about by the wind, or even from helopeltis, which spread and multiply so quickly and resist wind. Still such insects as the present one can do much harm while their day lasts—ten acres of tea stripped to the bare stems and branches (no wood is touched) is no joke; but in Darjiling we read in one year of a 100 acres of young tea being destroyed as soon as planted by a sudden outburst of a white grub beetle. We can see nothing in Cotes' "Tea Insects of India" to answer to the Morawak Korale visitor. We are inclined to think it must be of the weevil family, and here is what Nietner says of one of the kind, which had consumed every leaf of coffee on fields in Maturata:—

Arhines (?) destructor.

This is a beautiful green weevil, 2½" long and 1" broad, oval, narrowed in front, covered all over with closely set but isolated gold-green scales, winged. The head is rather short and blunt; antennæ apical, elbowed at the middle, the part beyond the middle being composed of eleven joints, forming a club towards the end, the third joint from the tip being the thickest; they are brown, hairy beyond the middle; the thorax is plump, subconical; the anterior legs are the longest, the second pair the shortest, the tibæ and tarsi of all are hairy, the tarsi with hairy brushes underneath, especially thick at the third joint which is deeply 2-lobed; the tibiæ of the second pair are long, serrated inside, curved and 2-hooked at the apex. The insect varies considerably in size and colour.

This pretty beetle is common during the dry weather, but I have never found it do any injury to the coffee. Mr. James Rose, of Maturata, who first directed my attention to it, wrote to me:—"The mischief they do to the coffee is really frightful, and, if they were as plentiful as the bug, they would be our worst enemies. Five or six acres were completely covered with them, and they consumed almost every leaf. Year after year they appeared upon the same place. This year they appeared upon a neighbouring estate in great force, and ran over at least forty acres. The same thing occurred on three other estates." Mr. Rose conveys a p picture to the mind of the entomologist by stating that in l when these insects disappear, the logs and rocks may be strewed with their bright green elytra.

The family of the weevils is one of the most extensive am the beetles; and many of its members, both here and in Euro much injury to agricultural produce. I have seen nearly the w sweet potato (*Batatas edulis*) crop of the Negombo district des ed by one of them, the *Cylas turcipennis*. The common rice-wee *Sitophilus oryzae*, is another instance, and one of the coc destroyers of the low-country belongs also to this family, *Sphoenophorus planipennis*.

We now await further specimens from the Morawak Kora send to Mr. Haly, of the Museum, to examine under the micro

HYBRIDITY.

At one of the meetings of the Royal Society of Edinburgh this spring, Professor J. Cæsar Ewart read the second part of paper on "Contributions to the Theory of Heredity, Inter-cross and Variation." He clearly laid down the following propositi When members of the same variety or race bred together, t was no cross-fertilisation; when members of two different vari or races were interbred. they had inter-crossing; when animals plants belonging to different species or genera were interbred, t had hybridisation. Cross-fertilisation had two evident and v recognised uses, it led to rejuvenescence, that is it restored growth-power; and by insuring the intermingling of germ-pla from two individuals, it favoured the production of new variati Presumably if cross-fertilisation favoured variations, inter-cross would lead to the like results, but on a grander scale; while in breeding, if carried far enough, reduces this influence of cr fertilisation to a minimum. Experience and experiments sho that when two varieties were crossed, the offspring might ei resemble the male parent or the female parent; or some mi resemble the one, some the other, or all or some of them m unite in different degrees the appearances of both parents. most cases there was more or less reversion, although it would be wise to draw far-reaching conclusions from his simple exp ments.

Considering the influence of inter-crossing in renewing the stitution, Prof. Ewart pointed out that a change in the condit of life seemed to operate more as an invigorator than to stimu variation. In other words, while the constitution might be be ed by a change in the environment, active variation was not li to supervene without the disturbance that accompanied an in crossing.

In view of the coming Conference to be held by the Royal H cultural Society in the gardens at Chiswick, the above views for special consideration. I agree in the main with Mr. Burbid views on the modifying influence of environment. The inferi of our finest Scotch Gooseberries south of the Tweed first convi me of the great influence of local soils. climate, surroundings, quality. I am not sure that I go so far as Mr. Burbidge in following sentence, though I admit he is a very high authority the subject. He exclaims, "Nature abhors self-fertilisation, bu specially abhors perpetual cultivation, unless either seed or soil both, are continually being changed; or, as in the contin Wheat-crops, of Sir John Lawes', of Rothamsted, sufficient suit food is provided. Still, it is a safe rule to alternate crops in f and gardens. So powerful is the tendency for distribution i plants bearing seeds or spores, by removal to fresh soils and pastu new, that the contrivances adopted for the purpose seem alm miraculous. "Hence," adds Mr. Burbidge, "in rearing cross-b seedlings. we are, apart from other possible gains, bringing, c paratively speaking, *new plants to our old soils* (the italics are m and climates." And Mr. Burbidge concluded the whole ma almost in the words of Professor Ewart, at the Royal Society Edinburgh,—"This brings me back to the pith of the whole mat of cross-breeding, *viz.*, that, apart from variety or added value, in the produce, we also gain, what is even of more importance plants best adapted to particular soils and particular climates atmospheres."

This literature of hybridisation needs collecting, condensing popularising. Special exhibitions should also be held of cross-b and hybrid plants, side by side with their parents. In our ceas

orts to mend Nature by these and other cultural devices, while ng full justice to the merits of new plants, fruits, and flowers, must be careful not to underrate the old. Take. for example, old Ribston Pippin, often spoken and written of as worn out. oldly affirm that in this year, 1899, there are more and better oston Pippins grown in Britain than in any former year of its stence. True, it is generally mounted on a better, more healthy l fertile stock; but surely not a little credit is also due to the ent energy of the sound, good scions of the Ribston Pippin which abled it to co-operate so effectually with the paradise and other cks in rejuvenating its health, intensifying its fertility, and ex- ding its life.—D. T. FISH in the *Gardeners' Chronicle.*

THE WORLD'S COFFEE TRADE.

INCREASING SUPPLIES AND FALLING PRICES.

How to regulate the world's supply of coffee so as to prevent the settling of prices by the dumping of the "bouncer" crops of good rs on the markets. is a problem, says the *Mexican Herald*, that is upying the attention of great dealers as well as of large producers. food crops, as well as in fibre crops, the tendency is to larger ual yields in excess of the growth of the world's population; ce the tendency to lower prices for these great staples of rishment and clothing. Brazil is the great coffee exporting ntry, and the history of the Brazilian trade begins at Ris Janeiro 1817,when 63,986 bags were shipped. In 1832 the figures stood at ,950 bags; in 1840, 1,000,000 bags were reached; in 1851 the res exceeded 2,000,000 bags, and kept at that average until 1875, en exports amounted to over 300,000 bags. In 1881 the highest rk was attained at 4,377,418 bags. In later years the number gan to decline, owing to the exhaustion of the productive power he trees in the old Districts. At Santos the records go back 1850, when nearly 100,000 bags left that port. In 1871 the orts had grown to 500,000 bags; in 1877 to 1,000,000 bags; they reased in 1884 to 2,000,000 bags; in 1890 to 3,000.000 bags; in 4 to 4,000,000 bags; in 1896 to 5,000,000 bags; in 1897-98 to 0,000 bags, near which figure production in that District is ely to maintain itself as long as the present economic conditions vail, although the area available for coffee planting in the State practically inexhaustible and no soil more appropriate for the pose exists in the world.

'or 1898-99 the Rio and Santos crops are estimated at 8,500,000 s, and the visible supply, meaning the stocks in Rio, Santos, at and in the public warehouses in Europe and the United tes, had increased to 6.576,000 bags on the 1st January, 1899. low prices have ranged and the visible supply has varied, the owing table makes clear:—

	Visible Supply of Coffee in Thousands of bags.	New York Price of No. 7 Rio Gold.
July	—	—
1892	2,955	13⅝
1893	3,101	16¼
1894	2,146	17½
1895	3,116	16½
1896	2,588	13⅞
1897	3,976	7¼
1898	5.438	6⅞
1899 (estimated)	6,700	—

t is proposed in Brazil that a great coffee Trust be formed iting the exportation of coffee from the producing countries, and he March issue of the *Bulletin of American Republics*, Señor varria of Venezuela, proposes the establishment of a Trust with entral Committee in continuous session in one of the European itals, which would from time to time send to each one of the ntries in the league instructions as to the amount of coffee that ight export in a season. The Government of each country in league is to enter into a solemn covenant to implicitly obey the mmittee's directions. Señor Olavarria proposes that this league uld be immediately formed by a Congress of economists of each he countries concerned, which should meet in Washington as n as possible. He predicts as a result of the operation of his the greatest benefit to the manufacturing and exporting rests of the United States and of their customers, the coffee- wing countries of South America.

SPRAYS AND WASHES.

The following Special Bulletin has been issued by the Central Agricultural Experiment Station at Berkeley, California:—

Water alone, applied with some force, will dislodge a good many insects, but most pests require the addition of some more active principle to the wash. The formulas below give the amounts necessary to make an oil-can full (5 gallons), and also a barrel-full (40 gallons) of each mixture. Spray with heavy pressure for scale insects, and make everything thoroughly wet; but for other pests less pressure and material is necessary, for the leaves should scarcely be made to drip.

FOR INSECTS THAT EAT THE LEAVES AND FRUIT.

Use a poison sprayed on the foliage to kill the insects when they eat it.

Name of wash.	Ingredients.	For 5 gals.	For 40 gals.	Directions.
Paris Green.	Paris Green ..	¾ oz.	6 oz.	Add the Paris Green to the cold, strained lime water. Keep constantly stirring while spraying.
	Lime ..	8 oz.	4 lbs.	

FOR SCALE AND OTHER INSECTS.

Use mixtures which kill by coming in contact with the body of the insect while the plants are being sprayed.

Kerosene Emulsion.	Kerosene ..	3 pints	3 gals.	Mix hot by pumping through a spray-pump for fifteen minutes, then dilute. Use either sour milk or soap solution. One-half as strong will do for plant-lice. Twice as strong is safe when the leaves are off. An emulsion is more easily made if about twelve times as much soap is used.
	Sour Milk ..	1½ pints	1½ gals.	
	or			
	Soap ..	1½ oz.	¾ lb.	
Rosin Soap.	Rosin ..	1 lb.	8 lbs.	Boil two hours with a small quantity of water, then dilute with warm water. It may be used one-half stronger when the leaves are off. It is cheaper than the emulsion.
	Caustic Soda ..	¼ lb.	2 lbs.	
	Fish Oil ..	2 oz.	1 pint	

FOR SCALE INSECTS, FUNGI, AND MOSS.

Use mixtures applied in winter which corrode the dead bark, and so soften it as well as killing by contact.

Lime-Salt and Sulphur.	Lime ..	3 lbs.	24 lbs.	Boil two hours with a small quantity of water, then dilute. This is for winter use only. If the salt is omitted and a third less of the other ingredients used, it will not injure foliage.
	Salt ..	1 lb.	8 lbs.	
	Sulphur ..	1½ lbs.	12 lbs.	
Sulphide of Potash.	Caustic Soda ..	¾ oz.	6 oz.	Add the dissolved whale-oil soap after boiling the rest one hour; then boil all one-half hour and dilute. This is for winter use only. If the whale-oil soap is omitted and one-fourth as much of the other ingredients used, it will not injure foliage.
	Potash ..	¾ oz.	6 oz.	
	Sulphur ..	2¼ oz.	18 oz.	
	Whale-Oil Soap	1 lb.	8 lbs.	

FOR FUNGI.

Use mixtures that will prevent the germination of the spores on the leaf.

Bordeaux Mixture.	Bluestone ..	½ lb.	4 lbs.	Dissolve the bluestone and slake the lime separately. Mix when cool. The amount of lime may be increased if desired. When the leaves are off the trees the mixture may be used two or three times as strong.
	Lime ..	½ lb.	4 lbs.	
Ammonia, Copper Carbonate.	Copper Carbo'ate	5 oz.	2½ pints	If the bluestone and salsoda are used, dissolve them separately in a small quantity of water, and mix when cool. The copper carbonate thus produced is then dissolved in ammonia. Do not dilute with water till it is all dissolved. It is not as good as Bordeaux mixture, but does not discolor the leaves.
	Ammonia ..	½ oz.	¼ lb.	
	or			
	Bluestone ..	¾ oz.	6 oz.	
	Salsoda ..	1 oz.	½ lb.	

MARKET REPORT.

By Mail Advices, dated 7th July 1899.

COFFEE.

The *London Commercial Record* says:—There is no improvement to report in this market, and the old feeling of depression continues to exist. The limited quantity of attractive quality was in fair demand at steady rates, but a large proportion of the quantity offered at auction failed to find buyers, although holders showed a disposition to make a further concession in price, colory Guatemala going particularly cheap. No Plantation Ceylon has been brought forward, and the moderate quantity of East India met with scarcely any demand, and was chiefly withdrawn. No change of importance has taken place in "futures," which close as follows:—

London	Santos ...	Sept. delivery	... 28s. 3d.
New York ...	No. 7 Rio...	„ „	... 4·90 cents.
Hamburg... ...	Santos ...	„ „	.. 28¾ pf.
Havre	Santos ...	„ „	... 34½ francs.
Holland	Good ordinary Java	..	... 26¾ cents.

Imports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
	Tons.	Tons.	Tons.	Tons.
West India ...	921	589	1,293	1,525
Ceylon ...	110	75	360	157
East India ...	5,787	2,583	8,710	5,259
Mocha ...	468	450	420	417
Brazil ...	4,577	3,139	2,094	2,025
Other Foreign ...	13,259	11,880	18,841	21,055
Total ...	25,122	18,716	31,618	30,438

	Home Consumption.		Export.	
	1899.	1898.	1899.	1898.
	Tons.	Tons.	Tons.	Tons.
West India ...	189	224	585	1,048
Ceylon ...	73	85	142	110
East India ...	1,399	1,471	2,449	2,304
Mocha ...	372	384	86	81
Brazil ...	477	584	699	1,272
Other Foreign ...	6,210	5,002	8,253	8,842
Total ...	8,720	7,750	12,214	13,657

The preceding figures exhibit—

	Tons.
In the Imports an increase this year of	... 1,180
In the Home Consumption an increase of	... 970
In the Export a decrease of	... 1,443
In the Stock an increase of	... 6,406

Auctions this week have passed off as follows:—

East India.—Of 486 bags offered, only 29 bags Mysore sold smalls 42s. low middling 51s.

Mocha.—34 bales good short berry sold at 97s 6d.

Jamaica.—249 barrels 91 bags partly sold, good to fine, ordinary greenish and grayish 30s to 36s.

Costa Rica.—6,984 bags partly sold, smalls 27s 6d to 36s, ordinary to fine ordinary 31s to 38s 6d, fine fine ordinary to low middling 39s 6d to 44s, middling 49s to 62s, good middling blue 68s, fine middling blue 78s to 78s 6d, good bold 70s 6d to 94s, pea-berry 46s to 78s 6d.

Guatemala.—3,194 bags partly sold, smalls 23s 6d to 37s 6d, good to fine ordinary 33s 6d to 38s. low middling 40s to 42s, middling 48s, bold 50s to 56s 6d, fine colory 70s, pea-berry 34s to 64s.

Salvador.—2,991 bags nearly all sold, smalls 27s to 29s 6d, ordinary to good ordinary 30s to 34s 6d, fine to fine fine ordinary 35s 6d to 39s, low middling 39s 6d to 40s 6d, middling to good middling 42s 6d to 51s, good bold 67s, pea-berry 32s to 66s.

Nicaragua.—673 bags mostly sold, smalls 26s 6d. good ordinary to low middling 36s 6d to 40s. middling colory 43s 6d to 44s 6d, fine blue bold 86s, pea-berry 36s 6d to 80s.

Vera Paz.—Of 601 bags offered, only a small part sold ... 34s, ordinary brownish 31s to 32s, good bold 91s to 95s, ... 35s to 50s.

Mexican.—164 bags mostly sold, low middling to middling 4... to 47s, pea-berry 39s to 44s.

Colombian.—171 bags partly sold, smalls 24s to 30s, good to ... fine ordinary 32s to 37s, low middling to good middling 39s 6... 48s, good middling to bold 48s 6d to 55s, pea-berry 42s to 53s 6...

Coban.—145 bags about half sold—smalls 30s, middling 46s, g... to fine bold 76s to 98s 6d, pea-berry 45s.

Ecuador.—40 bags half sold, good ordinary 29s 6d.

Porto Rico.—139 bags bought in.

Venezuelan.—40 bags retired.

To-day the long-continued backwardation was made up, all postponed catalogues having now been disposed of. 10 ... 8 tierces, 8 barrels, 2 barrels Plantation Ceylon, 1,264 bags East I... 41 half-frazils Mocha, 479 bags Salvador, and 228 bags Guate... were brought forward. The sales went-off with slow deman... about former quotations.

Receipts in Rio and Santos.

Total 5 days	1898-9. Bags.	1897-8. Bags.	1896-7. Bags.	189... B...
Rio	26,000	37,000	61,000	4...
Santos ...	53,000	71,000	74,000	5...
Total ...	79,000	108,000	135,000	9...
Crop ...	—	8,772,000	10,461,000	8,680...

Rio Exchange.—$8\frac{9}{32}$d, previous day, $8\frac{7}{32}$d.

Havre, *July* 6.—Santos good average June opened quiet at ... and closed dull at 34f., July opened at 34½f. and closed at 34½f.

Hamburg, *June* 6.—Good average Santos May opened quie... 28½pf. and closed dull at 28½pf., September opened at 28¾pf. closed at 28¾pf.

New York, *July* 5.—Closing prices of No. 7 Rio were as follo...

	July.	Aug.	Sept.	Oct.	D...
July 5 ...	4·70	4·75	4·90	4·95	
July 1 ...	4·65	4·80	4·90	4·95	

Prices realized at auctions for some of the principal marks of India—

	A	B	C	PB
NEILGHERRY.				
Kedugamudi	no bid	44-0 bid	34-0	41-6 bid
Do. ...	no bid	40-0 bid	29-0	—
AGN ◇ Hallacarry Nilgiris ...	no bid	no bid	38-0 bid	no bid
Oolieut Nilgiris	46-0	39-0 bid	38-0	no bid
Prospect	no bid	42-0 bid	38-0 bid	no bid
S & Co. ◇ Neilgherry... ...	no bid	44-0 bid	40-0	—
NELLIAMPATHY.				
Polyampara Nelliampathies ...	44-0 bid	40-0 bid	40-0	—
COORG.				
JPH Glenmore Coorg ...	43-0 bid	44-0 bid	40-6	50-0 bid
WYNAAD.				
Pullala ...	no bid	38-6 bid	37-0 bid	40-0 bid
Arbuthnots (Cherry) ...	43-0	29-6	—	35-6
TELLICHERRY.				
Lutchme Estate	no bid	36-0 bid	33-0	no bid

	A	AA	B	C	PB
NAIDOOBATUM.					
W A B Balmadies Naidoobatum	no bid	70-0 bid	no bid	41-0 bid	no bid

TEA.

HINA.—Congous are in moderate request at about previous ues, but Oolongs and Greens sold under the hammer at reduced ces. Auctions have offered 5,191 packages, practically all of which l as follows:—New make Congou 6¼d to 6½d, Pecco Congou 6¾d, ngchow 6¼d to 6¾d. Panyong 6½d, Oolong 4⅛d to 8d. Pakling 7d 7¼d, Souchong 5¼d to 8¼d, scented Caper 7¼d; Green—Gun-wder 4¾d to 8¼d, Imperial 3⅝d to 4¼d, Foong Mee 8½d to 9d. v Mee 6¼d to 10¼d. Young Hyson 3d to 6½d per lb.

NDIAN.—Catalogues issued for Monday 3rd inst., comprised 500 packages, of which 12,200 packages were New Season's, trasted with 13,600 packages (6,700 New Season's) in the week ore and 3,100 packages (690 New Season's) in 1898.

n consequence, however, of the decision of the London buyers to attend the sale pending the settlement of the dispute with importers regarding the 1-lb. draft, more than half the quan- was withdrawn, while of the remainder only about 400 pack-s were disposed of in the room.

EYLON.—About 22,600 packages were advertised for Tuesday, for the reason given above dealers did not operate, and only some 0 packages were sold, a fair number of orders from the Conti-t being to hand. In the former week 26,500 packages were ught forward, and 27.400 packages in 1898.

AVA.—In the absence of business there is nothing to report, the 5 packages printed for Monday being cancelled for the present.

eliveries.—The clearances of all Tea (on which duty has been) from the London warehouses, as per official returns, were—

	Lbs.
m 1st to 30th June, 1899	15,101,270
„ „ 1898	16,010,824

essrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea ort, dated July 7th, 1899, says :—

ANTITY BROUGHT TO AUCTION IN LONDON FROM 1ST JUNE TO DATE.

	Indian. Pkgs.	Ceylon. Pkgs.	Java. Pkgs.
-1900	55,345	107,362	4,706
-1899	44,329	132,253	3,569

notice was issued last week by the "General Committee of esale Tea buyers" intimating that in view of the intention of orters to abolish the one pound draft they would not buy any printed for last Monday. The result of this was that nearly be catalogues were withdrawn, and only some 300 or 400 pack-were sold in the auction room.

milar conditions prevailed in Tuesday's Ceylon Tea sale, which ained unsold with the exception of some 2,000 packages.

ne Importers and Growers of India and Ceylon Tea held a ting on Monday when the following Resolution was passed:—That on and after the 17th inst. all Tea shall be sold on the ition that the 1-lb. Draft allowance shall not be made to the er."

ne Tea Buyers Committee have since issued a notice as ws:—

That this Committee agrees to buy no Indian or Ceylon Tea in or otherwise before the 17th inst., and on and after that date present sale conditions," adding a note that this undertaking been signed by all the London Dealers.

nder these circumstances business is practically at a standstill, very little Tea is at present catalogued.

DIAN.—An official telegram has been received from Calcutta ng that the exports to the U. K. for the second half of June 7,500,000 lbs., against 5,040,000 lbs. last year, and the total rts from 1st April to 30th June 18,632,000 lbs., against 7,000 lbs. during the same period in 1898.

ew Season's Tea sold on Garden Account 1st June to date 1899,1 ,616 pkgs., av. 7·88d. 1898,14,334 pkgs., av. 7·59d.

		1899.	1898.	1897.	1896.
	(Fair ordinary, dark liquor) ...	5¼d.	3½d.	3½d.	4½d.
ings	(Red to brown, strong rough liquor)	6¾d.	3⅝d.	4d.	5d.
n Tea	(Brownish to blackish. strong liquor)	7¼d.	6d.	6¼d.	7¼d.
oug	(Blackish greyish, useful liquor) ...	7½d.	6¼d.	6¾d.	8d.
	(Greyish to blackish, some tip, useful liquor) ...	8d.	7¼d.	8⅛d.	9d.
oug	(Blackish, greyish, inferior liquor)...	6¼d.	5¼d.	5d.	5¾d.
	(Blackish, greyish, some tip, inferior liquor) ...	6¾d.	5½d.	5¾d.	6½d.

CEYLON.—But for the execution of a few export orders, this market might be recorded as practically closed. An official wire is to hand from Colombo giving the shipments to U. K. during June as 14,000,000 lbs., and estimating the quantity available for July as 9,000,000 lbs It also advises that the quantity of Tea shipped from 1st January to 30th June was 53,500,000 lbs., against 50,250,000 lbs. during the same period last year.

Ceylon Tea sold on Garden Account 1st Jan. to date 1899, 521.019 pkgs., av. 8·22d. 1898, 565,760 pkgs., av. 7·63d.

		1899.	1898.	1897.	1896.
Pekoe Soug	(Ordinary leaf; fair liquor) ...	7d.	6d.	6d.	6d.
Pekoe	(Ordinary leaf, little twist; fair liquor)	7¼d.	6¾d.	7d.	7d.
Pekoe Soug	(Rather bold leaf; indifferent liquor)	6¼d.	5¼d.	4¾d.	5d.
Pekoe	(Somewhat bold leaf; indifferent liquor) ...	6½d	5¾d.	5¼d.	5½d.

JAVA.—The few Javas offering in sale last Monday were withdrawn owing to the above mentioned action of buyers 7,380 packages are to be offered in Amsterdam on the 20th.

Bank rate 3 per cent. Exchange on London three months' sight. Culcutta 1/4⅛. Colombo 1/4⅛.

IN CANADA.

Ontario advices, dated 22nd June, state that wholesale dealers report that very few Indian and Ceylon teas are moving, retailers not being disposed to pay the prices asked. For new season's Japan tea for future delivery orders are being placed freely by the retail trade. Quebec reports point to a very similar position there.

COCOA.

Auctions again attracted very little attention, only about 1,400 bags selling, out of 5,714 bags offered, at again lower prices. Of 1,410 bags Trinidad, 900 bags sold at 6d to 1s decline—69s to 70s for very fine red, and 64s to 66s 6d for good greyish to good red. 117 bags Grenada mostly sold at 57s to 61s 6d for common to fine, being 6d to 1s below valuations. Of 292 bags 3 barrels Jamaica, only 3 barrels sold at 60s 6d. 35 bags Demerara retired. Of 377 bags Venezuela, 43 bags sold at 72s to 75s for good red clayed. Of 143 bags Samana, 20 bags realised 56s. Of 1.690 bags Guayaquil catalogued, 150 bags sold at 68s 6d to 70s for fair to good Arriba. 326 bags Bahia and 15 bags African passed the hammer unsold. Of 1,306 bags Ceylon, only 160 bags sold at full rates—good to fine 75s 6d to 82s, middling to fair 62s 6d to 68s, and pickings 42s 6d to 52s 6d per cwt. Private sales include 200 bags Grenada at auctions' rates, 500 bags good Bahia at 61s to 61s 6d, and 300 bags Guayaquil—good red Arriba at 71s 6d to 74s, and fine Caraquez at 70s.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

		1899. Bags.	1898. Bags.	1897. Bags.	1896. Bags.
Imports, B P.	...	93944	99386	86403	92293
Foreign	...	39838	65826	39444	39966
Home Con., B.P	...	47158	60751	46173	41225
Foreign	...	29094	32510	33040	32934
Exports, B.P.	...	26235	20234	25290	21882
Foreign	...	15303	15154	22664	14390
Stock, B P.	...	66134	78440	92816	94950
Foreign	...	48015	51662	43959	68997

PEPPER.

BLACK.—The market has sided in buyers' favour, but at the close the tone is firmer. About 300 tons Singapore are reported sold, at 5¼d for fair on the spot, at 5 5/16d to 5¼d for near at hand, at 5⅜d to 5 5/16d June-August, at 5 3/8d to 5⅜d July-September, at 5½d August-October, and at 5½d to 5 9/16d September-November.

Offerings on Wednesday were restricted to 130 bags Tellicherry, which were bought in.

The shipments of Black Pepper for the month of June compare as follows:—

		1st-half. 1899.	1st-half. 1898.	2nd-half. 1899.	2nd-half. 1898.
		Tons.	Tons.	Tons.	Tons.
U.K.—Sing.	...	300 } 520	210 } 420	50 } 50	130 } 180
„ Penang	...	220 }	210 }	*nil* }	50 }
Continent	...	130	*nil*	90	40
United States	...	80	50	60	*nil*
Total	...	730	470	200	220

White is lower, with sales of 100 tons, *viz.*, Singapore, August-October at 8⅜d down to 8½d, and Penang August-October at 8¼d per lb.

At public sale on the 5th instant, 150 bags Singapore, and 85 bags Penang all passed the hammer unsold.

The shipments of White Pepper for the month of June compare as follows:—

	1st-half.		2nd-half.	
	1899. Tons.	1898. Tons.	1899. Tons.	1898. Tons.
U.K.—Sing. ...	50 } 220	*nil* } 260	90 } 90	50 } 70
„ Penang ...	170 }	260 }	*nil* }	20 }
Continent ...	20	50	70	80
Total ..	240	310	160	150

GINGER.

Cochin.—The good supply of 179 cases 1,136 bags experienced a poor demand, except for a parcel of new import Calicut assortment which was well competed for. 64 cases 165 bags sold as follows:—fine bold cut and scraped, limed 75s, bold and medium ditto 69s to 70s, medium and small roughly cut and scraped 43s, to 45s 6d, bold branchy brown rough 40s, medium ditto 35s, dull limed cut tips 23s to 23s 6d, brown Calicut sorts 22s, brown washed tips 21s, cuttings 16s; very hard dark medium, partly scraped, 30s, medium and small ditto 25s, small and partly shrivelled ditto 19s, pickings and cuttings 14s per cwt.

Japan.—30 bags dark hard unlimed, mixed with stones, sold "without reserve" at 19s per cwt.

Bengal.—100 bags retired at 21s per cwt.

Jamaica.—The large supply of 1,097 barrels, &c., was brought forward and about 820 barrels were disposed of at a further fall of 2s to 4s per cwt. on all grades except common which did not alter in price. Fair to good bright plump washed brought 64s to 70s, fair to good medium ditto 59s to 63s, ordinary to good ordinary 51s to 56s, and common to good common 47s to 50s 6d per cwt.

INDIA RUBBER.

There has been less enquiry, but some sales of fine hard at 4s 2½d, soft 4s 1d to 4s 1¼d, 40 tons scrappy at 3s 2½d; Peruvian still neglected. In auction to-day good quality sold well. but soft and heated cheaply

Para.—4 packages offered and sold, weak fine at 4s 0¼d, Cameta negrohead 2s 8d.

Mangabeira sells well, 75 packages offered and 49 sold, white sheet medium thin fair clean 2s 6½. Santos, fair close sheet 2s 5d to 2s 5½d, coarse pinky and scrappy pickings 2s 1¼d.

Colombian sold readily, 141 packages offered and sold, fine clean strips and sheet 3s 2½d to 3s 4¾d, good scrap 3s 2d to 3s 2¾d, coarse and mixed 2s 10d to 2s 10¾d, more foul dirty and heated 2s 3½d.

Central American.—39 packages offered and 22 sold, good scrap 2s 11½d to 3s, Guayaquil sheet 2s 3d.

Madagascar sells at high prices, 8 packages offered and sold, good clean niggers 2s 5¾d, low earthy 10½d, white porous slab 2s 4¼d. grizzly sandy pickings 1s 7d.

Mozambique.—Good demand for hard, red and high prices obtained 162 packages offered and 59 sold. fair red ball slightly heated 3s 4½d to 3s 5d. fair to good white 2s 8¼d to 2s 10d, sandy 1s 11¼d.

Peruvian.—2 packages offered and sold, fair slab at 2s 5⅛d.

Mollendo.—40 packages offered and mostly sold firm, fine 4s 0¾d to 4s 1d. enterfine 3s 11¼d to 3s 11½, negrohead 3s 1¾d.

Penang.—71 packages offered and retired.

Rangoon.—62 packages retired.

Assam.—125 packages offered and sold, red fair with some sandy 2s 10½d, common and middling much heated 1s 6d to 1s 6½d.

New Guinea.—2 packages offered and retired.

CINCHONA.

A cable received at Amsterdam on July 1, from the Nederlandsche Veem. gave the export of cinchona bark from Java during the month of June at 1,126,000 Amst. lbs. The following figures show the totals for the last five years up to the end of June:—

	1899. Amst. lbs.	1898. Amst. lbs.	1897. Amst. lbs.	1896. Amst. lbs.	1895. Amst. lbs.
June	1,126,000	1,033,000	824,000	716,000	889,000
Jan. 1-June 30...	5,090,800	4,917,000	3,33,4000	3,976,000	3,768.700

It thus appears that the shipments for June and for the first-half of this year are the heaviest for the past five years, or. indeed, seven years, as our Amsterdam correspondent's letter informs us. The shipments for June have upset the calculations of speculators, and in one quarter they were characterised as "warm." The rumour was circulated by speculators about the close of last week that the shipments would be short, and in consequence sellers of quinine became extremely firm, and 1*s.* 4⅝*d.* to 1*s.* 4¾*d.* was paid for August delivery. As we have before announced, 6,811 packages will be offered at Amsterdam on July 13, and unless there is good competition a decline in the unit is inevitable. At Amsterdam on July 13, the 6,811 packages to be offered have a total weight of 568,813 kilos, containing the equivalent of 29,612 oz. quinine sulphate. The manufacturing bark contains an average yield of 5·69 per cent. quinine sulphate, as against 5·36 per cent. in June, and an average of 5·21 per cent. for the ten auctions of 1898. In auction to-day thin, weak, and papery Loxa from Paita brought 8½*d.* per lb., and for thin crown Guayaquil 6*d.* was refused

The shipments from Mollendo in 1898 were 170,783 kilos (8,540*l.*) as follows:—4,624 kilos., Liverpool; 127,450, London; 35,725, Hamburg; 2,984, Havre. The exports from Mollendo have increased eightfold. The Ceylon shipments from January 1 to June 5 have been:—1899, 391,458 lbs.; 1898, 353,441 lbs.; 1897, 333,383 lbs.; and in 1896, 493,857 lbs.

QUININE.

Quinine has been almost a dead letter this week, owing to the heavy bark-shipments from Java, and immediately these were made known, values were easier, August delivery being quoted nominally at 1*s.* 4¼*d.* per oz. On the spot there have been a few small transactions at 1*s.* 4½*d.*, and at the close of last week B. & S. was done at 1*s.* 4¾*d.* for August and 1*s.* 4⅝*d* for spot. To-day there has been a still easier feeling, and spot stuff sold at 1*s.* 3½*d.*

CARDAMOMS.

Only a small business was done to-day, owing to the poor selection offered, and what sold met with a decline of 2*d.* to 3*d.* per lb on medium qualities, no fine Mysores being offered. The following prices were paid:—Ceylon-Mysore, bold long pale, 2*s.* 5*d.* to 2*s.* 6*d.*; small ditto, 1*s.* 9*d.*; fair brownish longs, 1*s.* 9*d.*; split, 1*s.* 7*d.* to 1*s.* 8*d.*; seeds, 1*s* 9*d.* Good bold splits were limited at 3*s.* 5*d.*, and the highest bid obtainable for second-quality good bold some small was 2*s.* 10*d.* Ceylon-Malabar (mostly offered without reserve). small to fair brown, 1*s.* 8*d.* per lb., and lean ditto 1*s.* 8*d.* Mangalore, fair pale and round, thick skin, 2*s.* 10*d.*; ditto, yellowish and split, 2*s.* 6*d.*; medium round leanish, 2*s.* 2*d.* to 2*s.* 5*d.*; brown splits and pickings, 1*s.* 10*d.*; seed. 2*s.* 3*d.*

Movements of Tea in London (in lbs.) during June.

	Imports.			Deliveries.			Stock.		
	1899.	1898.	1897.	1899.	1898.	1897.	1899.	1898.	1897.
Indian ...	3,507,413	1,350,696	2,092,857	9,122,456	10,371,915	9,018,317	25,886,498	29,138,669	25,300,752
Ceylon ...	8,114,530	9,776,978	10,709,464	8,019,312	7,599,712	7,868,446	19,885,470	19,407,906	22,794,198
Java	337,000	248,780	449,470	391,930	280,560	330,400	680,190	665,000	871,200
China, &c. ..	567,481	528,753	285,547	2,087,191	2,268,506	2,581,612	8,545,179	10,383,941	10,707,274
Total lbs. ...	12,546,424	11,905,207	13,537,338	19,620,889	20,520,693	19,798,775	54,997,337	59,590,516	59,682,514

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

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N.B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 11th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, *2nd July.—Weather.*—No rain since Friday last, on which day 45 inches fell. Some estates out East did not get this. Ball plants are looking well; but more rain is required for young coffee generally. *Plant diseases.*—Leaf-disease is showing-up badly in poor parts. The greater proportion of coffee is, however, looking very fine. Borer trees are still being removed. All this sun has caused more of this than there otherwise would have been. Prices of grains better at last *shandy*.

BRAZILIAN FINANCES.

Writing to the *Jornal do Commercio*, Mr. Joaquim Francis Lacerda, a well-known authority, who has a practical knowledge of the coffee industry and the coffee market, attributes the causes of the "desvalorisation" of paper money in Brazil to the action of two factors, excessive supply and a want of equilibrium in foreign payments As it is to the "desvalorisation" of paper money that the fall in exchange in Brazil is mainly due, and as an accurate diagnosis of causes should facilitate the discovery of remedies, the subject is one of interest to coffee planters in India, whose property and income have been greatly depreciated by the overwhelming competition of Brazil aided by "low exchange." We therefore set out the main points of Mr. Lacerda's arguments, which are to the effect that the following causes are responsible for the present situation of Brazilian finances:—(*a*) The disorganisation of labour between 1888 and 1895, caused by the liberation of the slaves, in consequence of which the cultivation of cereals

was almost entirely abandoned and had to be substituted by imports, thus upsetting the balance of our foreign exchanges. (*b*) Excessive emissions of paper money and their action on local prices. (*c*) The reckless importation that naturally accompanied the boom thus provoked. (*d*) The heavy expenditure on account of the revolution of 1893 and 1894. (*e*) The heavy fall of coffee which commenced in 1896-1897 and has not yet stopped.

In consequence of these causes, exchange fell from 27 9/16 in 1888 to 5⅝d. in 1898. Some of the causes are not remediable; (*d*) has ceased; (*b*) and (*c*) can be removed, and if by their removal exchange is raised to any appreciable extent, (*e*) will also lose force as a disturbing factor. Hitherto the Government has grappled solely with cause (*b*), and the result of the first year's working of its precautionary measures shows that it has met with some success. In May 1898 exchange stood at 5⅛d. and appeared likely to go lower On the 15th June 1898 the funding arrangement came into play, and a year later exchange stood at 8d., or 45% higher than when the new scheme was taken in hand. The *Brazilian Review* discusses the obligations undertaken in the funding agreement and how each has so far been faithfully and sincerely carried out. (i) The emission of Treasury Bonds of 1897 was not included in the arrangement. The interest and sinking fund amounting to £1,000,000 per annum has been regularly paid in monthly instalments of £83,333 and will be extinguished in February next. In this way £1,000,000 per annum will be set free to prepare for resumption of payments in 1901. (ii) Though not stipulated in the bond, the suspension of specie payments abroad imposed on Government the moral obligation of treating its internal gold debt in a similar manner. Recognising this obligation, Government has already converted outstanding gold obligations, to the amount of £16,088,062, into obligations payable in currency, £1,303,256 only now remaining, which will be either treated in a similar manner, or the interest be funded. In this way the Treasury has been relieved once for all from the periodical and unsupportable burden of supplying gold for the service of these obligations, an ever-present source of disturbance to the exchange market. When the 1868 loan has been similarly settled, Government will have no internal gold obligations to meet of any kind. (iii) The first step towards equilibrium of Revenue and Expenditure has been realised by recovery of the moiety of Revenue requisite for meeting foreign obligations (about £2,000,000) in gold. By this sagacious measure the Treasury has been kept well supplied with the means to meet all its foreign gold obligations, which include repayment of the Treasury bonds issued in London (£1,000,000 per annum); the service of the Funding loan (£180,000 for 1899) and sundry other foreign obligations not included in the funding arrangement; all expenditure for Consulates and Legations as well as for war vessels previously contracted, and had a surplus of over £100,000, which has been remitted to London to serve as reserve, and another £100,000 yet in hand here. (iv) The Funding loan stipulated that the equivalent of the interest of the foreign debt and guarantees, calculated at the rate of 18d. to a milreis, should be deposited or burned *pari passu* with the emission of funding bonds. Twenty-four thousand contos have, in accordance with this agreement, been already destroyed, whilst, as has been stated, £100,000 in excess of the stipulated sum has been already remitted to the Government agents, Messrs. Rothschild. (v) The Revenue has been increased with the expectation of obtaining a positive surplus over expenditure for the first time for many years

As the outcome of, virtually, nine months' work, this is a satisfactory record; but so much still remains to be done that interest naturally centres in the future rather than the past. The fall of coffee definitely disturbed the equilibrium of foreign payments, and it is only by means of the suspension of specie payments by Government that it has been regained. There are but two courses to be followed, says Mr. LACERDA, in order to secure this equilibrium in the future—to reduce imports and payments abroad to the present level of exports, or to raise the value of coffee. He does not say how these two desiderata are to be brought about, but he favours the second rather than the first, which he rejects for fiscal reasons. If Government adopts his views, gives effect to them, and succeeds in raising the value of coffee, planters in India will have occasion to be grateful. But we have our doubts as to any schemes that attempt to interfere with the natural adjustment of the balance of supply and demand, or with the production of any important food staple. To raise the price of Coffee, Government would have to impose a very heavy export duty—much heavier than the present one—or else to restrict exports. The latter course would involve an innovation in administrative politics that would scarcely be generally welcome, and might even be dangerous. Similarly, imports must be restricted by means of an unusually heavy import duty if the efforts of Government are to be of service, and it must be borne in mind that, if values of imports be thus raised, a smaller quantity will be needed to produce the same effect as at present on "the balance of trade." The matter is a very thorny one, and the most that can be hoped from the Brazilian Government is that it will follow the example of the Government of India and deliberately inflate exchange. Coffee-planters here must be content with whatever benefit may thus accrue to them.

[PRIZE ESSAY COMPETITION.]

THE LABOUR QUESTION.

The Past, Present and Future Supply of Labour on the South-Western Ghauts of the Nilgiris.

When Planting was in its first stage in this district, the question of how to get coolies was one that never troubled or worried the enterprising Pioneer. The labour afforded by the several native villages in close proximity to the then young estates proved more than sufficient for the primitive and old-fashioned work which went on here in the 'forties.' Not only was labour plentiful in those days, but cheap also. Then the pay for a man was Rs.3/8 and for a woman Rs.2/8 per mensem, rates which the planter of to-day, with prices bad as they are, may well sigh for, but in vain. But these delightful conditions did not last very long. The excellent climate and good soil soon attracted many a planter, and as fresh estates sprang up like mushrooms in all directions, and tea made its appearance on the higher slopes, rates of pay rapidly rose, and local coolies were found insufficient to cope with the enormous increase of work. Before long coolies had to be imported from the plains to pick crop and

prune the coffee, and during the cold weather each fairly large estate had its gang of Canarese coolies in residence, and. after a few years' fluctuation, pay became fixed at Rs.6/8 a month for a man and Rs.4/8 for a woman. There was always plenty of labour to be had at that time, for as long as the manager gave the proper advances, he was able to procure as much labour as he required.

In about the year '80 prices, especially in coffee, were going down fast, so, fearing that their profits would become *nil*, planters here combined and lowered the rates of pay to Rs.5 and Rs.4 for men and women, respectively, per month. This, contrary to the expectation of some, scarcely had any effect on the supply of labour; but later on as prices rose considerably rates also rose to Rs.6/8 for men and on the western side to Rs.4/8 and on some estates Rs.5 for women. About this time, too, Canarese labour began to diminish, and after a short spell of a slight scarcity of labour, its place was refilled by low-caste Tamils; the change took place gradually, until of late years gangs of Canarese are only to be seen on a comparatively small number of estates.

This brings us to the present day, which is of more interest to us all personally.

Now, the local coolie is a very uncertain individual to depend upon. The local labour here consists mainly of Badagas and some Irrulas. The former have obtained a large amount of land of their own, and nearly every one of them has his field of grain or his small patch of coffee. Consequently he only comes for estate work when he has no work on his own land. Hence he is a most independent fellow, and seldom takes any advance that will bind him to work for any length of time on end. In spite of this he can always get work when he wants to, as he is a far more sensible and a much nicer fellow to deal with than the Tamil, being quite a gentleman in comparison. His usual style of procedure is to come and work for a week or so, get paid-up. and then to take a spell at work on his own land, and it is his uncertain comings and goings that show the planter that Badagas are not safe to depend on as a source of supply. As a worker on the roll, he is decidedly unsatisfactory, but at contract labour he works very hard, although he must be very carefully watched, as he is extremely fond of slurring it over. Pruning and weeding are his strong points.

We might add that, owing to their grain crops having to a great extent failed, this year Badagas have been far more regular in their attendance on estates, and in much greater numbers than is usually the case.

The Irrulas live in the jungle on the lower slopes. They also are unreliable as a source of labour, as they, too, are not dependent on pay for their living. They do not own land to the extent that the Badagas do; but they never are afraid of starving, as they live a great deal on wild fruit and a kind of root that they dig up in the jungle. They are excellent workers with the axe or clearing knife, good pitters and very clean weeders, but, on the whole, are very slow.

The imported labour consists of different low castes of Tamils, and an occasional gang of Canarese. The latter are much the better workers, but are very troublesome. The Tamils come chiefly from the Coimbatore district. and are mostly miserable specimens of humanity. The supply of these for the last two years has been ample, and in fact at times quite superfluous. As a general rule, there are, on an estate, about twice as many Tamils as all other coolies together. They begin to come up to estates in the beginning of June, and by the end of July the roll is generally full up. They stop until the 31st March, when they all disappear to their homes. They always take a week's holiday in February for the Karamudday feast As workers, they break the heart of every planter. They feign stupidity and incapacity with a studiousness worthy of a better cause. Of course, all imported labour is advanced, the general rate being Rs.5 per coolie, though some estates give as much as Rs.10, which is too high a figure to be safe, to say nothing of its being much more than is necessary.

As for supply of labour in the future, it is very hard to prophesy. There is no reason to believe that rates of pay should rise; in fact, in view of such bad prices as we are getting now, it would be worth while for planters again to combine to lower the rates somewhat. It was done before, and there is no reason why it should not be done again. Most likely the local labour will become, if anything, more independent than ever, and, except such years as their grain crops fail, the planter will have to make provisions for doing without the Badagas to work on his estate. On the other hand, the Tamil shows no sign of wanting to keep away from the Hills. As long as there is work to be done, he is always ready to come, as he recognises that he is well treated and well paid, and he generally manages to keep in fairly good health, considering the difference of temperature and climate on the Hills to what it is in the plains. If the plague comes up here, then we may expect a bad time of it, as the Tamil prefers to die in his own country, rather than to run the risk of being well looked after and cured on the Hills, as he seems to fear anything in the shape of a hospital. But it is no good dwelling on the dark side of possibilities, so we must trust that the dread pestilence will not make its way up here, in which case, there is no likelihood of our being at a loss for labour, although we may be hard pressed at times, but no worse than we have been in the past.

C. B.

TEA FROM SEED TO CUP IN SOUTHERN INDIA.

(By Thomas Brown, Glendale, Coonoor.)

ERRATA.

In Paper, No. IV.

For Re-tipping axe with steel, As. 2.
Read do. do. „ 4.

In Paper No. V.

For 1 rafter 12 feet × 4″ × 3″ = 12 × $\frac{1}{12}$ =
Read do. do. do. = 12 × $\frac{7}{12}$ = 7

VII.

Second Year.—The number of coolies employed this year need not exceed 150 with a roll-call total of Rs.750, unless it is decided to prepare for the erection of the Factory by excavating the site and cutting bricks and tiles. The work will be keeping roads and drains clear, weeding, cutting out stumps, carrying and stacking fuel, and, most important of all, the provision of some 50,000 plants in pottles to be put out as supplies.

Seed for Second Year.—Five maunds will be required to give the necessary number of plants. Any surplus can be put into beds as reserves, in case the number of pottle-plants should prove insufficient.

Nursery Grounds—can be pitted and planted-up, as but little of the space will be required for the number of plants These plots are frequently left out of consideration for years and form ugly blots on a nice field.

Swamps—will need attention and draining. For economy and efficiency, there is nothing better than the ordinary open herring-bone draining:—Run, first of all, a drain down the centre, and let a diagonal one come down into it, every 10 yards. If the drains be 18 inches wide and 18 inches deep, which is sufficient as a rule. a cooly will, with a good cutting spade, do the full task of 15 running yards.

Revetments—may be required, wherever the land shows signs of falling away. These, as already stated, are done for about 6 annas a cubic yard. Care must be taken to prevent the contractor from building too broad a structure, putting in 3 feet width, where 2 would suffice. Ordinary coolies are useless at work of this kind. It is essential to have men that are accustomed to the work. The Wuddurs are excellent builders, but need close supervision. The work done by Badagas is more substantial, if not so neat, as that of Wuddurs.

Staking—the plants, where the wind is severe, may be necessary. A stake driven by the side of the plant, to which it can be tied loosely by a piece of fibre, will serve the purpose.

Numbering Fields—will be necessary. Divide the whole into 15-acre plots, as nearly as possible, using the roads to bound each piece. A name is preferable and more easily remembered by coolies. It is very difficult to work a garden that has not been correctly marked-off, so that the greatest care should be given to this work. In fact this should be done at the onset, in taking account of the pits dug. In planting, the number should be again checked and registered Later on, separate contracts for pruning, for weeding, etc., can so readily be given by an accurate account of number of plants and acreage.

Mode of Counting.—An excellent way is to count up and down the lines until 100 is reached, then continue counting the extra in the line, marking this number on a tin tag that can be fixed at the bottom of the line, then, gathering all the tags together, you have the number correctly in hundreds *plus* the odd numbers added together. In the case of established gardens, these tags can be left fixed to a bush as a permanent record; that is ever useful in apportioning work.

General Remarks.—We have seen young planters puzzle themselves as to whether they ought to count the bushes, or holes, on both hands, and need to remind them (simple as this may appear) that the reckoning must be on *one* hand only, or they will bring out double the quantity. We have heard of contractors receiving double payment in this way. Sad it is for poor proprietors. Roughly, there are 1,000 trees to the acre planted 6 × 6, and almost any "griffin" with this before him, asked how many planted 3 x 3, will promptly reply 2,000, and will not see for some time that there are 4,000, or four times as many. There are few old planters who will not bear testimony to this fact. We therefore mention it, to put young men on their guard! In deciding tasks, it is as well to bear in mind that a cubic foot of wood weighs 50 pounds; of granite 180 pounds, and other substances can be roughly guessed at. That a cooly can hardly be expected to walk over 12 miles with a load for the ordinary 4-anna wage, day in and day out.

THE 1-lb. DRAFT.

The great fight has been fought, and the combatants have come to the conclusion that peace is better than war. Of late there had been a silence that pointed to an armistice, and rumours of "compromise" were in the air. Now, the treaty of peace has been arranged, and while the dealers win on the 1-lb. draft question a sop has been given to importers in the shape of a promised alteration in the manner of reckoning the tare—such alteration to come into force on 1st October. Towards the close, the battle—if indeed it can be called one—went on quite calmly, and all we heard about was unimportant skirmishes that seemed to be made merely to keep the men's "hand in." Reuter came in for "a slanging" for not appreciating the great struggle as he ought to have done. Ceylon men "disappointed" their Indian brethren, but were satisfied with themselves nevertheless. Calcutta exporters were honestly trying to support the London Association that declared war. Yet there was a deep feeling that this declaration was as ill-timed as it was ill-advised, and that the whole conduct of operations on the part of growers and importers had been unskilful. In the first place, the apparent attempt to "surprise" the enemy was a blunder. Then, even the foe himself pointed out that it was difficult to see "why the importers should select a moment like this, when the season is opening and when prices are favourable to them, to quarrel with the whole of their customers." Now that the struggle is over, the respective treasuries will begin to issue accounts, and we feel convinced that the cost on the side of growers and importers will make calculations of the sterling equivalent of the 1-lb. draft look very small. The *Produce Markets Review* is a dealers' paper; but there is a great deal of sense in its remark that "the ultimate result of the accumulating supplies must undoubtedly be a heavy drop in prices, and as little as 1d. per pound continued for one month only would, with the accrued dock charges, interest, and insurance, wipe out the £70,000 a year proposed to be saved by the abolition of the draft, a saving which, as we have said above, is more than problematical." As regards China's competition, opinions vary. In view, however, of the fact that the present tendency is towards increased European control in China, that this would mean the removal of obnoxious taxation and the opening-up of the country to trade, and that tea would probably be the first staple to receive attention, we cannot but think that Indian and Ceylon tea-planters should have avoided any course calculated to put British tea-dealers out of sympathy with them. Tempting as is the thought that profitable lessons might be derived from a review of tactics and operations, we refrain nevertheless, and content ourselves with quoting and indorsing the following remarks of the *Madras Mail*:—"The news that the dispute in the tea-trade has ended in a compromise will be welcome to planters out here. The 1-lb. draft is not to be abolished, but importers are to have

a slight modification of the Custom-House terms that have in reality troubled them as much as the draft. Instead of weighing to a lb. (every fraction *against* the seller) tare will now be weighed to the ½ lb. We scarcely think that the weighment of the tare to the ½ lb. will make any very important difference, but at least it marks a move in the right direction, for hitherto every condition of sale appears to have been framed by buyers and to the prejudice of sellers. We fear importers will have found the fight costly, while grocers will scarcely have suffered at all; but it is well that the struggle has been ended. We trust that importers and dealers will shake hands now, and be all the better friends for having tested each other's strength and courage." Figuratively, arms are laid down, the hoe and the paper and string taken up. Foes have become friends again. May the good understanding arrived at endure for ever!

HYBRIDISATION.

We scarcely think our readers will require an apology from us for the length at which we report the proceedings of the Hybridisation Conference. There is in these proceedings a fund of information as to the general principles of hybridisation, and there is also sufficient detail to give an idea of experiments conducted, with more or less success, with various plants. Mr. Hurst's conclusions are very interesting, and planters may derive useful hints from several of them. For instance, "slight variations are seldom inherited." Distinctly marked features are desirable, therefore, in all plants selected for experiments in hybridisation. Unfortunately, Mr. Hurst's theory of partial prepotency is not explained in detail. Another interesting point was the declaration that the current opinion as to the sterility of hybrids is erroneous, and Mr. Hurst's remarks on the stability of hybrids should also be pondered. There are, of course, hybrids and hybrids. Many are probably almost sterile, or prove so because the conditions of growth, essential to their propagation, are not fully understood. When, however, it is placed on record that all hybrids are not sterile, and that stability can be assured, it remains for planters to make their experiments with a view to providing for the stability of such hybrids produced as may prove more fruitful, improved in quality, or more near to disease-proof than the parent-stocks. If experiments fail at first, planters will be more likely to go on trying when the knowledge is present with them that the goal at which they aim is not impossible of attainment.

TELEGRAPHIC QUOTATIONS.

	July 29	31	Aug. 1	2
London.—				
Bar Silver	27 11/16	27 3/4	27 3/4	27 3/4
Bank Rate	3½%	3½%	3½%	3½%
Coffee				
Mysore av. (B) size	...	...	51s.	51s.
Ceylon	...	105s.	...	105s.
Stock, tons ...	...	...	26,242	...
Ft'nt's landings ...	...	...	1,700	...
Do. deliveries ..	...	...	1,600	...
Cinchona ...	...	...	..	quiet
Per unit ...	...	...	1½	1½
Stock, pkgs. ...	...	...	...	18,000
New York.—				
Coffee—Fair Rio ...	5¾	5¾	5¾	5¾
" Futures, Sept.	5·50	5·50	5·50	5·51
Silver—Comml. Bars	60½	60½	60½	60½

NOTES.

The Brutal Cooly. This is the strain of an article on "Planter *v.* Coolie" in the *Planter*. The brutal planter is of the past, the brutal cooly it is that is ever with us.

The Dumont Coffee Company. There is some interesting reading in an extract published on another page. This shows that there have been other influences at work, besides dull markets, to bring about the non-success of this company.

Coffee. The *Moniteur des Interêts Matériels* says the Brazilian coffee crop of 1895 with 6,500,000 bags realised £25,000,000. The result induced increased production, but in 1897 the exportation of 9,500,000 bags only brought in £10,000,000, and the 10,000,000 bags in 1898 only realised £15,000,000.

Crop Prospects. Apparently, prospects throughout all the tea districts in Northern India are not considered favourable this year, except in Cachar, where prospects are favourable. Rainfall excessive. A month ago the weather was described as generally too cold for the time of the year in most districts, and as checking leaf.

The Tea Exclusion Act in the United States. The New York Chamber of Commerce reports that the result of the Tea Exclusion Act, together with the imposition of the duty of 10 cents per pound in June 1898, has been to restrict imports, eliminating the trashy stuff that previously found an open market in the States, and enhance values to some extent; but that, with these exceptions, trade has developed no new or important feature.

Calcutta Tea Sale. Competition was keen on the 28th ultimo, and the tone of the market very firm. There was a good demand at previous rates; common teas were dearer; and a strong enquiry prevailed for outside markets, particularly the Colonies. Pekoe Souchongs may be quoted one to two pies dearer. It may be remarked, by the way, that English dealers can always, if they wish, prolong the great Tea Fight by replenishing their stocks with supplies from Canada and other markets.

Planters as Traders. Commenting on the report that 34 planters were about to quit India and commence business in the U. K. as agents for the sale of Indian teas, the *Planter* says:—"This is the first we have heard of the matter. If it were true it would be the very thing to save the industry from the wholesale dealers. Such action is what we have repeatedly advocated." More's the pity! Let the cobbler stick to his last, and the planter to his plantation work.

Colombo Tea Sales. At the public sales of tea at Colombo on 26th July about 11,636 pkgs. = 922,816 lbs. were offered, of which about 9,418 pkgs. = 352,622 lbs. were sold. No remarks about any conditions of sale were offered at the opening of the tea sale at the Chamber of Commerce Rooms; and business proceeded as usual, except that, as the buyers entered the

room, there were ironical cries of "No Sale" raised by those already in their places.

Coffee in Brazil. The *Rio News* reports that near Cravinhos, S. Paulo, a plantation with 50,000 coffee trees, formerly valued at $181,000 has been bought by Dr. Alfredo Pujol for $22,000. The journal from which it takes this item estimates the growing crop at 30,900 arrobas; but this, says our Rio contemporary, is evidently a mistake, for, although there is no lack of individual instances in which trees bear even more than 20 lbs. of coffee each, we have never before heard of a whole plantation's averaging a third of that yield per tree.

Municipal Coffee. The *Rio News* says that the Municipality of Bariry, S. Paulo, has about five millions of coffee trees planted of various ages. Its first crop will be gathered this year, which is estimated at 150,000 arrobas of coffee. A coffee plantation at Mococa, Sao Paulo, was recently sold at judicial auction for the sum of $90,000 its valuation being $202,000. The plantation cantained 112,000 coffee trees, 5,000 arrobas of picked coffee, coffee-cleaning machinery, buildings, saw-mill, etc , etc. It looks like a decided sacrifice.

The London Tea Market. Messrs. Gow, Wilson & Stanton cabled to the leading Colombo papers on 27th ultimo that the market was generally steady; Ceylon Pekoe Souchong (fair liquoring) standing at 6¾d; the average for the week at 7⅜d. (¼d. up). According to Reuter, there was a good demand for Ceylons at fully previous rates, and 7,000 packages were sold out of 8,000 offered. Of Indian, 4,000 were sold out of 6,000 offered, but the average price was said to be unquotable.

Ceylon Tea in London. A private telegram received in Colombo from Mincing Lane, on 26th July, stated that the market in Colombo was quite ½d. a pound above the home market for common teas. Pekoe Souchongs selling at Colombo at 33 cents were said to be only worth 6½d. in London. The London correspondent of the *Times of Ceylon* wired the same day:—"The importers continue solid for the abolition of the Draft Allowance. The next sales of Ceylon tea to be held under the revised conditions are announced for Tuesday, the 14th August.

The finely-cut Tea Trade. To the complaint of the planter that there is but small profit in tea-planting the retailer retorts with wailings about the fine-cutting that is resorted to in the tea-trade. That someone makes tea pay, however, is clear from the reports of such companies as Brooke, Bond Co., Ld. This company pays 15%, carries £5,000 to the reserve fund, writes-off £10,000 for the good-will account, and carries forward £2,333-15-8 to next year's account. The good-will, which originally stood at £100.000, is now £26,000, while a reserve fund of £37,000 has been built up. This in seven years.

Tea Blights & Pests. We give elsewhere, in this issue, a very interesting Ceylon circular on tea blights; also further particulars of the pest that has afflicted Morowa Korale. These should be carefully studied, for the experience of Mr. Stuart shows very clearly that there is no knowing what a day may bring forth. Planters should forearm themselves with all the knowledge they can acquire, so that each man among them may be able to deal promptly with pests should it ever be his misfortune to have them holding high revel among his crops. We also give particulars of a pest that has come to the front in the Panadure District, Ceylon.

China Tea Exports. The *Ceylon Observer* says:—"Up to July 15th there is no indication of activity in the China tea market with reference to exports to the United Kingdom. Indeed to "the United Kingdom and Continent" the exports for 1899-1900 are 1,250,000 lbs. less than at the same date of 1898-99. The total this year so far is 10,281,615 lbs. and this will do very little to make up for the want of Ceylon and Indian teas to the dealer." This may be: but it is known that Japan dealers have been holding supplies back in anticipation of a rise of prices, and it is quite possible China traders have done the same.

The Currency Committee's Report. A Reuter's telegram, dated London, 28th July, states that a Despatch from the Secretary of State for India in Council to Lord Curzon, says that the Government has concluded that it will be advisable to accept and act upon the principles recommended in the Currency Report, and has therefore decided to maintain the closing of mints. The Despatch directs that steps be taken to make the sovereign legal tender at a ratio exchange of Rs.15, and enjoins making gold freely available for foreign remittances. Special attention is called to Mr. Hambro's banking recommendations.

A Duty on Coffee in the U. S. recommended. The *American Grocer* remarks:—A tax on coffee would yield from $16,000,000 to $40,000,000 without imposing as much of a burden on consumers as was the case in 1896, when average cost for No. 7 Rio for the year was 15 cents. To-day No. 7 is worth 6 cents; with a two-cent duty it would cost 8 cents or less, and with a five-cent duty would be two cents lower than three years ago. A duty would work in favour of better average quality; add no perceptible burden upon the people; distribute the tax almost as evenly as a tax on sugar, and more so than the tax on tobacco; give the Government needed revenue.

The Coorg Coffee Crop. The official forecast of the coffee crop in Coorg for 1899-1900 is calculated at 1½ cwt. per acre for European estates and ¼ cwt. per acre for Native estates, and it is estimated that the total out-turn will be about 2,800 tons—2,100 from European and 700 from Native estates. The estimated average yield per acre of ordinarily well-cultivated coffee in full bearing for the present year is only 2 cwts. as against 3 cwts. last year. Last year's yield was estimated at 4,200 tons, and the toll-gate returns showed that 4,134½ tons had been passed through. The amount of coffee exported during the ten previous years was 33,268 tons, or an annual aver-

age of 3,326 tons. No particular reason is assigned for the comparatively small crop expected this year.

Trashy Tea in Russia.

The *Canadian Grocer* says the lowest-priced tea retailed in Russia is 80c. per lb., and it is not of as good quality as the 25c. tea retailed in Canada. Our contemporary's authority for this statement is a Russian gentleman who has visited Canada. Eighty-cent tea in Russia he termed trash. The chief cause of the high price of tea is, of course, the high import duty imposed for the purpose of protecting the home tea growing industry, which is about as low in its possibilities as the tariff is high in its exactions. The gentleman in question, who lived not far from the tea gardens in the Caucasus, corroborrated what Mr. R. V. Webster, of The Co'operative Tea Gardens-Association, Colombo, Ceylon, told *The Canadian Grocer* some weeks ago in regard to the stunted character of the tea-plants in that part of the country.

A Warning.

The following remarks by the Secretary of Birmingham Grocers. Association have much point:—"After being in operation for so many years, to take away the one-pound draft was considered to be one of the greatest hardships the trade had had to contend with for many years. It was only by drastic measures that they could cope with such an Association as the Indian and Ceylon, which intended to ride rough-shod over the trade. If the suggested boycott were carried out, prices would be brought down to ruinous figures, and a greater loss would result to the Indian and Ceylon Association than the scheme, if carried out, would recoup in years. He thought they should support the London Association tooth-and-nail." Another speaker, at a recent meeting of the Management Committee of the same Association, observed:—"I think it is a very unwise act on the part of the Indian and Ceylon people, because it will throw us back to China teas."

Trade Customs.

The following is from an old report of Messrs. J. C. Sillar and Co.'s, dated August 4th, 1881: "*Trade Customs.*—A singular case of dispute came to our notice the other day. An importer of Indian teas sold a parcel of cases, each containing twenty lead canisters weighing nett one pound each. The contract was worded 'Public Sale conditions, clauses relating to interest of money excepted.' The buyers demanded one pound per case draft, which the importer refused to allow. Now on reference to the Public Sale Catalogues of Indian teas, it will be observed that in rule 3 of the sale conditions the clause relating to the allowance of the pound draft in the China catalogues is omitted. By law and equity, therefore, the importer was in the right, but the dealer pleaded 'trade custom' and the matter was finally compromised. The whole trade customs, as they are called, require thorough revision." Truly, history repeats itself.

The Purchase of Green Leaf.

A Ceylon planter asks someone to correct the undernoted figures "to settle a dispute between seller and buyer of green tea-leaf." He says:—A native gentleman who owns several acres of tea maintains that 6 cts. a lb. of green leaf pays the purchaser at present market rates. I tried to persuade this self-constituted "Solomon" to the contrary, and quoted the following figures:—

A little over 4 lbs. green leaf goes to make a lb. of tea; 6 cts. I will say 1 lb. tea	= 0·25
Manufacture, boxes, tea lead, and laying down in Colombo	0·06½
London charges	0·06¼
Losses in Government warehouses in weighing ...	0·00¼
	0·38
Medium estate's average per lb 6½d. @ 1s. 4¼d. Profit nil. ...	= 0·38½

To this the inqurier adds:—"Besides the above where is Draft Allowance? And what about wear and tear of machinery, jute hessian for withering, &c., &c.?"

Quinine.

At a meeting of brokers interested in Quinine held at the London Commercial Sale Rooms, on 14th July 1899, the following suggestions were considered:—(1) That the number of tins, brand, and weight, as printed on the wrapper or tins shall be ascertained, and stated on the warrants by the docks or wharfingers, on all Quinine entered after the month, excepting when the Quinine is imported direct from the factory, and the entry is made by the recognised agent of the manufacturer. (2) That in case of reweights each warrant shall have at least one reweight stated on the face, and the average reweight of each 1,000 ozs. worked out separately. (3) That where Quinine has been already reweighed, buyers shall not have the option of taking it at landing weights with 2 per cent. allowance. (4) That Quinine imported from the United States be sold on reweights. (5) To decide whether fractions of an ounce shall be invoiced or not. (6) Any other questions that may arise. Some of those present spoke in favour of the proposed alterations, others against. In the end a subcommittee of three was formed to embody the resolutions and the meeting was adjourned for a week.

The Grocers' Federation, the 1-lb. Draft.

In the annual report of the Grocers' Federation, there is the following paragraph:—*The Pound Draft on Tea.*—The proposal to abolish this long-established and necessary allowance has been promptly resisted both by the affiliated associations and the committee of the Federation. At the great trade meeting held to protest against the change, the Federation and some of the affiliated associations were represented, and Mr. H. Cushen spoke strongly on behalf of the Federation. In the committee which was formed at that meeting the Federation is also represented, and at a conference between the committee of buyers and the importers the Federation was again represented. Such an unjust proposal as to abolish this draft must be opposed by every possible means, and the committee are working in hearty co-operation with the wholesale trade in the matter. The suggested abolition also raises an important question as to how far an old trade custom can be altered or a new one established without the consent of all parties. The Federation may be justly said to represent the retail trade, and the committee therefore claim that in any change

or in administration of trade custom as affecting those they represent the Federation shall be consulted.

Shipments of Brazilian Coffee.

Shipments since the commencement of the current crop were, on 16th June, 1,674,235 bags less than for the corresponding period of the preceding crop. Reports of heavy rain in the interior are to hand, and it is said to be almost certain that there will be a falling-off in receipts. The latest Santos report (16th June 1899) says :—The quality of receipts continues to improve and more good-sized coffees come to the market, low grades, however, become very scarce and it would undoubtedly be the best if planters kept all their *escolha* and chips up country, instead of swelling receipts and stocks by a quality which at present prices can only leave a loss, and by its very appearance, by being counted as part of the stock, contributes to bring prices down for the better qualities. Washed coffees met with a little better demand, although prices have hardly advanced. The demand for "peaberries" is greater than the supply, and high prices are paid. We quote $6,700 for "superior." "primes" are sold at a premium of 300 to 500 reis according to quality "goods" at 400 to 500 reis discount, but this quality is very scarce and the composition of "good average" will remain as scarce as last year. At the above prices a good all-round business was done, although the tendency was mostly in favor of the buyer.

B. C. African Tea.

A Mincing Lane report on some samples of tea from Mlanje states that they compare unfavorably with the low grades of East Indian British grown and Java teas. Messrs. Wilson, Smithett & Co., say :—The sample of No. 1 is a very small one, but it appears to be rather better leaf and not quite so mixed as No. 2, and in the present strong market for the lowest grades would be worth 4¾d. or 5d. per lb. in bond. No. 2 is an unassorted tea rather rough in leaf worth about 4½d. or 4¾d. per lb. The liquors of both are practically identical, being thin and flavourless, but quite clean and marketable. The defects in the teas, both as regards leaf and liquor, are, however, in our opinion, capable of removal and appear to be due rather to faulty manipulation than to any lack of virtues in the leaf. In the first place, the plucking does not seem to have been very carefully performed, there being too much stalk and a coarse leaf. Again, neither withering nor fermentation seems to have been satisfactorily carried out. From the brown appearance it would appear to have been withered too long and to have been *dried* rather than *withered* and the fermentation seems to have been very irregular. A few of the infused leaves are of a good *coppery* colour, but the general appearance of the outturn is too dark, although, in some measure, this is due to some of the leaves having been scorched in the firing; a lighter fermentation, however, would, we think, give more point and pungency to the liquors. The rolling process also does not seem to have been quite effectual enough. If, after withering the leaf, the leaf had been rolled sufficiently hard, enough to break the cells of the leaf, the made tea would have drawn a stronger liquor and have had a better "twist." With due attention to plucking and manufacture, we see no reason why the tea from this estate should not prove of good commercial value.

GENERAL ARTICLES.

THE MOROWA KORALE TEA PEST.

The *Times of Ceylon* of 26th July says :

The slug, or caterpillar, which has attracted so much attention on Silvakande estate, Morowa Korale, by stripping ten acres of tea in ten days, is not apparently so new as was supposed. Correspondents are cropping up who have had it on their estates before, and a satisfactory feature is that they do not seem to be very alarmed at the pest, though none of them were visited in such a wholesale manner as the Superintendent of Silvakande. A correspondent to-day—"W. T. B."—identifies the pest, as did Mr. R. W. Tatham yesterday, by its "stinging hairs" and we think their identification is likely to be more correct than that of "Thosea recta." There is little doubt that it is the "nettle bug" described below, in which case the caterpillar develops into a moth, and it is thus imperative that the pest should be dealt with in its caterpillar existence and destroyed by kerosine, carbolic solution, or lime. The description of *Parasa lepida* in Mr. E. E. Green's work, referred to by "W. T. B.," is as follows :—

THE BLUE-STRIPED NETTLE GRUB (*Parasa lepida*).

There is a family of caterpillar (the *Lima* colidæ) many species of which are armed with stinging hairs, and which for this reason may appropriately be called 'nettle grubs.' There are several kinds that feed upon the tea plant, the most conspicuous amongst them being the larvæ of the *Parasa lepida*. They are gregarious and are sometimes present in such large numbers as to completely defoliate the trees upon which they are feeding. A neighbour who sent me specimens told me that more than fifty of them had been removed from two adjacent tea bushes, in another instance a group of four or five trees were left quite bare, and the superintendent, searching for the cause of the mischief, received practical demonstration of the stinging properties of the caterpillars. The same species is frequently found on coffee and occasionally upon cinchona trees. Mr. Nietner included it, under the name of *Licomodes graciosa*, in his catalogue of "Enemies of the Coffee Tree."

Upon the first occasion that I saw a cooly stung by this caterpillar I had the curiosity to experiment with it upon myself. I touched it lightly with the back of my hand and immediately felt a sharp stinging sensation similar in kind to, but rather more intense than, that produced by the common stinging nettle. Small white lumps were raised where the poison had penetrated the skin. The pain though severe at first did not last very long.

The eggs are generally attached to the under surface of the leaves. Their form and colour make them very difficult to see. From fifteen to twenty are laid together, closely overlapping each other like the scales of a fish, which they resemble also in their flattened oval shape. They are almost transparent; the dull-yellow ring-shaped embryo can be seen through the shell.

The full grown larva is of a brilliant yellow green colour, with a rich lilac stripe along the middle of the back, and a bright blue stripe on each side, each stripe bordered by a darker line of the same tint. The poisonous spines are arranged in tufts along the body; they are pale green, four tufts near the head and another pair near the tail tipped with SCARLET: there are four large black spots at the hinder end of the body.

Specimens of this kind of caterpillar that have been feeding upon tea are much more brightly coloured than those that have been reared upon coffee leaves. The latter are ornamented with green stripes and shines upon a pale greenish white ground, they might easily be mistaken for a distinct species. Another peculiarity of these caterpillars is the rudimentary condition of their legs. Their movements are more like those of slugs and snails than of ordinary crawling insects. The cocoon of the 'nettle-grub' is hemispherical, of a dark brown colour, closely resembling the tea stems upon which it is usually placed. It is thin but very compact formed of silk strengthened with a tough cement secreted by the insect.

The moth escapes from the cocoon by a lid-like opening at one end. It is a gaily coloured insect; its front wings are chocolate-brown with a broad emerald-green band stretching obliquely across them. the hind wings buff, tinged with chocolate at the margins; front and side of the thorax emerald-green, and a small spot of the same colour at the base of the two front legs.

As in the case of most of the leaf-feeding caterpillars, the injury to the tree is only temporary. The grubs when found should be removed and destroyed, but, under the circumstances, some other method than 'hand picking' will be found advisable.

The concluding paragraph is reassuring, and we think it is now settled that our tea is not to be ravaged by an enemy more deadly than grub or bug was to the coffee tree.

The same paper says on the 27th instant:—We regret to hear that Messrs. Boustead Bros. have received news from the Superintendent of Silvakande estate that, so far from the insect pest which has appeared there recently being eradicated, it is rapidly spreading, and is causing a good deal of concern to those interested in the estate. According to the estimate of Mr. Gordon Stuart, the caterpillar, which we may accept as the "nettle grub" described in Mr. Green's book, is attacking about five acres of tea a day and the means adopted to prevent its onward march have so far proved ineffectual. Soon after the appearance of the slug, Mr. Stuart commenced cutting out belts of tea round the part affected, the belts being 60 lines wide, and the demolished tea, as well as the affected bushes cut down, was promptly burnt. To Mr. Stuart's dismay, however, the pest has appeared outside the belts, in isolated patches to all appearances attacked by caterpillars having no connection with those already dealt with. At least there has been no evidence to the contrary, and the belief is that the eggs which produced the slugs must be scattered widely over the estate, and are just now coming to life. It is also supposed that the moths responsible for them must have laid their eggs broadcast during the wet weather, and that the fine, warm weather now being experienced is rapidly hatching them; and furthermore that the eggs must be laid in the ground, as no traces of them can be found either on the estate or in the neighbouring jungle. Besides cutting down the belts mentioned, the Superintendent of Silvakande has tried the efficacy of spraying a solution of kerosine oil over the bushes; and, though even a weak solution seriously affects the slugs, while pure kerosine oil kills them outright, the spraying has done very little good, as the slugs invariably occupy the lower sides of the leaf where it is impossible to get at them except with the hand. It is now intended, we believe, to drench the belts cut down with this solution of kerosine, and also to dig trenches round the affected areas and fill them with quicklime, so as to prevent the grubs moving beyond their present quarters; and this drastic step should prove effectual if it is not the case that the pests are hatching in other parts of the estate. The outlook is not very cheerful, because, even if the damage done is only temporary, it means a serious loss this year to the estate, and, of course, the pest may be of annual recurrence, it only being necessary for the moth of the caterpillar to find some convenient place to lay its eggs on or near the estate. The moth must be a pretty large one from the size of the caterpillar evolved. It is very strange that the coolies on Silvakande have never seen it, or any trace of it, hitherto, and the probability is that the moth is a very prolific one, and that each one is responsible for myriads of eggs, so that but a few moths may be the originators of the mischief. Mr. Stuart is sending down to Colombo a cocoon of the caterpillar, and also fresh specimens of the latter, the first ones having been so decomposed as to have been destroyed; and it is hoped that scientific enquiry may help towards a solution of the problem to be solved, namely, the eradication of the pest. Thus far, on Silvakande estate, only tea which has not been pruned for a long time has been attacked, so that there has not been a great loss of leaf; but the neighbouring tea has only just been pruned, and, if the pest gets to this, of course, the damage will be considerable. The two fields at present affected are a 60 and a 70 acre field, and these 130 acres, according to present accounts, will very shortly have been overrun. Adjoining Silvakande estate is a native tea garden, and beyond that is Campden Hill, the property of the United Planters' Company, on which there is naturally a great deal of alarm at the advance of the scourage; and, if it once begins to spread beyond Silvakande, there is certainly no guessing the limits of its devastations.

The *Times of Ceylon* of 28th ultimo says:—

We have received from the Superintendent of Silvakande Estate—as indicated in a letter elsewhere—a supply of the poochies which have been causing so much trouble on that estate, and have forwarded them on to a gentleman who, we trust, will be able to supply us to-morrow with some information about them of value from a scientific as well as a practical point of view. It is a great pity, in this connection, that Mr. E. Green is out of Ceylon, and Mr. Haly away from Colombo, as they might have given valuable assistance in the matter. When Mr. Haly returns from Trincomalie, his services ought to be secured at once. The latest news from Mr Stuart goes to show, we are glad to say, that the pest has at last been checked, and that there are hopes that the worst is over, at all events for the present. About twenty-five acres of tea, however, have been completely stripped by the slugs, besides the damage done by the preventive measures undertaken. We have not learnt yet what have been the principal means of checking the scourge, but we believe that the kerosine oil treatment has been applied as far as possible, and that lime has also been used to exterminate the poochies. Mr. Stuart is likewise still further widening the belts he has cleared, and is cutting down all the tea inside them. It is now reported that the slugs, when exposed to the sun for any time, shrivel up and, apparently, die, which is very satisfactory, as the same cause which has seemingly brought them into existence is thus a factor in their extermination. We would presume also that the insects would prefer the shelter of the jungle to estates, and also that they are not likely to attack recently-pruned tea. We hope that Mr. Stuart's further reports will tell us of a still greater improvement in the situation, which will be welcomed by none more than his neighbours in the Morowa Korale, who must have regarded the spread of the scourge with natural alarm. Of course, there is still the danger of a fresh deposit of eggs on some other part of the estate, but, as a little more is now known of how to deal with the pest, it will be possible to grapple at once with the scourge on its re-appearance without waiting and allowing it to get ahead. Mr. Stuart is having a sharp watch kept all over his estate, and poochies of whatever kind are brought to him. We hope the worst of Mr. Stuart's anxieties and troubles are now over, and that they will not be reawakened.

In the *Times* of *Ceylon* of 29th ultimo we read:—

Mr. F. M Mackwood, to whom our correspondent "Thosea Recta" referred us, and to whom we forwarded specimens of the insect pest found on Silvakandy estate for his opinion, writes to us:—

"The caterpillars you sent me I had not previously seen, but they belong to the *Limacodidæ* family, and are known either as *Thosea recta* or *Natada nararia*. When some of the moths emerge I shall be able to say which of the two they are. If the caterpillars are destroyed without delay, the pest is not to be feared; but if the moths are allowed to emerge from the cocoons in numbers, they are capable of spreading over a considerable area, and, by laying eggs for a second brood, greatly increase their ravages. Unfortunately, the caterpillars cannot be handled with impunity, as their spinous tubercles cause great pain whenever they touch one's skin. The only remedy I can think of is to prune down the bushes of the infected area and burn the prunings, and thus destroy larvæ and cocoons alike."

THE DUMONT COFFEE COMPANY.

Supplementing our remarks last week, we give the following extract from a London paper:—In October last the Dumont Coffee Company announced that it would be unable to pay the dividend on the preference shares for the second half of the year, and the directors now make the further unpleasant announcement that the interest for the half-year ended the 30th ultimo will also have to be "passed." The situation thus disclosed is little short of disastrous, and will require the very closest investigation. It will be necessary for the proprietary to institute an independent inquiry into the whole history of the affair from the moment of its original promotion, in order to learn how it came about that an affair which was floated under such respectable auspices, and for which the public were asked to give nearly a million and a quarter sterling less than two years ago has in that short space of time come thus lamentably to grief. The story of the issue is worth briefly recapitulating, if only for the purpose of illustrating once more the need for the exercise of the greatest caution in applying for shares in new industrial undertakings, even when vouched for by the presence on the prospectus of well-known and well-trusted names. The Company was formed to acquire coffee estates covering an area of about 110,000 acres in the state of San Paulo, Brazil. The capital consisted of £200,000 in ordinary shares, and £200,000 in 7½ per cent.

preference shares of £10 each, and there was besides £400,000 of 5½ per cent. first mortgage debentures. Mr. P. R. Buchanan, of the Land Mortgage Bank of India and the Empire of India Corporation (Limited), reported that in his opinion "If a Company were formed to buy the property for £1,200,000, such a Company would prove to be a sound and remunerative investment." A statement of that character coming from such an authoritative quarter, was bound to carry weight with the public, and it did so to a certain extent. The vendors were to take by way of purchase price £133,350 of ordinary shares, £133,350 of preference shares, £133,300 in debentures, and £800,000 in cash, making £1,200,000 in all. The estate was offered in November 1895 to Mr. Buchanan's firm, which subsequently acted as secretaries and agents to the Company, while that gentleman became chairman. Mr P R. Buchanan made the valuation of the property which was confirmed by Mr Robert Hart, and the accountants, from a personal examination of the books, "assessed" the profits respectively at £51,978, £66,128, £86,569, and £127,453 for the four years 1892, 1893, 1894, and 1895, without, however, "allowing anything for depreciation." So that there should be no misgiving about the profits for the last of those years, the vendors gauranteed their amount for 1896 at £120,000, and these were to be taken by the Company. In the result, however, the profits only worked out at £92,605, which after paying 10 per cent. on the ordinary shares, would have left only a bare margin of about £3,000 had the dividend and interest been paid on the whole of the several categories of the capital for the twelve months, but as the vendors made up the amount to £120,000, £83,500 was put to a reserve fund, and £11,400 carried forward. When the foregoing dividend was declared, the public naturally supposed it was on the entire capital, so that the showing was apparently well up to the prospectus promises. But, as was subsequently learned, those promises were falsified in a most startling and lamentable fashion. Another circumstance which doubtless helped the flotation was the statement that the whole of the shares and debentures had been underwritten by the directors and their friends, though the prospectus omitted to state on what terms this was done, the pernicious "waiver clause" being invoked to hide them away. It fortunately happened that for one reason or another the public did not respond to the invitation for subscriptions with the anticipated liberality, at all events not at the outset, and the underwriters and their friends had, therefore, to take up very large amounts. According to the share register at the close of 1896, the vendors and their friends would appear to have held among them nearly £400,000 of the total share capital. But by the following July this had been reduced to under £240,000 and a year ago to about £200,000. From this the inference would seem to be that as a result of the dividend announced for the first year, the large amount put to reserve, the substantial balance carried forward, and the impression created that the promises held out in the prospectus had been fulfilled, the public was tempted to buy. This gave the vendors, underwriters, and their friends an opportunity to realise, of which they took the fullest advantage. The point is not, however, one that need be enlarged upon here. The whole story of the real achievements of the business before it came to the public, the circumstances connected with the promotion, and the causes that have led to the collapse, will doubtless be fully gone into by the shareholders.

TEA BLIGHTS.

CIRCULAR FROM THE ROYAL BOTANIC GARDENS, CEYLON

TEA BLIGHTS:—The following notes on tea blights have been prepared at the request of Mr. F. G. A. Lane, Chairman of the Planters' Association, and to a large extent in consultation with him. The immunity from disease that tea has enjoyed in so marked a manner for many years is now disappearing; insect and fungus enemies, some of local origin, some introduced from Assam and elsewhere, are now attacking tea in many parts of the Island, and it behoves all interested in the cultivation to be upon the watch to recognize the signs of disease as soon as possible after they appear and to at once attack and as far as practicable eradicate the disease. The diseases are here, and all experience of cultivators in all ages and lands shows that such disease come to stay; they cannot be completely eradicated, but they can be kept in check if taken in time. Of course this involves a certain expenditure, but if the disease be early recognized and properly attacked this need not be large. Planters should make it a regular part of their work to learn to recognize the diseases and to teach this knowledge to conductors, kanganies, and coolies, and should remember that one diseased estate may reinfect all its neighbours in a few days if there be any wind, and thus cause them much loss or trouble.

The two chief fungus blights that are attacking tea in Ceylon are the Gray Blight, well-known in Assam, and a blight which has so far only been noticed in Ceylon, and which I have called the Brown Blight. Both are now to be found in most of the districts, but the latter is the more common of the two. It is not always easy to distinguish without the aid of the microscope which of the two diseases is present in an affected leaf, but this is of less practical importance, as the effects of the two are the same, and also the methods to be adopted for their treatment. Several other fungi have been observed attacking tea, and careful watch should be given in case of any spread of these. When a disease is observed to be spreading, no time should be lost in dealing with it.

GRAY BLIGHTS.—This disease is due to the attack of a parasitic fungus, known to science as *Pestalozzia Guepini*. It attacks tea in Assam, from which country it has very probably been imported with tea seed. It also occurs on camellias in India and Europe and on citrus (orange and many lime genus) in America, as well as on other plants in various countries.

It is purely a leaf disease. It is found chiefly, if not only, on mature leaves, and does not affect the flush by direct attack, but reduces it by injuring the older leaves, on whose proper performance of their duties the rate of flushing largely depends. If many of the old leaves are attacked by the disease, the amount of flush may fall to less than half what it was before the attack.

The first thing to look out for is leaves showing dead portions. If part of a leaf is dead and shows a gray or brown colour, the probability is that it has been attacked by one or other of the blights we are now considering. Of course, we know that drip of water on the leaf will produce this result, and it may also follow from the attack of insects; and sometimes from other causes. If the appearance results from any other cause than the attack of an insect or fungus blight, it is of little or no importance, is not infectious, and will not spread, and consequently the removal of the few leaves that may come under this category need cost little in time or trouble. The blights are foes of a different order, and spread so quickly when once started on an estate that they should be at once attacked. Therefore, bearing in mind that the blights in question are present to some extent in nearly all the districts, it will be good policy for planters to make a point of getting all injured leaves plucked and destroyed, as explained below.

In the case of the gray blight, the injured portion of the leaf usually turns of a light gray colour, which is fairly characteristic of the disease. The edge of the injured part where it joins the green part of the leaf is usually dark brown and the edge of the yet living part where it meets the dead portion is yellowish when held up to the light owing to the destruction of the green-colouring matter which is going on under the attacks of the fungus, which spreads from the dying portions into the living. When the fungus starts from one spore only upon the leaf, the disease appears as a small gray spot, which widens rapidly, but remains approximately circular, except where its growth is interfered with by the veins or edge of the leaf. Most commonly, however, the fungus spreads from several places at once and forms an irregular patch, which may at length occupy almost the whole leaf. The patch is, however, usually bordered by a dark line, behind which, in the dead portion, may often be seen other faint lines concentric with it. These when present are very characteristic of the attacks of blights. As the attacked part of the leaf dies, it turns grayish or whitish in colour on the surface. On the dying portion the spores or reproductive organs of the fungus are produced in vast numbers Millions may be formed on one leaf, and each one may, if it reach the surface of another leaf, cause an attack of blight there. The spores are extremely small and light, and consequently float in the air like fine dust, and may be carried a long way by wind, especially in dry weather. One estate may thus easily infect others to leeward of it, though the wind belts, now so general, will tend to largely check this. When a spore reaches the damp surface of another leaf, it promptly germinates and in a few days a patch of disease appears on the leaf and new spores begin to form.

BROWN BLIGHT.—This is also due to the attack of a parasitic fungus, which appears to be new to science, and has been named

by Mr. G. Massee, of Kew, *Colletotrichum Camelliæ*. To the eye it closely resembles the gray blight: the chief distinction is that the attacked portions of the leaf turn to a reddish or chocolatn brown colour as they die. The edge of the diseased part is, as it the case of gray blight, bounded by a dark line, and the adjacent edge of the green part of the leaf, into which the fungus is growing shows a yellowish colour when held up to the light. The spores are chiefly formed on the under side of the leaf, and appear near the edge of the diseased portion as little reddish eruptions, about the size of a very small pin's head. In all other respects the appearance of leaves attacked by brown blight is practically much like that of those suffering from gray blight.

Other Blights.—Several other fungus blights may at times be found attacking the leaves of the tea plant, but the result is always much like that caused by the gray and brown blights—a more or less irregular diseased portion, the centre of which is dead and at the edge of the dark part an extension of the fungus into the still living portion of the leaf, which shows a yellowish colour where first attacked. One very common blight, found in all parts of the island, is the "Spot Blight," the affected leaves being covered with small, roundish gray spots, rarely as large as a 10-cent piece. This blight does less harm than gray and brown blights, but is troublesome enough, and is worth keeping down by the same methods as will be used for the others.

General Principles of Treatment.—When the disease has been recognized on leaves that have been largely damaged by it, a close study should be made of the features described above, and early stages should be looked for on other leaves until the attack can be recognized at a very early stage, even before the gray or brown colour has begun to show (when this shows it means that that part of the leaf is dead or nearly so and is beginning to form spores to spread to new leaves). By tracing backwards this way a series of stages may often be found, and it will be seen that when the disease first begins it is indicated by the leaf at the points of attack beginning to turn yellow, especially at first upon the upper side. This appearance can be produced by artificially infecting the leaf with spores from a diseased leaf: the yellow colour will make its appearance in a few days after rubbing with a diseased leaf, unless it be very dry weather. This experiment is best tried indoors with a branch of tea cut and placed in water, and as soon as the leaves begin to turn dark-coloured they should be burnt before they can produce any new spores.

The general principle to be kept in mind in any attack on the leaf parasites we have been describing is this: the disease is confined to the leaf and is not perennial there; to survive for more than a limited period it must be able to form spores, which may reproduce the disease on new leaves. If, then, we can destroy all leaves bearing the disease, we shall at once reduce the extent of the attack very much. There will still be many spores about, however, and these will soon cause a fresh outbreak. If the new crop of diseased leaves be plucked and destroyed, a further reduction of the disease will be made, especially if the destruction be carried out before any new spores are formed. The next crop of disease will be smaller, and if we go on upon the same lines the disease may at length be practically stamped out. In theory this would be quite possible, but in actual practice the expense would be prohibitive, and we must simply do the best that can be done within reasonable limits of expenditure, remembering that the great object in view is to destroy all existing spores and prevent the formation of any new ones. Leaves begin to form new spores soon after the gray or brown colour appears, and leaves which drop from the bush will produce spores as they lie on the ground.

Methods of Treatment.—The chief measure recommended is constant plucking and burning of all diseased leaves. On most estates, at moderate or high elevations, the cold prevents the very rapid formation of new spores, and probably if the diseased leaves be plucked at the same time as the regular flush this will be found sufficient. On low lying estates, especially in warm damp weather, or where the blight is very common, probably at first it would be well to pluck twice as often. The regular pluckers may be provided with bags, or special podiyans put on to pluck the diseased leaves.

The leaves should be taken off right at the base, so as to leave no portion in which the disease may continue to grow.

The bags or baskets used should be airtight, otherwise the spores on the diseased leaves they contain will be simply sown all over the estate as the bags are carried about.

The contents of the bags should be immediately burnt when brought in and never left lying about, and the bags themselves should not be kept anywhere that they may infect tea bushes It would be well perhaps to disinfect them before putting them away by aid of a little Bordeaux mixture or other poison.

The pluckers should be instructed to pluck diseased leaves by taking hold of the healthy portion. If they touch the diseased part they will be liable to get a number of the spores upon their hands, and then afterwards they will deposit these upon other leaves. Remember that fungus blights are very infectious. Do not allow an uninjured leaf to be touched by a diseased one or by hands which have touched a diseased one, if it can be helped.

Plucking of diseased leaves should be done through the estate in the direction of the wind as far as possible. If the diseased leaves be removed from a field which has other diseased fields to windward of it, the former will be reinfected from the latter. Special care should be taken not to allow fields that lie to windward of other estates to become infected with disease.

If the ground be covered with dead leaves on a part of the estate where there has been blight, many of these are sure to be covered with spores. They should be swept up and burnt or buried with a little lime, say, an ounce for each bush.

Special onslaught should be made upon disease at pruning time. The diseased leaves. including those that show any sign of the yellowing above described, should be plucked and put with the prunings. and the whole, together with all dead leaves and twigs lying on the ground, should be burnt or buried. If a little manure is buried with the prunings their decay will be more rapid, and the fermentation set up will help to destroy the spores.

The most common method of attacking leaf parasites—spraying—is impracticable in most cases on tea estates on account of the steepness of the ground, the cost of application, and the great difficulty of getting a fine enough spray to cling to the hard glossy leaves of the tea. If only one small patch of disease is found on an estate, however, it might be worth while to spray the bushes there and all those round them, after plucking and burning the diseased leaves, with Bordeaux mixture, as described in the circulars on cacao canker. Care must be taken that the spray is so fine that it hangs in the air like a mist, otherwise it will form drops on the leaves and run off. The spray should be applied to the *debris* on the ground as well.

These notes have been hastily put together from incomplete knowledge of the diseases as present in Ceylon. Planters would confer mutual benefit upon one another by making notes upon the extent of the disease, the methods tried for reducing it, their effect, and so on, and communicating these to me on my return towards the end of the year.

John C. Willis,
Director, Royal Botanic Gardens.

Peradeniya, *June 6*, 1899.

HYBRIDISATION.

Although the deliberations of the Hybridisation Conference would seem to have a more direct bearing on flower cultivation than on coffee or tea, we feel sure that many of our readers will derive profit from the following account of proceedings taken from the *Gardener's Chronicle*:—

THE HYBRIDISATION CONFERENCE.

The arrangements made by the Royal Horticultural Society to collect into a "record" what information had been obtained upon the great subject of Hybridisation were commenced in Chiswick Gardens on Tuesday last, July 11. Dr. Masters, F.R.S., occupied the chair, and the substance of his introductory speech, setting forth the objects the Conference hoped to attain, and extending a welcome to all taking part in the proceedings, whether Britishers or "friends from across the sea," is given in our leading article on page 50.

The Conference was held in a tent erected near to the Council-room in the Gardens, and the attendance throughout, notwithstanding the great heat, was satisfactory. The programme for the first day was adhered to pretty closely, and below we are able to give summaries of all the papers read.

HYBRIDISATION AND CROSS-BREEDING AS A METHOD OF SCIENTIFIC RESEARCH.

Mr. W. Bateson, M.A., F.R.S., read the first paper, which dealt with "Hybridisation and Crossbreeding as a Method of Scientific Research." It was he with whom the original idea of the Conference started, and he is an example of the broad-minded men that are to be found in the ranks of the zoologists. He said that he had accepted with great pleasure the invitation of the Committee to address a gathering of persons interested in the subject. Such an opportunity could not be better used than in pointing out exactly what are the legitimate aims of the methods in question, and what it may be hoped that they will prove. He assumed that the scientific importance of this work lies primarily in its direct bearing on the problem of species.

Though we now believe all forms of life to be connected in descent, yet the fact that they are divided into species is certainly true. The existence of species is a fact that must be faced. How did they arise in evolution?

The two great difficulties besetting all theories of descent are –

I. If the variations leading to specific differences are small, how can they matter?

II. Why are such initial variations not lost in intercrossing?

Here comes in the work of the breeder, and his experiments are the only ones which can answer these questions. By such work, Mr. Bateson said, it had already been shown both that variation was often large, and that varieties were discontinuously produced; that such varieties are perpetuated in crossing, and are not, as a matter of fact, obliterated.

This work is to show us which variations are thus discontinuously produced, and which are not; we have speculated long enough on the general theories of evolution; it is better to attack the special case of – How did species A arise from species B.

Taking hairiness and smoothness as typical forms of variation, it was shown that in Matthiola incana, Lychnis vespertina, and Biscutella lævigata, though the relation is in each case a discontinuous one, the mode by which the discontinuity is maintained is different. Plants of these species were produced illustrating the experiments made by Miss E. R. Saunders in Cambridge, from which these results have been obtained. Here the test of cross-breeding revealed at once that variety and type might stand to each other in various physiological relationships. We talk of "species and varieties" as though the phenomena denoted by these terms are homogeneous. By the test of breeding it is shown that whole sets of distinct phenomena are confused together under these headings. Using the metaphor of chemical science, it is by cross-breeding that the genetic properties of species and varieties must be examined, as the affinities of chemical bodies are.

In this way the confused mass of contradictory properties, which are now attributed to species, may be unravelled, and we may be delivered from the fruitless debates on this unprofitable subject.

As a practical point Mr. Bateson stated it is by experimental crossing of nearest allies that the work should be begun. It is essential, he continued, that the records should be statistical. Such statistics might at first be rough, but a few notes as to the proportion of offspring, which shows the various characters, are absolutely necessary.

Mr. Bateson, in conclusion, emphasised that those who would take part in such work, would earn the gratitude of posterity, and in all probability lay the foundation of a new science of natural history.

HYBRID ANTHURIUMS.

Monsieur A. de la Devansaye contributed a paper upon "Fertilisation in the genus Anthurium," in which his previous work upon kindred subjects was briefly alluded to.

[For Aroids, see the *Flore des Serres et des Jardins de l'Europe*, vol. XXII (1877), p. 37; and for Anthuriums, the succeeding volume, p. 26, as well as the *Revue Horticole*.]

Two laws already laid down as governing fertilisation and variation in the genus Anthurium were repeated, while a third was added, and strongly emphasised. These are as follows:—

1. Fertilisation is usually only effected in the genus Anthurium when the flower containing the pistil to be ripened, and that from which the pollen is brought, have sprung from a different batch of seeds.

2. The bringing into use of pollen from a different species of the same tribe (say Spathiphyllum, for example) has a beneficial result. Fertilisation is assured, and variations in the colour of the flower or form of the foliage often arise.

3. In spite of good cross-fertilisation, there are cases where little or nothing new is seen in the first or second generation, and then the experiment is usually abandoned forthwith, and the seeds destroyed. This proceeding is a very great mistake, for it is necessary under the circumstances to wait, for the desired variations may be produced in the third or fourth generation, as a result of the disturbance caused by cross-fertilisation. If a variation should arise in the first crop, few individuals will show it. The seedlings from these will give a greater percentage of the "variety," which may come up to a half in the third generation, and to 75 or 80 per cent. in the fourth. Further remarks upon the selection necessary to fix the "variety" concluded Monsieur de la Devansaye's observations.

HYBRIDISING AS A MEANS OF PANGENETIC INFECTION.

Professor de Vries explained that Pangenetic infection means the transference of particular qualities from one species to another by means of crossing. Darwin assumed in his Pangenesis that each single peculiarity was represented in the living matter of the cells by a distinct unit. Such unities must, therefore, be capable of isolation and of transmission to allied species.

Many cases in horticultural practice come under this head, but in a scientific way our knowledge on this subject is extremely deficient. Two cases were treated of and illustrated. First were shown twisted stems of Dipsacus sylvestris torsus, the new race with hereditary twisting, raised by Professor de Vries, and of a cross between this race and the ordinary teasel, Dipsacus fullonum, raised by Professor Le Monnier, at Nancy. It was pointed out that the twisting in the two stems of the hybrid, which were demonstrated, was developed to the same high degree as in the seven stems of the parental form, shown for comparison.

In the second place, it was attempted to gain a smooth form of Lychnis diurna by crossing the ordinary hairy form of this species with a newly-detected hairless or glabrous variety of L. vespertina. The hybrids of the first generation were all uniformly hairy, but in the second generation they split up in a multiform mixture, in which the characters of the two parental forms were mixed in all possible combinations. Between these it was easy to find the desired glabrous form, having, in all other respects, the characteristics of a true L. diurna. Such plants were isolated, and fertilised artificially. In the following generation, the new variety proved itself to be fully constant. Of 390 plants, all were glabrous, and of the type of L. diurna. The transfer of the hairlessness, which was the aim of the experiment, was therefore completed in the course of three to four years.

A glabrous variety of Lychnis diurna was found some fifty years ago by Sekera near Mürchengrätz, and described under the name of L. Presli. It was shown to be identical with the hairless hybrid form, an original specimen of Sekera being shown in comparison with living specimens of L. vespertina glabra, and of the new L. diurna glabra.

The result of the experiment was, therefore, to copy the Lychnis Presli, Sekera, which is acknowledged by many writers also as a good species, and which probably originated in the Bohemian Alps from L. diurna by following a totally different way.

HYBRIDISATION AND ITS FAILURES.

Rev. Prof. Henslow remarked that any discussion on hybrids necessitates the preliminary enquiry as to what is a species? It may be defined as being known by a collection of presumably constant characters taken from any or all parts of the plant. Bentham superadded that all the individuals of a species are presumably descended from a common parent. Knight and Herbert, as well as other botanists of their day, found it necessary to introduce the element of hybridisation, for it was thought that if two so-called species produced fertile offspring, they must be really one species, and so, said Herbert, "Botanists must entrench themselves within the genera."

Systematists, however, cannot test the point, and therefore cannot utilize physiological affinities in their diagnoses; the result is, consequently, sometimes unsatisfactory, because the number and kind of characters sufficient to indicate a genus or a species is arbitrary, and when it is reduced to a single feature, though theoretically members of the groups would presumably cross, they are often found not to do so. Thus, both an inferior and a superior ovary are found in the genus Saxifraga and in Begonia; but it is really

the sole difference between Liliaceæ and Amaryllidaceæ, yet no cross exists between any member of these two orders.

False Bigeners.

Again, Lælia and Cattleya cannot be at all sharply distinguished, unless it be by the single feature of the number of pollen-masses; yet they cross as easily as two varieties of the same species.

Now, Rhododendron, Rhodora and Azalea are as well differentiated morphologically as any three genera usually are; but they happen to cross, and the question arises: Why are they not still to be regarded as good genera?

Constitutional Affinity.

To take a particular genus, Herbert found that some closely, *i.e.*, morphologically allied species of Crinum would not cross, while more distantly allied species—in the opinion of some they should be distinct genera—readily crossed. From this and other experiences, he drew the conclusion that it was really a question of "constitution," as much as of "form." That while the rule holds good that plants which are nearly alike in form are more likely to cross, yet it is not always so. Observing that sub-aquatic species of Crinum fail to cross with more xerophilous species, he thus regarded the failures as due to constitutions induced by external conditions.

Similarly, it frequently happens that groups of species from the same country will readily cross among themselves; but will not ally themselves with other groups of widely separated countries. Thus, the East Indian Rhododendrons refuse to unite with American and Asiatic forms; yet they have produced the "greenhouse" forms in great numbers, with varieties of colours. The same observation holds good sometimes with varieties. Thus, some French strains of Scarlet Pelargoniums, though fertile *inter se*, fail when crossed with English varieties.

Prepotency.

Another cause of failure is excessive prepotency. Taking a normal hybrid as being morphologically intermediate between the two parents, it is now known that either parent may be so excessively prepotent, as not only may the offspring show some considerable inclination towards the parent, but it may practically suppress all features of the other. M. Millardet, in crossing the alpine with the Virginian Strawberries, called them "false hybrids."

Non-reciprocity.

This is another puzzling cause of failure; for a cross may sometimes be readily produced one way, but all attempts to raise offspring by crossing the parents in the opposite way may totally fail.

Partial Hybridisation.

This gives only too frequent and disappointing results. It is due to the fact that the development of the pollen-tube may stimulate the surrounding tissues into growth, without its effecting any impregnation of the ovule itself, so that every external appearance of a successful result may be offered by the enlarged and full-sized fruit: yet there may not be a single seed within containing an embryo.

False Inferences.

It has often been found, both by Herbert and later experimenters, that perseverance may be ultimately crowned by success after many disappointments. For the impregnation is so susceptible to external conditions—irrespective of morphological affinities—that a species may fail to be crossed, or to cross another, in one season; but such can be effected in another. Some have even asserted that the time of day may make all the difference between success and failure in certain cases. Or, again, even if progeny be obtained, they may be sterile for years, yet finally bear good seed; hence, an expert has no need to despair, in all cases, when he is anxious to secure some special result, as Nature is as likely as not to reward him for his perseverance. *George Henslow.*

EXPERIMENTS ON HYBRIDISATION AND CROSSBREEDING.

Mr. C. C. Hurst, F.L.S., was able in his paper to give a number of conclusions based upon his own observations, and to bring forward evidence, sometimes for, but more often against, generally accepted ideas as to the characters of hybrids

With regard to inheritance by hybrids among the Orchideæ, Mr. Hurst pointed out that what we understand by varietal characters, though of great practical importance, are so indefinable, so uncertain, and so fleeting, as to be traced with difficulty, even in the second generation. Specific features, on the other hand, are more lasting, while generic ones persist but little changed for a number of generations, and would not easily breed out.

As bearing upon the impression that varieties are prepotent, the question was treated in more detail under several headings.

(1) The tendency is admitted, especially when varieties are fertilised with their own pollen; exceptions are, however, by no means rare.

(2) The chief exceptions are apparently in cases where the parents or ancestors have been variable.

(3) Slight variations are seldom inherited.

(4) Abnormal sports are, for the most part, transmitted wholly, or not at all.

(5) Distinct varieties, as a general rule, transmit their qualities in different degrees—sometimes wholly, sometimes partly, sometimes not at all.

(6) When the same variations are found in both strains they may be traced in the second or following generations, but seldom otherwise, as mentioned above

(7) A law of Partial Prepotency, advanced in the paper, is offered as a possible explanation of the varied results in the inheritance of varietal characteristics.

In speaking of generic hybrids, which, as a rule, combine the specific characters of their parents in fairly equal proportions, seven cases were reviewed where the reed-like species of Epidendrum were prepotent in every instance when crossed with species of Cattleya, Lælia, and Sophronitis. Also fifteen others, where more distinct genera, mostly of different tribes, have been crossed together, and in every case have reproduced the seed parent almost exactly, both in generic and specific conformation. The explanation offered was that this is the result of a kind of parthenogenesis, the pollen probably not having power to fertilise the egg-cells in the ordinary way, but exerting sufficient influence to cause them to start growth.

Primary hybrids, we were told, do not by any means differ so widely from the parent as secondary ones. [Compare Monsieur Devansaye on Anthuriums]. Sex has but little influence *per se*, and in some recorded cases the resulting offspring from both reverse and obverse cross were practically identical.

Further, in connection with primary crosses, Mr. Hurst exemplified the meaning of his term Partial Prepotency. A certain part of one individual hybrid may show the configuration of one parent; a sister plant may, so far as that is concerned, exemplify the other, while a third hybrid from the same cross may combine in the portion under consideration, the structure of both original species. In colour the exact reverse may be the result. A fraction of the hybrid has alone been considered; repeat the process for all the components of the plant, and the scope for variation, under the circumstances, may easily be understood.

The law of Partial Prepotency is founded by Mr. Hurst, he said, upon practical observations with regard to the genus Paphiopedilum = Cypripedium.

The above remarks, it was pointed out, do not agree with the idea that a hybrid leans first towards one parent and then towards the other, for while it may favour, say, the seed parent in evident characters, in minute details it may reproduce the seed parent. [See Monsieur Morel's remarks upon the Clematis à Ville de Lyon, p. 5.]

Passing on to variation in secondary hybrids, twenty-four individuals of a Paphiopedilum exhibited at the Conference were alluded to. They all came from the same capsule, produced by a hybrid between two species when crossed with a third. The parent hybrid failed to show in its leaves, the special colour of one of its immediate ancestors, but the grandchildren reproduced it strikingly. Statistics were then given that do not support the current opinion as to the absolute sterility of hybrids. Ninety distinct genera, said Mr. Hurst, are recorded in which fertile hybrids have been obtained, and only these where all are practically infertile.

Sterility was a term used by Darwin simply to denote diminished fertility, and this occurs in hybrids undoubtedly, but more owing to diminished power in the males than to anything else. In Paphiopedilum, of crosses made between distinct species 95·05 per cent. were fertile; of hybrids crossed with pure species, 91·82 per cent., while only 60 per cent. of the pure species produced seed when fertilised with pollen from hybrids.

Diminution of fertility in hybrids has already been noted by Darwin, Dr. Focke, Dr. Masters, and Professor Macfarlane in plants, as well as by Professor Ewart in the case of zebra hybrids. It is not, however, confined to hybrids, for it occurs within the limits of a single species; for example, certain races of Primula

sinensis raised by Messrs. Sutton & Sons, are difficult to propagate on this account, and Mr. Hurst ascribed diminished fertility rather to conditions of life than to difference in form or constitution brought in through hybridisation.

The stability of hybrids next took up Mr. Hurst's attention, and his statistics did not give the impression that self-fertilised hybrids revert to a parent form when propagated by seed. Out of five hundred seedlings of a hybrid Berberis no less than 90 per cent. reproduced the parent form faithfully and well, and not a single individual reverted wholly to either grandparent.

The increased vigour of hybrids is a well-known fact, and Mr. Hurst puts it down as abnormal growth due to out-crossing the strength of a primary hybrid, he obtained, being reduced to the normal again by in-breeding in the second generation. In discussing the limits of crossing, it was computed that while four species have been combined in Gladiolus, and five in Rhododendrons, no less than twenty-seven genera of Orchideæ, many, belonging to different tribes, have been linked together by hybridisation, while possibly there may yet be more.

As a rule for breeders it was held out that success might be hoped for within the limits of a tribe, and, generally, experimenters were exhorted not to be discouraged by even several failures, and recommended, in the interests of science, to keep an accurate record of their work whether successful or otherwise.

SECOND DAY, WEDNESDAY, JULY 12, 1899.

Sir Michael Foster, K.C.B., Sec. R. S., it was much regretted, being unwell and unfortunately confined to his room, the Rev. Professor Henslow, M.A., V.M.H., very kindly took his place, and presided over the second meeting of the Conference, held on Wednesday afternoon at the Westminster Town Hall. In re-opening the proceedings, Professor Henslow expressed his opinion that there was no necessity for a second address from the chair, and contented himself with making a few brief but pertinent remarks in his usual delightful manner upon the value of the Conference. This, he said, depended in a great measure upon the way in which scientific and practical interests were discussed together. As representing the former side himself, he had to own that botanists did not do all the giving, as they were able to get much valuable information from horticulturists, and, indeed, the two bodies of workers had really to make progress hand in hand.

The lantern demonstrations by Mr. Webber, from the U. S. Department of Agriculture, and from Dr. Wilson, of St. Andrew's, were very instructive. After the meeting, a discussion, *de omnibus rebus*, including copyright in new plants, was indulged in, and proved very acceptable to the auditors.

THE WORK OF THE UNITED STATES DEPARTMENT OF AGRICULTURE IN PLANT HYBRIDISATION.

Mr. Herbert J. Webber, one of the special envoys from the United States Department of Agriculture, gave an account of their work which bears on the question in hand. The department is conducting a series of experiments upon a number of plants, including among others the Orange. Lemon, Pomelo, Pine-apple, Pear and Grape, as well as Wheat, Indian-corn, Cotton, Tomatos, Carnations, Hollyhocks, and Aquilegias.

The speaker discussed the general work which is in progress, and illustrated individual cases of interest by means of lantern-slides. One of the most noteworthy, but at the same time difficult fields of investigation at present pursued, is the production of hardy races of Oranges and Lemons, by hybridising the hardy Citrus trifoliata, which is a deciduous, trifoliate-leaved plant, of very distinct character.

Of forty hybrids of the common Orange ♂, and C. trifoliata ♀, twenty-nine resemble the female-parent almost wholly, while the remaining eleven are clearly intermediate in character. The latter show the effect of the Orange in their increased vigour and larger leaves, with elongated central lobes and laterals, which show a tendency to decrease in size as well as in their evergreen habit. Of fourteen reciprocal hybrids—orange ♀ × C. trifoliata ♂—nine have unifoliate leaves entirely, resembling the mother-parent; and five have them with three lobes like the male, but with the central one elongated and larger than in the typical trifoliata.

A special point is the complication which arises through the occurrence of polyembryony in Citrus fruits, for besides the embryo developing from the egg-cell proper, which is the only one affected by hybridisation, several other embryos are produced adventitiously from the nucellar tissue of the mother plant.

Seedlings from adventive embryos naturally reproduce the mother-parent truly, showing no effects of the hybridisation. A number of photographs was exhibited where several seedlings were seen developing from a single seed, one showing the effect of hybridisation, the others not.

Of 126 hybrids of Pomelo (Citrus decumana) ♀ and Orange (Citrus aurantium) ♂, 106 resemble the mother, and, as is almost invariably the case with a few, the rest take after the male-parent. Of 103 reciprocal hybrids, 95 were like the Orange, and 8 like the Pomelo. These experiments were under taken with the view only of obtaining new valuable varieties.

In other crosses, notably in one where it was sought to unite the loose and easily removable skin of the Mandarin Orange (Citrus nobilis) with the features of the common kind, the same large proportion of plants favoured the seed parent, and a smaller number the pollen parent, whichever way the cross was made.

Experiments to improve the stable of Upland Cotton were also reported upon, and others of which the result is expected to be a tawny cotton similar to the Egyptian kind, which will be suitable for growth in America. It is hoped also to increase the yield of Indian corn by hybridising the best races commonly grown with distinct varieties, such as the large kerneled Peruvian Corn.

HYBRIDS OF PASSIFLORA, ALBUCA RIBES, AND BEGONIAS.

Dr. J. H. Wilson, F.R.S.E., illustrated some remarks upon hybrids he has obtained, by means of a fine show of lantern slides. Among the Passion flowers, a cross between Passiflora Buonapartea ♀ × P. cœrulea ♂ has been named Margaret Wilson, and was figured in the *Gardeners' Chronicle* for February 11, 1899. The first-mentioned Passion-flower has a winged quadrangular stem, in the second this is slightly five-angled, and the hybrid's stem has the same number of angles, but they are well marked. The flower is structurally a mixture of the two parents from all points of view. The anthers, though well developed, contain but little pollen, and this abnormal. More remarkable is the peculiarity shown by the ovaries: either these contain crumpled, coloured rays, like the coronal ones, or else a miniature ovary, with three styles and stigmas. These structures arise by proliferation of the floral axis at the base of the ovary, but the invaded ovaries are not abnormally enlarged, nor do the ovules seem to be reduced in number. The flowers first produced are most prone to develop the structures above described, while those at the ends of branches have almost always normal ovaries. Assiduous pollination has not yet produced perfect seeds.

A hybrid between P. alba and P. Buonapartea (St. Rule) has three-lobed leaves, like its seed-parent, while the pollen-parents are ovate. In the previous case, where the seed-parent (P. cœrulea) had five, are sometimes seven-lobed leaves, the hybrid had invariably three lobes, and if a mean between, ovate and three-lobed leaves has been obtained, two-lobed structures might have been looked for in the present case. The form has not hitherto produced seed. In the third hybrid between P. Constance Eliott ♀ and P. alba ♂ the leaves are often five-lobed, as in the first, but mixed with the three-lobed form characteristic of the other parent. A fourth cross between P. alba and P. edulis has also resulted in seedlings, but neither these nor the last have yet flowered.

Dr. Wilson briefly alluded to the crosses among eight or nine species of Albuca which he has raised to the number of seventy or more. Details as to their usual intermediate character, and to the prepotency of A. prolifera, so far as its erect white flowers went when crossed with the drooping blossoms of A. minor. Details as to structure in leaves were illustrated by photomicrographs.

Like two or three other experimenters, Dr. Wilson has crossed the Black Currant and Gooseberry, but he has not obtained fertile seed. The pollen of neither parent species takes effect, but a fruit is now ripening as a result of bringing pollen from Ribes divaricatum. An interesting point is, that while the larvæ of the Gooseberry-sawfly will not attack Black Currant, it is only too ready to feast on the odourless leaves of the hybrid.

In Begonias, by crossing tuberous kinds with Begonia coccinea many stages intermediate in habit were obtained; some plants retained all their branches, others shed the outer ones by a process similar to leaf-fall; while others, again, approached the tuberous condition. A few details with regard to other experiments concluded an interesting contribution.

HYBRIDISATION VIEWED FROM THE STANDPOINT OF SYSTEMATIC BOTANY. BY R. ALLEN ROLFE, A.L.S., KEW.

The author gave a summary of his paper, commencing with some remarks of Dean Herbert's of the way his early experiments in hybridisation were received by systematic botanists, who believed that such experiments would tend to confuse their systems. The practice of hybridisation had since made enormous progress, but was still regarded with disfavour by may systematists, who failed to realize how frequently it was carried on in nature, somegoing so far as to deny that it took place to any considerable extent, if at all, and explaining away the numerous supposed wild hybrids by variation, or mistakes on the part of those who professed to recognise them, whom they described in not very complimentary terms as "hybrid-mongers." By degrees, however, it was being recognised that the views of these individuals were entitled to more respect, for a considerable number of these supposed natural hybrids had been reconstructed artificially, by crossing the supposed parents together. The author then proceeded to enumerate examples of such plants, taken from the genera Epilobium, Narcissus, Tragopogon (raised by Linnæus himself), Verbascum (quite a series of them), Digitalis, Geum, Salix (at least a dozen), Hieracium, Rubus ("that class of undecided forms in the face of which all the efforts of botanical describers miscarry"), the hybrid Oxlip, two Sarracenias, and a few other plants, beside something like a dozen Orchids, one of which he only recognised at the exhibition on the previous day, though as a wild hybrid it had been known for several years. In Hieracium, particularly, many so-called "new species" had recently been described, both on the Continent and in Britain, which had no right to the title. On the other hand some authors had recognised a number of natural hybrids, combining the characters of others with which they grew, and at least four combinations had been effected between distinct species, one of which did duty in botanical works under no less than eleven spurious specific names In various other cases what had proved to be one variable hybrid had originally been described not as one, but as several species. In several groups of plants natural hybrids were evidently much more common than was generally admitted, but even sceptics could no longer deny the hybrid origin of those which had been reconstructed artificially. Hybrids certainly broke down the limits between species, sections, and even genera in a few cases, which no doubt accounted for the want of sympathy with which artificially raised ones were regarded by systematists, but the fact must be faced that they also occurred in nature, and could not be ignored. They could not be classified either as species or varieties, and when their true rank was understood many of the difficulties now attending the classification of the latter would vanish. He hoped to see many more experiments undertaken with the view of clearing up the origin of these intermediate and doubtful plants which at present were the bugbear of systematists.

HYBRID POPPIES.

M. Henry de Vilmorin directed attention to two new forms of Poppies, both of which—and particularly the second—he claimed to be plants of real merit for horticultural purposes. In each case Papaver bracteatum was crossed with P. somniferum to begin with; while in the second instance, the hybrid was further crossed with P. orientale, which M. de Vilmorin considers to include P. bracteatum. The special point of interest is that an annual has been crossed successfully with a perennial. A fine series of water colour drawings illustrated M. Vilmorin's remarks.

DISCUSSION.

As one or two contributors of papers were not present in person to read them, there still remained some little time at the disposal of the Conference, which was devoted to a general discussion. The Chairman set the ball rolling by pointing out what a small amount of attention had been paid during the proceedings to the microscopic structure of hybrids, except by Dr. Wilson. The latter worker, he said, had mentioned Mr. McFarlane's paper on "The Histology of Primary Hybrids," and expressed his opinion that in secondary ones the characters of ancestral species would be much more difficult to trace. Professor Henslow was able to endorse this from his own minute and detailed examination of Messrs. Veitch's greenhouse Rhododendrons, though it must be remembered that they all arose from species presumably nearly allied in structure, and hailing from the same part of the world. With hybrids derived from species of markedly different conformation, such as might depend upon adaptation to a different climate for instance, the task of picking out specific points which were not found to exist with hybrid Rhododendrons, might be rendered possible. Then Mr. Burbidge brought before the meeting the very great difficulties that had arisen, and do still arise, in systematic work through the Latin names, which have been, and are given, to horticultural hybrids. This speaker was in favour of none but English names being applied; but if the old practice was continued. one should adopt some such plan as combining two generic or specific names, or parts of them, as had been done by Dr. Masters and Sir Michael Foster, and of which the word Lælio-Cattleya was another instance. In some cases it was stated that classical names had been given to hybrids with the express reason, sad to relate, of hiding their real origin One reason for it, it will be remembered, was hinted at in Dr. Masters' address The Rev. G. H. Engleheart, M.A., addressed the meeting upon the difficulty of finding the results of others' experience in hybridising, all the records being scattered about, and he suggested that a handbooy should be compiled with a view to saving hybridisers much time and trouble. Another point with a practical bearing raised bk the same speaker was with regard to the present condition of affairs, where the inventor could protect the results of his brain-work and labour, but anyone rather than the raiser of a new variety obtained the pecuniary reward for the pains taken.

Mr. Geo. Paul, as one commercially interested, spoke upon the same subject, saying that legislation might well be introduced, but Mr. Bunyard, following, showed a way in which a raiser could ensure whatever profit he required by raising sufficient stock before distributing any, and putting a sufficiently high price upon each plant sold. He had often told Mr. Rivers how the latter had given away his varieties, for he (Mr. Bunyard) had sometimes, with his facilities and skilled men, raised a bigger stock in a short time than Mr. Rivers himself had in hand.

He pointed out that legislation would be powerless to preserve the rights of the raiser of a new variety or a new plant; prunings might be conscientiously thrown upon the rubbish heap, but someone else might give them away, and as many plants as there were cuttings struck, or buds inserted, could be reared elsewhere by persons who had not paid for the privilege.

Mr. Willet Hays, of the United States, pointed out how the work of experiment stations might help the producer of a new variety by testing it in various parts of the country, and by proving its adaptability to the region and other advantages, at the same time as it was being made known to growers, and before it was distributed.

Mr. William Cuthbertson Rothesay, said he had this summer bloomed Mr. E. J. Lowe's hybrid between an Aquilegia and Clematis Montana. The plant resembled an Aquilegia, but the flower was half-saucer shaped and without spurs. It was bearing seed, and to anyone who wished a few seed for scientific purposes he would have pleasure in sending them. Some years ago he had tried another of Mr. Lowe's hybrids, one said to be between a Sunflower and a Dahlia, but at the time he was not impressed with it and had not grown it since.

THE FUTURE OF COFFEE.

The *American Grocer* writes as follows:—The news received last week of injury to the Santos crop from frost, demonstrated the sensitiveness of the coffee market when any sudden or unexpected disaster, such as a heavy frost or crop failure is reported which may so change the relation of supply to demand as to advance prices rapidly.

For the last two years everything that has happened has told against the coffee market and prices have gradually sunk lower and lower in consequence, so that now anything that may happen to next year's crop will naturally work a complete change in the aspect of the market, and must certainly be in its favor. Prices, as we all know, are abnormally low at the present time, and with the possibility of a duty being placed on coffee, and the probability that interior stocks are very light—all point to a steady market in the future, if not to a considerable advance in prices.

The large interests in the trade, however, seem to be opposed to any advance. so that the question now is, Can one or two large

factors depress the market against the general opinion in the markets of the world as to the present price of coffee?

Some of the older dealers will remember the jump in prices which occurred between June, 1886, and the same month the following year. In 1886 the price remained almost stationary around 8 cents, while in the year 1887 prices fluctuated widely, so that between the months of June in the two years there was a difference of 13¼ cents per pound.

There were two causes for the extreme variation in prices. In the first place, the prediction of the following year's (1887) Brazil crop were distinctly disappointing, being but 3,000,000 bags against 6,000,000 bags in 1886, and this gave rise to a speculative movement which carried prices to an extremely high figure.

History repeats itself. What was then possible under peculiar conditions may occur again; the market treated to another sudden and extreme rise in prices, particularly if any serious disaster comes to the growing crops. Recent events make it reasonable to suppose that the market has about touched the lowest point for No. 7 Rio coffee for some time to come.

In order to illustrate the great fluctuation that the New York market has experienced, let us quote the following comparative prices of No. 7 Rio, from 1884 to the present year, inclusive, as follows:

June—	Cents.	June—	Cents.
1884	8	1892	11¾
1885	6¾	1893	15¾
1886	7½	1894	15¾
1887	20¾	1895	14¼
1888	11¾	1896	12¼
1889	13¼	1897	6¾
1890	16¾	1898	6¼
1891	16¼	1899	6

TEA, &c., COMPANIES.

Dimbula Valley (Ceylon).—The Directors of the Dimbula Valley (Ceylon) Tea Company (Limited) announce a final dividend on the ordinary shares of 6 per cent., less income-tax, on account of the year ended March 31 last.

Mazawattee.—The Directors of the Mazawattee Tea Company (Limited) have declared an interim dividend on the preference shares at the rate of 5*l.* per cent. per annum, and on the ordinary shares at the rate of 8*l.* per cent. per annum.

Chargola Tea Association (Limited).—At the ninth ordinary general meeting held in London, Mr. W. S. Watson said that the past season had been the worst ever experienced in Sylhet. There had been a prolonged drought in the early manufacturing months, lasting from February to July, and when the rain did come it was too late to be of any use. As a result the crop showed a considerable falling-off, being 1,860,000 lbs., as against 2,095,711 lbs. for the previous season. The average price showed a slight improvement, being 6·72d. per lb, as against 6·33d. for last year, but against this were cost of production, which was 6·08d. per lb., and which was increased by a further rise of ¾d. in the rate of exchange, and also the higher freights making altogether an extra charge of about 2,250*l.* The total crop realised 51,994*l.*, and the profit for the past year was 4,922*l.*

Makum (Assam) Tea Company (Limited).—At the eighth ordinary general meeting held in London, Surgeon-General A. C. C. de Renzy said that, despite the adverse circumstances they had experienced during the past season, such as unfavourable weather, high exchange and freights, and scarcity of labour, the company had produced fairly satisfactory results. The actual yield was 451,200 lbs, as against 380,482 lbs. in the previous year. Of this 2,020 lbs. were sold locally, and 4,544 lbs. went in draft. Deducting 2,668 for loss in weight, the balance, *viz.*, 441,968 lbs., was sold for 24,092*l.*, as compared with 19,738*l.*, the proceeds of the previous year. The average sale price was 13·082d. per lb., against 12·75d. per lb. for the crop of 1897, which compared very favourably with the average sale price of Assam tea for the same period, *viz.* 10·03d. per lb., and with that of Indian tea, which was 8·78d. per lb.

Bombay Tea Company (Limited).—The Directors, in their first annual report for the year ended April 8, which they intimate show satisfactory results on the year's trading, state that the trading account shows a balance of 10,181*l.* 18s. 6d. After deducting from this amount directors' fees, managing director's salary, interest on balance of purchase money due to the vendors, &c., there remains an available sum of 8,081*l.* 13s. 11d. which the directors recommend should be appropriated as follows:—To pay a dividend at the rate of 6 per cent. per annum on the preference shares from due date of calls (less income-tax), 521*l.* 11s. 9d; to pay a dividend at the rate of 10 per cent. per annum on the ordinary shares from due date of calls (less income-tax), 869*l.* 3s. 3d.; to carry to reserve found, 5,000*l.*: to carry forward to next year, 1,690*l.* 18s. 11d. The directors also recommend that 250*l.* be given towards the proposed Birmingham university. The directors also point out that the Bombay Tea Company (Limited) is not an Indian company as might be inferred, but a tea and grocery business, having its headquarters in Birmingham, with branches in the principal towns of the Midlands and the North of England.

The Agra Tea Co., of Ceylon, Ld.—An extraordinary general meeting of the shareholders of the above company was held at Colombo, on the 29th ultimo with Major E. F. Tranchell as Chairman. Only one proposal was made, by Mr. F. J. de Saram, and seconded by Mr. Joseph Fraser, to the effect that the following resolution passed at the extraordinary general meeting of the 3rd instant—"That the Directors be, and they are, hereby authorised to sell to Adolphus Owen Tranchell, of Agrapatana, the Kalkudah estate, situated in the district of Batticaloa, the property of the company, as on and from the 1st day of January, 1899, at or for the price of R60,000 and that the Directors be, and they are hereby authorised to accept payment of the said price by the surrender to the company of 120 fully-paid shares of the company, and that the capital of the company be reduced by the cancellation or extinguishment of 120 shares, being the shares to be so surrendered to the company by the purchaser" be confirmed as a special resolution, and this was unanimously carried. This was the only proceeding.

Kandapola Tea Company.—The report of the directors for the year ended December 31st last states that the profit and loss account shows a profit on the working of the estates of £1,843, and adding transfer fees and the amount brought forward from last year, there is a total of £2,103. The directors paid during the year the interest on the debentures and sundry charges, and the balance after these payments amounts to £467. The directors propose to pay off £250 of the preliminary expenses, leaving £250 to be provided hereafter, placing to coast advance reserve account the sum of £1 13 to provide for doubtful coast advances, carrying forward the balance of £84. The directors regret that the season's operations have been so unfavourable. The profits have been reduced principally by a heavy loss on working the Frotoft group of estates, which amounted to £1,058. The estimated yield of tea for the season was 503,000 lbs., but owing to the unfavourable season, the actual yield was 369,994 lbs. the shortfall, amounting to 133,006 lbs. being 79,466 lbs. less than the previous year.

THE 1-lb. DRAFT.

A SUGGESTED COMPROMISE.

Mr. W. Johnson, of Cooper, Cooper, & Johnson (Limited), tea growers and dealers, lately wrote a letter to the Indian and Ceylon Planters' Associations, which we print below. Mr. Johnson, in an interview with a representative of *The Grocer*, said he believed the suggestion contained in his letter to be worthy of consideration from both sides, as, on the one hand, it relieves growers of common tea gardens, where the pinch is felt, and, on the other hand, will enable more country buyers to buy direct from the gardens on the Mincing-lane market by reducing the prohibitory deposit of 20s. to 8s. per chest, and benefit both growers and country tea-dealers by producing a healthy competition on the one hand and saving of

middlemen's charges on the other. The letter addressed to Mr. Tye, Secretary of the Indian Planters' Association, is as follows:—

"29, Mincing-lane, E. C., July 6.

"Dear Sir,—The pound draft does not affect our company, as the quantity of tea other than our own we buy on the market about balances what we sell on the market. We are therefore in a position to look at this unfortunate dispute impartially.

"There is no doubt that the loss of weight in draft and customs weighing averages two pounds per chest, and that this is not all lost I know, as some large blenders reckon the actual gain, as proved by weighing the net tea and comparing with tea paid for, yields sufficient profit to pay warehouse working expenses.

"May I suggest as a compromise—

"(1) That on all tea below 7d. per lb. no draft be allowed, and that draft be allowed as heretofore on all at 7d. and upwards.

"(2) That the deposit be reduced from 1*l.* per chest to 8s. per chest below 7d., 12s per chest between 7¼d. and 10d 20s. per chest above 10d. I should like to point out that the reduction of the deposit on teas under 7d. will enormously increase the number of bidders from the country, by whom the market is now kept steady.

"(3) That the time for examination be extended.

"(4) That in sampling, tea of an equal value be substituted for that taken out. It is a well-known fact that a profit is made on returns, to the loss of the buyer and no gain to the importer."

VIEWS OF ENGLISH DEALERS.

A largely attended meeting of wholesale dealers was held at the Commercial Sale Rooms, Mincing-lane, E.C, on the 4th July, when practically all the leading firms were represented. Mr. J. Innes Rogers (J. Travers & Sons, Limited) was voted to the chair.—The Hon. Secretary of the Wholesale Dealers' General Committee (Mr. A. Jackson, 49 and 51, Eastcheap, E. C.) read the following resolution, which he said was adopted at the meeting of growers and importers on the previous day.

That it is the unanimous recommendation of the joint committee of the Indian and Ceylon Association appointed to deal with the question of the one-pound draft allowance in tea. that notice be immediately given to the tea brokers and the Wholesale Dealers' Association that on and after the 17th instant all teas shall be sold on the condition that the one-pound draft allowance shall not be made to the buyers.

The Chairman said that resolution placed the tea trade in a very serious position. The abolition of the one-pound draft would be taking away an old and valued privilege, or rather an old and valued right. After a long and general experience in connection with the grocery business he had come to the conclusion that the terms of the tea trade were more stringent than any of the other terms they had to recognise. He hoped that meeting would adopt measures which would defeat a proposal which meant a very serious inroad upon their rights. He would point out that the importers of China teas were of considerable importance in connection with that question; the exports from China were considerably larger now than they had been for some years, and, owing to the deterioration of the commoner Indian and Ceylon teas, China was coming into closer competition with them than had been the case for some time past. He thought that was a very important consideration, and one that should be kept in mind by Indian and Ceylon tea importers and blenders at a time when the lower grades of tea had been fetching extravagant prices. He thought that if the dealers held out there would be a large and important drop in the price of such teas. (Hear, hear.)

[At this point the question was raised as to whether the proceedings should be open to the press and it was decided that the reprsentative of *The Grocer* should be invited to remain and report the meeting.]

Mr. John Lane Densham explained the present position of affairs so far as the importers were concerned. He said the dealers had used all the arguments they could to induce the importers to continue the one-pound draft, but at their meeting on Monday they expressed their determination to abolish the allowance. That being the case, it was absolutely necessary that the dealers should act together.

Mr. Alston (Peek Brothers & Winch) proposed the following resolution:—

That, owing to the decision of the Indian and Ceylon importers to abolish the customary one-pound draft allowance on tea on and after the 17th instant, we protest most strongly against the manner in which we have been treated by the importers, and resolve not to attend to-day's sale or buy any teas, either directly or indirectly, catalogued for this sale. We also further resolve not to buy either directly or indirectly any tea catalogued from this day forward, except on the understanding from the importers of such teas that they will continue to print the customary one-pound draft, nor until the general committee gives its consent to its members to buy teas.

He said that some people had thought it would be advisable to buy teas catalogued up to July 17, but it seemed to him that it would be suicidal policy to do that; it would at once put up the price something like a half-penny or three-farthings, and on the 17th the one-pound draft would be withdrawn. Now was the time to act, and he thought that if they were unanimous they would be able to carry their point. It was important that they should act honestly and fairly one to another.

Mr. Dodds (Locock & Dodds) seconded the resolutiou. He said that when the question came up three weeks ago he concluded that it would mean a fight; and the sooner they entered upon the fight the better. If they allowed the importers to fix the time of the fight they would fix it when it would be most inconvenient for the dealers.

Mr. H. Cushen, who was called upon, as representing the Grocers Federation, to express the views of the retail trade on the matter said they unanimously supported the wholesale trade in the action they had taken, and looked to them, as being in direct touch with the brokers, to take the retailers' case in hand and deal with it, as their interests were identical. He thought the strength of the wholesale trade to a large extent lay in the unanimity of the retailers on the question. The wholesale dealers might depend upon it that the retailers would not receive their samples unless they carried the one pound draft. Retailers were not particularly satisfied with the one-pound draft; considering the many losses they sustained in handling the packages of tea and breaking them up into small quantities they felt that the one-pound draft was not sufficient to meet losses. There was first the grave question of super-tare. Then another question which would bring the wholesale and retail trade into conflict if the draft were abolished was the bulking of the teas. They often found cakes of tea in the middle of chests of Indian and Ceylon, and that was, of course, detrimental to the whole package; they also frequently received teas of improper weights. They might get an allowance from the docks, but even in that case it looked like robbing Peter to pay Paul, for where did the tea that was used to compensate them come from? The wharfingers did not pay for it. There were difficulties arising from the imperfect nature of the packages which caused the tea to reach the retailer out of condition and short in weight owing to leakage; and, indeed, there were many minor matters which would keep the retail and wholesale trade in constant friction, whereas under present conditions retailers were content to set the one-pound draft against the losses. If the proposal to abolish the draft were carried into effect there would be many complaints by the retail trade against the wholesale dealers, and there would also be much litigation. (Hear, hear).

The Chairman remarked that the proposal regarding the tea draft had—he had reason to know—already been seized upon as a pretext for raising the question of the drafts on a number of other goods. If the tea draft were abolished it would be the prelude to the grocers losing many other drafts. (Hear, hear.)

Several amendments to the resolution were suggested, and eventually the following motion was adopted:

That, owing to the decision of the Indian and Ceylon importers to abolish the customary one-pound draft allowance on tea on and after the 17th instant we protest most strongly against the manner in which we have been treated by the importers, and resolve not to attend to-day's sale, or buy either directly or indirectly any tea catalogued for this sale or offered privately. We also further resolve not to buy either directly or indirectly any tea privately offered or catalogued. and adjourn this meeting to consider the best means of continuing the opposition.

COMMITTEE MEETING.

Mr. J. Innes Rogers again presided at a special meeting of the General Committee, held at the same room on 4th ultimo, when the following resolution was unanimously adopted:—

This committee agrees to buy no Indian or Ceylon tea in sale or otherwise till after July 17, and after that date only on existing sale conditions

The discussion on this resolution mainly turned on the question of how those importers and planters could best be supported who were not in favour of the abolition of the draft. It was on the whole thought best to have this important point unsettled for the moment. It was also resolved to endeavour to arrange for a deputation to attend the Grocers' Federation Conference on Tuesday next.

Mr. A. J. Giles, Secretary of the Grocers' Federation comments thus :—

The absorbing topic which seems to swallow up almost every other in London this week is the proposed abolition of the one-pound draft on tea The importers' demonstration on Monday was followed by meetings of the wholesale and retail trade on Tuesday, whilst the effective abstentions from public sales this week have shown that the buyers are very much in earnest in the matter. The reasons given by the importers for the proposed abolition are—(1) That they cannot afford to continue it; (2) that it is effete and unnecessary. That the first argument can hardly be borne out is shown in the fact that the dividends of the leading eight companies amongst Indian and Ceylon planters last year were at the lowest 10 per cent., and the two highest 15 per cent. Of course this is hardly a matter for the buyer to consider, and doubtless would not have been raised if the importers themselves had not raised it. The second reason given by the importers is, of course, one which does affect the buyers, who affirm that the pound draft is necessary and if even that allowance were to be abolished, importers would pretty quickly wish it on again, for they would be speedily inundated with claims for defects in quality and quantity from which at present the pound draft saves them. They light-heartedly reply, "So much the better If we get claims, then we must look into and remedy them." That sounds very well, but every practical man well knows the friction, delay and annoyance which all that would involve. The whole truth of the matter appears to be that some of those purchasers whose tea is unsatisfactory, and who therefore do not pay, are urging the astute gentlemen who manage the Indian and Ceylon Associations in London to do something for them. Those undoubtedly able persons have looked with longing eyes on the pound draft for a long time, and now want to swoop down on it as the easiest way of satisfying their importunate clients. They intended it doubtless to be sprung suddenly on the trade after they had secured the adherence of all the planters. Their schemes, however, were discoverd, and the buyers exposed the move that was being so cleverly made, and which will now be resisted to the utmost.

There are incidents in the struggle which may be worth noting. It was said by the importers after the great meeting to protest against the change was held in the committee sale-rooms that such action was premature; that the importers in London were only seeking to ascertain the views of the planters in India and Ceylon; and that notice of some months would be given to the trade of the change. At the meeting on Monday the accuracy of these statements was illustrated by the announcement that the change in the conditions of sale, whereby the pound draft would be abolished, will take place on July 17! The buyers, therefore, were not very premature. The inquiry as to the views of planters turns out to be a document pledging them by signature to support the action of the London importers. The notice to the trade was fourteen days, and at a period when the new season's teas are being put on the market. The whole thing is a cleverly laid scheme to compass what never should be accomplished—the forcing upon buyers new terms and conditions without even a respectable show of reason or consolation. The grocers of the country, as distributors, have upheld to a man the Indian and Ceylon planters' successes by the wide advertising they have given to their teas, and now the importers want to bring on them conditions of sale which, if accepted, could only mean loss and annoyance. The present is certainly a good opportunity for the China and Java trade, as perhaps the Indian and Ceylon Associations may find to their cost.

A paragraph appeared in the *Times* this week to the effect that thirty tea planters had just left Calcutta for England, where they intend to push their own teas. Whether this is an intimation that these planters are dissatisfied with the way in which things are being managed in London, or whether the "planters" are garden managers who find employment rather scarce owing to an overglutted labour market, it is not for the writer to say. No doubt, however, we shall find interesting little paragraphs about tea planting in India and Ceylon pretty numerous for a time.

NOT HEAVY TO HIM.

The man on the elephant's back is nothing to the elephant The big beast doesn't mind him any more than one of those immense dray horses you see in London minds the brass ornaments on his harness. Yet on my back or yours the man would be a load: and, if fastened to a lark's wings, the little brasses would hold him to the earth.

Thus, we are reminded, my thoughtful friends, that there are no absolute facts. The burden depends on the back Albeit Samson walked off with the gates of Gaza, an ordinary garden gate would, I am sure, prove all that we should want to lug. It follows that weight or heaviness can, as the advertisements say, "be supplied in a variety of styles."

When, for example, Mr. Sidney Challanger mentions in a letter that at a certain period he was "heavy," he does not mean that he tipped the scales at a stone or two more than usual. His horse would have felt *that*, in case he rode one; but the truth is that at the time referred to he was actually under his proper weight by several pounds.

What he wants us to understand is that he was *heavy to himself;* it was not an increase of *weight*, but an increase of *weakness*, having practically the same result. His explanation is that in the early part of 1890 he began to feel ill and out of sorts. He went about in a mazy way, feeling badly without knowing what the trouble was or how to account for it.

"I had," Mr. Challanger goes on to tell us, "a nasty taste in the mouth and no relish for my meals." But eat we all must, or starve; and eat *he* did. Not much, though. At best it was a forced business. Nothing tasted natural or good, and he took just enough to keep him going until the next meal time should come round.

"And even for that I had to suffer," he says. "After getting it down I had, almost immediately, a sense of fulness or distension at the stomach and pain at the chest as if a bit of food had lodged there—which couldn't be."

No, nothing lodged anywhere. What there was of it went straight down into Mr. Challenger's stomach, where it at once began to ferment and produce a gas which caused the feeling of fulness, while the irritated nerves set up the pain. It was not too much food, but food not digested—food turned sour in the stomach—with the whole body behind it failing of the needed stimulus and nourishment of food, and wondering what the matter was. It was this state of matters that made him, to use his own words, "heavy drowsy, and languid."

Any river in England, after a long drought in summer, *looks* just as Mr. Challenger *felt*—heavy, drowsy, and languid. And for an identical reason—the lack of necessary supplies. Wait an instant, though! Don't miss the point.

The rain, when it comes, fills the river by a thousand little channels falling directly into it. Not so as to food and body. Between *them* is a process; a mechanical, chemical and vital operation—digestion. Mark you that, and act accordingly. Whether in the sky or on the ground water is water—the same thing.

But food and body are not the same thing. The first must be transmuted into the second by the miracle called digestion; for of all God's ways in nature none is more awful, more amazing, more glorious. And, when impeded or overborne, none which punishes the interference more certainly and swift.

"I got little or no sleep," continues our friend, "and awoke in the morning tired out, as after a hard day's work. Presently I could hardly walk, for very weakness, and from time to time had to give up work altogether. No medicine helped me—and I tried plenty.

"After three wretched years of this, Mrs. Bird, of Tallistorn, told my wife about Mother Seigel's Syrup, and through her, advised me to try it. She said my ailment was indigestion and the Syrup would cure it. And it did. One bottle greatly relieved me. I could eat freely, and food agreed with me. I persevered with the remedy and got strong as ever. All the pain and heaviness left me, and I felt light and energetic, although I have gained in weight."—Signed) Sydney Challanger, Gladstone Villa, Cwm, near Waunllwyd, Mon, August 30th, 1898.

MARKET REPORT.

Per Mail Advices, of 14th July 1899.

COFFEE.

The *London Commercial Record* says:—The bulk of the supplies offered at auction has again consisted of Costa Rica and Central American descriptions, and with a better demand the greater part has sold at steady prices to here and there a slight advance. East India has mostly been of unattractive quality and in consequence has been largely withdrawn, but where sales have been made, prices were quite steady; there has, however, been an excellent demand for cherry pickings, which met with good competition and nearly all sold at very full prices. The small supply of Plantation Ceylon realised extreme rates. "Futures" have sold to a good extent at prices which are about 6d down on the week, closing as follows:—

London ...	Santos ...	Sept. delivery	... 27s. 9d.
New York	No. 7 Rio...	„ „	... 4·65 cents.
Hamburg...	Santos	„ „	28¼ pf.
Havre ...	Santos ...	„ „	... 33¾ francs.
Holland ...	Good ordinary Java ...	...	... 26¾ cents.

Imports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
Tons	25,589	18,918	32,948	31,343

	Home Consumption.		Export.	
	1899.	1898.	1899.	1898.
Tons	9,023	8,007	12,774	14,109

The preceding figures exhibit—

	Tons.
In the Imports an increase this year of	... 1,605
In the Home Consumption an increase of ...	... 1,016
In the Export a decrease of	... 1,335
In the Stock an increase of	... 6,671

Auctions this week have passed off as follows:—

Ceylon Plantation.—24 casks 3 tierces 10 barrels and bags mostly sold, smalls 45s to 75s, low middling to middling greenish 33s 6d to 102s, good middling colory 106s 6d to 108s, fine bold 111s 6d to 114s, pea-berry 80s to 136s.

East India.—1,479 bags partly sold as follows:—*Neilgherry*, smalls 37s to 44s, low middling 48s to 51s, fair bold 70s to 71s, pea-berry 57s 6d to 70s. *Wynaad*, low medium greenish 33s, pea-berry 93s 6d. *Nelliampathy*, smalls 42s. *Putney*, smalls 43s

Liberian.—10 bags Penang sold at 23s to 27s, and part of 186 bags Johore at 15s to 19s.

Jamaica.—5 casks 468 barrels 92 bags partly sold, ordinary pale 25s to 25s 6d, good to fine ordinary 32s to 36s, fine fine ordinary to low middling 37s to 41s 6d, middling 43s to 47s 6d, bold 54s.

Costa Rica.—1,517 mostly sold, smalls 32s to 36s 6d, ordinary brownish green 26s 6d to 28s 6d, good to fine fine ordinary 36s to 42s, low middling to middling 45s to 56s, middling grayish 58s to 58s 6d, good middling blue 62s to 71s, bold 81s to 85s, pea-berry 32s to 73s.

Guatemala.—Of 3,759 bags offered the greater portion sold—smalls 27s 6d to 33s, good ordinary 33s 6d, fine to fine fine ordinary 37s 6d to 39s 6d, low midddling to middling 40s to 46s 6d, good middling 50s, fair greenish bold 55s to 64s 6d, pea-berry 34s to 53s.

Salvador.—5,634 bags nearly all sold, smalls 29s to 35s, good to fine fine ordinary 32s to 39s 6d, low middling to middling 41s to 46s. good middling blue 50s to 50s 6d. good bold grayish 55s, good bold blue 64s 6d, pea-berry 37s 6d to 61s.

Coban.—43 bags good bright blue sold at 70s.

Nicaragua.—1,083 bags sold—smalls 29s to 33s, good to fine ordinary 31s to 36s, fine fine ordinary 37s to 39s, low middling to middling 40s to 47s 6d, good bold 69s to 71s, pea-berry 31s to 46s.

Venezuelan.—Of 199 bags offered a small part sold—small 24s, ordinary to fine ordinary 28s to 35s 6d, pea-berry 46s to 48s.

Colombian.—1,781 bags partly sold—smalls 25s to 35s 6d, ordinary to good ordinary 30s to 33s, fine ordinary 39s 6d. low middling to middling 40s 6d to 46s, good middling 48s to 51s, good bold blue 59s to 64s, fine hard extra bold 88s 6d, pea-berry 40s to 73s.

Vera Paz.—478 bags partly sold—smalls 33s 6d, middling to good 44s to 68s 6d, fine bold 92s 6d to 94s 6d, pea-berry 65s to 83s.

Ecuador.—128 bags sold at 31s for good ordinary greenish.

Receipts in Rio and Santos.

Since July 1	1898-99. Bags.	1897-98. Bags.	1896-97. Bags.	1895-96. Bags.
Rio	76,000	102,000	135,000	136,000
Santos ...	162,000	167,000	217,000	163,000
Total ...	238,000	269,000	352,000	299,000
Crop		8,772,000	10,461,000	8,680,000

Rio Exchange.—8 3/16d, previous day, 8 7/32d.

Havre, *July* 13.—Santos good average July opened steady at 33¼f. & closed steady at 33½f., September opened at 33½f. & closed at 33¾f.

Hamburg, *July* 13.—Good average Santos July opened quiet at 28pf. and closed dull at 28pf., September opened at 28¼pf. and closed at 28¼pf.

New York, *July* 12.—Closing prices of No. 7 Rio were as follow:—

	July.	Aug.	Sept.	Oct.	Nov.
July 12 ...	4·55	4·55	4·65	4·70	4·75
July 11 ..	4·60	4·65	4·75	4·80	4·85

The sales to-day went off very heavily at prices in many cases 6d to 1s per cwt. lower. Supplies consisted of 9 casks, &c., Ceylon, 11 bags Jamaica, 296 bags Costa Rica, 732 bags Guatemala, 739 bags Colombian, 1,284 bags Salvador, 424 bags Nicaragua, 80 bags Peruvian and 257 bags Mexican.

Prices realized at auctions for some of the principal marks of East India—

NEILGHERRY.	A	B	C	PB	T
Variday Mullay	72-0 bid	52-6	41-6	71-0	32-0
Leighwood	47-0 bid	37-6 bid	35-6	57-0	24-6
Murroomullay	53-0	40-0	34-0	55-6	28-0
Elephant Devicolam Estates Co., Ld., Talliar	64-0 bid	46-0 bid	44-0	57-6	34-6
Do. do. do.		51-6 bid	...	70-6	...

COORG.	A	B	C	PB	T
D L Coorg	57-0	43-0	39-6	58-0	31-0
Coorg Cota Kadoo..	41-6	38-0 bid	28-6	no bid	25-6

	1	2	3	PB	T
M G Saraswati Sunti Kopa	no bid	no bid	...	no bid	33-0
C M N Korthikad	41-6 bid	38-6 bid	...	45-0	28-0

MYSORE.	0	A	B	C	PB	T
H C K Mysore		85-0	63-0	40-6	80-0	36-0
H C S S Mysore		60-0 bid	39-0 bid	33-6	48-0 bid	25-6
M B Merthikhan Mysore		48-0	39-0 bid	35-0	47-0	29-0 28-6
Hyathkan T Mysore		68-6 bid	44-6 bid	40-0	66-0 bid	30-6
Kanakana Dody Mysore		90-0	64-6 64-0	52-6	73-6	37-6
H M B Yemmekhan Mysore		72-6	49-0 bid	41-0	67-0 bid.	29-0

	1	2	3	PB	T
Nabbi Sahib Heri Hasade Mysore .. (Cherry)	47-0 bid	44-0 bid	42-0 bid	43-6 bid	26-6

NAIDOOBATUM.	A	B	C	PB	T
Barwood W P C (cherry)	42-0	40-0	33-0	40-0	23-6
Kelly W P C	no bid	no bid	33-0	no bid	...
Do. do. (cherry)	...	40-0	38-6	33-0	44-0

WYNAAD.	A	B	C	PB	T
Moyaar Estates	49-0 bid	38-0 bid	...	45-0 bid	25-0

NELLIAMPATHY.	A	B	C	PB	T
O C C Alexandra	65-6 bid	44-6 bid	42-0	65-0 bid	31-6
Do. do.	64-0 bid	no bid	...	no bid	30-0
Wallia Warrum	no bid	44-6 bid	42-0	no bid	29-0

TEA.

China.—A certain amount of activity has been noticeable during the week, and some few thousand packages have been sold at full prices, including Keemun at 11d to 1s, Ningchow at 11d, fine Pekoe Congou 9½d, common new Congou 5d, and Red Paklin 7½d, with common at 5½d per lb At auction, since our last, 5,469 packages have been offered and partly sold at rather below private rates in some instances, *viz.*:—Monings 5⅝d to 6½d, Kaisow 5½d to 6½d, Paklin 7d, Scented Ouchaine 4¾d, old season's Oolong 4⅛d to 4¾d per lb.

Samples of the new crop both from Hankow and Foochow ex *Glaucus* (SS.) were placed on the market on Monday, 10th instant. Sales, including those made to arrive, are estimated at 9,000 packages of black leaf, prices ranging from 5½d per lb. for common to 1s 8d per lb. for a fine Rintuck. Quality is considered scarcely up to that of last season. Red leaf has been dealt in to a moderate extent, quotations being from 5¼d per lb. to 10½d per lb., and 3,000 packages are said to have changed hands, the teas being about up to the average. The *Oanfa* (SS.) from Hankow with a full cargo is also expected in a day or two.

Indian.—Owing to the continuance of the dispute between the importers and growers and home buyers regarding the 1-lb. draft, no auctions have been held this week, the few small catalogues issued being withdrawn. Business is therefore practically at a standstill except for export, a fair quantity having been purchased for the Continent and outside quarters.

At present 13,600 packages (5,400 new season's) are printed for Monday. 17th instant, 900 packages being on estate account, and 5,000 Calcutta bought, while the remainder are from second hands. These are all advertised to be sold with the 1-lb draft as usual.

Ceylon.—Only 459 packages passed the hammer, but no bids were forthcoming. The remainder of the quantity which had been declared was not submitted for competition.

So far as the London dealers are concerned nothing is doing, but there has been a moderate demand from shippers who are inclined to buy where prices are a little easy.

For next Tuesday 11,400 packages are advertised (3,000 on garden account, 2,900 Colombo bought and 5,300 from second hands); all these will be offered with the 1-lb. draft.

Java.—No sales can be reported, but 2,125 packages are put forward for Monday and Tuesday, 17th and 18th instant, (1,906 being of direct import), on which it is understood that the 1-lb. draft will be allowed.

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns, were—

		Lbs.
From 1st to 11th July,	1899	5,247,360
Do. do.	1898	5,779,054

IN CANADA.

Toronto advices, dated 29th June, state:—

Indian teas on spot at 15c., and Ceylons at 16½ to 17c., are in fair demand, but stocks are light. Good values are being shown in Ceylon teas at 20 to 22c.

PEPPER.

Black.—Spot transactions are comparatively small, but prices are steady; Singapore short prompt has sold at 5¼d. To arrive 100 tons done at firm rates Singapore, June-August 5⅜d, July-September (s.) 5 7/16d, August-October 5½d to 5 17/32d.

At public sale on the 12th instant, of 26 bags Singapore offered 2 bags sold at 4⅞d for damaged; 12 bags fine bold heavy brown Tellicherry sold at 5¼d, whilst 110 bags retired at 5¼d, as did 382 bags Penang at 5⅛d (except a few bags 3 lbs. 9 ozs. weight, dust 4 per cent. per gallon, which sold at 4⅝d to 4¾d), and 150 bags Trang at 5⅝d per lb.

White is also firm, but business is small, including Penang on spot at 7 15/16d to 8d. and Singapore August-October (s.) at 8 9/16d per lb.

At auction on Wednesday 486 bags Singapore were bought in at 8⅛d to 9⅛d, also 128 bags Siam at 8⅛d, and 108 bags Penang at 8d per lb.

COCOA.

The restricted supply of 1,658 bags submitted for competition at the auctions on the 11th instant, produced but a poor enquiry, only 500 bags selling at about steady prices. Of 400 bags Trinidad catalogued 130 bags sold at 65s to 67s for good red, or on a par with last week's range. 12 bags St. Lucia retired unsold, as did 45 bags Bahia and 159 bags Caracas. 68 bags Surinam about one-third part sold at 56s to 60s for common to fair. Of 380 bags Guayaquil offered, only 30 bags sea-damaged sold at 57s to 60s. Stand-out lots of Ceylon realised long prices, and for the ordinary grades previous values changed hands; 591 bags catalogued and 320 bags sold—superior bold red 82s 6d to 85s, middling bold and medium red 64s, ordinary Native, mixed with defective, 58s to 61s, packings 58s per cwt. Transactions privately comprise 100 bags Trinidad at 64s to 66s, 150 bags fine Grenada at 62s, 150 bags Samana at 56s to 57s, about 1,000 bags Guayaquil—Caraquez at 67s 6d to 68s 6d, Arriba at 70s to 72s, and 500 bags Ceylon at 58s to 63s per cwt. for ordinary to fair.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

	1899.	1898.	1897.	1896.
	Bags.	Bags.	Bags.	Bags.
Imports, B.P. ...	95,550	102,345	89,007	96,381
Foreign ...	40,909	88,607	41,197	41,619
Home Con., B.P ...	48,502	63,148	47,999	42,767
Foreign ...	29,508	33,632	34,339	33,287
Exports, B.P. ...	27,102	21,139	25,968	22,448
Foreign ...	15,492	16,832	23,357	15,184
Stock, B.P. ...	65,529	78,097	92,916	97,020
Foreign ...	48,483	51,643	43,720	69,216

GINGER.

Cochin.—Much more moderate offerings than of late were exposed, the total being 195 cases 412 bags. A steady tone prevailed, but only 20 cases 135 bags sold—plump medium cut, in bags, 45s. good bold branchy rough, limed, partly scraped (20 cases) 48s 6d, good plump medium and small washed rough 23s, and brown shrivelled rough 17s 6d to 18s per cwt.

Jamaica.—The brake has been applied to the continued decline in values here, and holders were enabled to retrieve a little of the lost ground. 672 barrels were catalogued and 270 barrels sold as follows:—Good boldish bright washed 66s 6d, ordinary to good ordinary 52s 6d to 58s, and common to good common 48s to 51s. per cwt.

Nicaragua.—This new source of supply was represented by 9 cases of hard dark scraped Ginger of a Jamaica character; they sold with difficulty at 40s per cwt.

CINCHONA.

Up to the present five brokers have declared cinchona-bark for sale next Tuesday. The total amounts to 974 packages.

The exports from Ceylon for the week ending June 20 were 1,463 lbs., and from January 1 to June 20 they were—

	1899.	1898.	1897.	1896.
Lbs. ...	411,373	395,716	346,216	570,361

The "Vriesseveem" cinchona-bark department at Amsterdam has received a telegram from Java announcing the bark-shipments from June 6 to July 10, 1899, at 1,130,000 lbs.; and from January 1st to July 10th 4,978,403 Amst. lbs.

At the auctions held at Amsterdam on 13th July the moderate supply of 6,811 packages (5,456 in June) was offered for sale, of which 6,493 packages found buyers, at an average unit of 7·60c. per half-kilo., as compared with 8·25c in June. The following were the approximate quantities purchased by the principal buyers:—American and English factories, who purchased the quinine-equivalent of 6,427 kilos.; Brunswick, 5,908 kilos.; the Mannheim and Amsterdam factories, 6,435 kilos.; the Frankfort-on-Maine and Stuttgart factories, 6,550 kilos.; and various buyers, 2,899 kilos. The prices paid for the manufacturing-bark ranged from 9c. to 85c. per half-kilo., and for druggists' from 12c. to 78c. per half-kilo. The tone of the market was firm at the decline.

QUININE.

At the close of last week the spot quotation in second hands was 1s. 3¼d.. and August delivery at 1s. 3½d., with a small business in the latter position. On Monday the market opened quiet, but fairly firm, small sales being reported at 1s. 3¾d. for October, and unchanged figures for August. Since then there has been no business to speak of, and quotations remain unchanged in all positions. On Wednesday 1s. 3⅜d. was paid on the spot for a small lot, and there were buyers at 1s. 3¼d, but no sellers under 1s. 3½d. Some manufacturers report a fair consumptive demand at the quotation of 1s. 6d per oz.

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

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SUBSCRIPTION.—Payable in Advance: Yearly, Fifteen Rupees; Half-yearly, Eight Rupees; Quarterly, Five Rupees, and Monthly, Two Rupees, including postage. Single Copies, Eight Annas.

ADVERTISEMENTS.—The charge for line advertisements is As. 4 per line for the first, As. 3 for the second, and As. 2 for the third and succeeding insertions. Five-line (or shorter) advertisements from Subscribers will be inserted for three issues for One Rupee; non-Subscribers will be charged Two Rupees.

DOMESTIC OCCURRENCE.—The fee for inserting a domestic occurrence will be *One Rupee* for each insertion, payable in advance.

N.B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 18th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, *9th August.—Weather*—In last report I was made to say that 45 inches of rain had fallen on the Friday previous. This was owing to the omission of the decimal point. It should have been ·45 inches. Another feeble advance of the monsoon took place on the 7th. There was high wind on that day and ·05 inch rain fell at night. Yesterday it was gloomy for the most part; but only ·15 to ·25 inches rain fell. It is dull and windy this morning. It is hoped that more rain will follow. *Plant diseases.*—Borer being still removed. Leaf disease bad in parts. Slight improvement in prices of grains.

TEA AND COFFEE.

Among the subjects for consideration at the Annual Meeting of the U. P. A. S. I. next week are some that will need to be discussed with quite exceptional moderation and tact, if the unity upon which the Association places so much reliance is not to be disturbed, and if its funds are not to be unwisely expended. Both tea and coffee-planters are eager to discuss the development of markets, the expansion of consumption, the advertising of Tea and Coffee. Now, it is beyond question that the two beverages are, in a way, rivals; and the successful advertising of one would mean more or less damage to the interests of the other. Both being represented by one Association, the plans of that Association will have to be very carefully considered, if friction is to be avoided. As far as Tea men are concerned, the scheme that is likely to be put forward seems to be based on co-operation with the Indian Tea Association and Ceylon planters. It is apparently thought that

all South India has to do is to levy a tea cess, or some corresponding charge on tea estates, pour the money into the general Ceylon-Indian Tea Fund, and take such share of the results as may fall to her. If the expenditure of money means enterprise, this is enterprising; but we hold to the opinion previously expressed that it is improbable that South India will benefit by the above procedure to anything like an extent commensurate with the expenditure involved.

As regards Coffee, *advertising* is one suggestion. Well, the *Singapore Free Press* informs us that on the very day the U. P. A. S. I. opens its meeting at Bangalore, the United Planters' Association of the Federated Malay States is to hold a general meeting at the Sengalor Club, Kualalumpur, and consider the commercial value of advertisement in regard to coffee. A scheme has emanated from America for stimulating the consumption of coffee by producers all the world over raising an advertising fund by voluntarily taxing their coffee 5 gold cents or 10 dollar cents per bag. It is estimated that £125,000 per annum could be raised in this way, a sum more than sufficient for the purposes of the most liberal advertisement. But, it is not so clear who would be the gainers. If we are correct, the scheme under reference is one that is being promoted by the *South American Journal*, and that has for its main object:—"To bring before the public and advertise the great hygienic and dietetic merits of coffee. To instruct consumers how to prepare it and facilitate the distribution of pure coffee. To compile authentic market statistics, secure the reduction of import duties, and secure from different Governments the funds to carry on the propaganda." Now the Brazilian view is that a regular propaganda for encouragement of the use of coffee, especially in England, where the actual consumption is so small and possibilities so immense, is the only practical means of balancing consumption and production. At the same time, some people maintain, that such a propaganda should be commercial and not official; completely independent of any assistant from the State, or any attempt to burden coffee any further. It is argued that Brazilian export duties absorb a minimum of 11% of the value of coffee and often more; freight 16% and commission and cartage 6 to 7%; leaving only about 65% for the planter for expense of production and profit. In Rio and Minas, where the yield does not average more than 30 to 40 arrobas per 1,000 trees, the profit is often reduced to *nil* and rarely exceeds 1$ to 2$ (8d. to 1s. 6d.) per arroba of 15 kilos. Under such circumstances, it is folly to talk of increasing taxation, unless it be the object of Government to drive coffee out of cultivation altogether. On the other hand, it is realised that whilst Government cannot interfere with any advantage, it is unlikely that planters can do anything on their own account either, at present at least. They are so hard-hit by the fall and so generally hard-up as to have no money, often not sufficient to pay their debts with, let alone to go in for propaganda. Still, the conclusion arrived at is that if any such attempt is to prove really useful it must notwithstanding start with the planters themselves and be conducted in a practical manner by business men and not by Governments or newspapers.

What our friends have to consider is this point: Does it follow that it will be beneficial for South Indian Tea and Coffee-planters to join in the carrying out of schemes specially devised for the benefit of South American Coffee and Ceylon and Indian tea? We do not think the Coffee men have such co-operation in view; for the example of pushing South Indian Coffee on its merits has already been set. If, then, Coffee is to be pushed independently, why should Tea be thrown in with the vast bulk of Ceylon and Indian teas, and considered as competing only with China leaf? Advertising and pushing of sales should, we think, be carried out in a spirit of independence and fair competition. The stamping-out of adulteration or trade abuses is the kind of matter that requires co-operative treatment on the part of all planters interested, be they English or Brazilian, Chinese or Mexican. Even in regard to such matters, practical co-operation is not easily managed, as instance, the want of cordial understanding and shoulder-to-shoulder, fighting on the part of India and Ceylon in regard to the 1-lb. draft question, wherein the interests of the two communities were identical. We may parody an old saw and say in conclusion: "Co-operation and Union are good servants but very bad masters."

LADY-BIRDS.

In an article on "Hawaiian Plants and Pests," Mr. Geo. Compere gives in the *California Cultivator* some very interesting information as to Professor Koebele's successful introduction of Lady-birds into the Sandwich Islands. None of the tropical trees, and shrubbery and flowering plants in those trees are indigenous, and the probability is, of course, that the pests that have had to be dealt with of late years were imported with the plants. It was, therefore, a case of exterminating imported pests by means of imported friendlies. The former had virtually put a stop to citrus and coffee cultivation and it was only when driven by dire necessity that the Hawaiians thought of trying Professor Koebele's plan of setting an insect to catch an insect. They secured his services, giving him a good salary and all his travelling expenses, one-half being paid by the Hawaiian Government and the other by the Planters' Association. When Professor Koebele began his work, there were sixty species of scale insects to be found on the island, and among them some of the most destructive known, such as the purple scale, *Mytilaspis citricola*, Packard; long scale, *Mytilaspis gloverii*, Packard; mining scale, *Chionaspis biclavis*, Coms; white scale, *Icerya purchasi*, Maskell; *Aspidiotus longspina*, Morgan; *Lecanium acuminatum*, Signoret; *L. longulum*, Linnæus; *L. nigrum* Nietner; *L. tessellatum*, Signoret; *Parlatoria zizyphi*, Lucas; *Dactylopius chalceolariæ*, Maskell; *D. adonidum*, Linnæus; *D. ceriferus*, Newstead; *D. vastator*, Mask; and about forty-five other species of scale pests that are more or less destructive. But relief came with the introduction of the beneficial insects, says Mr. Compere, and plantations that were a great expense to their owners under the old method of fighting the pests with artificial means, are now a source of great revenue to them, and none of the various scale insects that were once such pests are considered such any longer, they all being kept in check by the various parasites introduced, the only scale prevalent on the islands at this time, being what is called the wax scale, Ceroplastus rubens, Mask; this one is not very injurious compared to other scale.

Of the various parasites introduced by Professor Koebele on to the islands and the most valuable to the planters was

the lady-bird *Chryptolæmus montrouzieri*, Mulstant, that rid the plantations of one of the most pernicious coccids ever met with, *Dactylopius vastator*, Mask. This lady-bird was introduced from Australia. *Chilocorus corcumdatus*, Gyllh, was introduced from Hong-Kong, China. This one rid the citrus trees of the purple scale, and *Orcus chalybeus*, Boisd, has rid the citrus trees of *Parlatoria zizyphi*, Lucas. *Vedalia cardinalis*, Mulstant, has checked the spread of the white scale; *Rhizobius ventralis*, Erichson, has rid the islands of the various Lecanidæs; *Platyomus lividgaster*, Mulstant, and *Coccinella rapanta*, Thum, destroy all of the various Aphis or plant lice, while *Scymnus punctum* keeps the red spider, *Tetranychus telarius*, in check.

What we would specially note in this connection is that, although it is a case of imported insect against imported insect, there appears to have been no attempt to import, say, from Australia the enemy of a pest known to be imported from that colony. It is fair to assume that "the friendly" obtained from one country has exterminated the pest inadvertently imported from another. This goes a long way towards showing that there is no good reason why *imported* "friendlies" should not similarly dispose of *indigenous* pests. If the beneficial insects now needed by coffee-planters are to be had in India, so much the better: they will cost less and give less trouble than importations from Australia and the Cape; but there is no reason why the latter should not be tried—and found successful.

"ALL ABOUT RUBBER."

The title suffices to show that the book before us issues from the *Ceylon Observer* Press. It is one of the unfair titles of an unfair series of titles Many years ago, a barber in England put up a new signboard which read on first appearance:

What do you think I'll shave you for nothing and give you a drink.

Imagine a note of interrogation after "think," and you will understand why that particular barber had a rush of custom. But while the customers were in, the painter was out, and by the time they were shaved, the signboard was completed and read:—

What! do you think I'll shave you for nothing and give you a drink?

The title of the "All about" series is to the full as misleading. Readers, no doubt think that the books tell them all that is to be told about Tea, Rubber, &c., whereas the publisher, if "heckled," would probably plead that his meaning was that the book was all about Tea, or Rubber, or what-not, and did not deal with anything else.

As for the book before us, it is a useful compendium of information about rubber in many parts of the world, and about different species of rubber trees. It is a veritable mine of information, but the reader "cannot see wood for trees." It is overcrowded, in fact, and the difficulty will be for the would-be planter of rubber to assimilate the masses of information that are placed at his disposal. The early part of the work gives a very interesting review of Rubber in Ceylon, the rest deals with it elsewhere. If the work has been completed with care, as a glance through it would lead us to suppose it has, what it does not contain should be of the "not-worth-knowing" order. The book has reached a third edition.

DRAFT AND TARE.

We devote considerable space again to the subject of the Tea Fight—now happily at an end. It is scarcely necessary to say that we do not agree with the *Times of Ceylon's* opinion that planters have obtained more than half a loaf instead of the full one-pound loaf they asked for. To us it seems rather that they have obtained less than half, and that, whenever the import duties on Teas in England are abolished, the benefit will cease, as the customs authorities will no longer have anything to do with the tare of chests. Nor do we follow the Ceylon papers in the idea that the ½ lb. mentioned by Reuter refers to gross weight of chests as well as to tare. Surely, if that were so, it would have been specially mentioned. The account of present conditions given on another page shows what is done now. Whether the tare conditions alone are changed, or both gross and tare, we shall probably only learn from mail advices. In the meantime, we see nothing to be gained by blinking the fact that planters and importers have suffered a defeat—and a merited one. However just their cause, their plans were laid with almost marvellous unskilfulness, and it must be admitted that "the other side" had a good deal of sound sense to put forward in support of their view of the case. Mr. "Francis Ford," an old friend of some of our readers, "let himself go" in the columns of the *Daily Mail*, but good jouralism is not always quite in accordance with business methods and requirements. High falutin talk is bad enough in matters of this kind, but when it comes to newspaper-writing—well, we can only observe that Mr. "Ford's" remarks might possibly have stirred-up dissension, and prolonged an evil struggle, but they could not have helped importers to get an inch nearer to victory. It was not only a settlement that was wanted, but a good understanding also; and this has been arrived at, if not wholly, at least in part.

MANURING OF TEA.

A writer in the *I. P. G.* considers that the time has come to commence "experiments" about manuring on a large scale, and he predicts that, within five years, "several of the best and most far-seeing estates" will be found to manure their tea *annually*. He has been trying to work-out on paper how much can one afford for manuring. We do not think his figures worth very much, as much of them appears to be mere guess work, and the whole depends on a calculation that manure would increase the yield by one maund per acre. Hence it will be sufficient to say that it is reckoned that Rs.20 per acre could be spent on manure *without loss or gain*—allowing Rs.12 per maund of tea for manufacture and selling, *i.e.*, the leaf from bush to sale-room. Rs.18 per acre is thought to be enough to give an increase of 1 maund per acre. Where we do agree with the writer, however, is in regard to his suggestion that several estates might conduct systematic experiments according to a fixed plan, and then compare notes. Thus—No. 1 estate, three plots, at Rs.10, Rs.20 and Rs.30 of castor cake. No. 2 estate, the same area and expenditure of bones. No. 3 the same of grass mulching. No. 4 the same of leguminous green manure crops. No. 5 could try the expenditure of Rs.1,200 on 20 acres = Rs.60 per acre, which would show the ultimate possibilities of manuring

heavily. In the meantime planters could send in reports of the results of heavy manuring.

It is along such lines of practical investigation that both coffee and tea-planters should now push their way. If every important estate would establish a small "experiment plot" and have progress recorded systematically, according to—as far as possible—a uniform plan, the results would, we feel sure, be of great utility to the planting community. They would have to be waited for, but all good work in the direction of investigation or research must occupy time. The sooner it is taken in hand, the sooner the results will be available.

TEA FROM SEED TO CUP IN SOUTHERN INDIA.

(By Thomas Brown, Glendale, Coonoor.)

VIII.

Treatment of young Plants.—At the end of the second or beginning of the third, the young bushes need to be treated, so as to form good bushes. Let it be understood here that the end of the second year is twenty-four months from the time that the seed was put down to germinate. Some planters advocate leaving the bushes alone till the end of the third year, some cutting down to 6 inches from the ground those that are bushy and have attained a height of 3 feet. This latter plan we have tried and found excellent, particularly if the weather prove propitious. A safer plan, and one followed invariably upon these Hills twenty years ago, is to just cut out strong central shoots and trim all laterals, to give them an outward tendency, going round the fields occasionally and doing as little as possible to check growth: just so much as one would do to train a vine, a peach or an apple. The bush will then assume a fine shape, have a good spread and give a fair amount of leaf while young. On no account must the shoots at the sides be plucked until they come up to the level of the top. A good height to prune down to is 18 inches. The coolies should be furnished with sticks notched to 18 inches, which is placed down the centre of the bush before the cut is made. When the first leaves are ready to pluck, the women should be furnished with sticks notched to 24 inches and compelled to pluck only those shoots that top this height. After plucking off the tender shoots at the top (two leaves and a bud), should the stalk plucked be higher than 24 inches, it should be broken back to that height and the portion broken off thrown away. Time was when all tender leaves from the broken portions could be taken and manufactured into coarse tea, but it does not pay to trouble with it now-a-days. Scrupulously remove all suckers that come up off the roots, but be careful not to break away shoots from the stem, even when they are only an inch or two off the ground. Bushes that stool from low down, become finer than those that have 12 and 15 inches of clear stem. After most careful watching and experiments, we are decidedly of opinion that suckers off the roots lead to most wretched tea and are the cause of 90 per cent. of the troubles of manufacturers of tea. Even the China bush, when trained as a standard and scrupulously kept so, yields leaf with fine buds and a leaf that colors quickly and satisfactorily. A bush allowed to sucker freely goes from bad to worse. The leaf is nearly always banjy, the coloring dark and the liquor weak, in spite of the greatest care in manufacture. We consider that some rich China tea that would be very much sought after in Mincing-lane, and that would now command very high prices would be possible, had the China bush had fair play, and been trained all through as a standard: and are inclined to attribute the high quality of some Darjeeling gardens to the bushes being so trained accidentally or otherwise. We state this without ever having visited that district, or had our opinion confirmed by any visitor or cultivator of those parts. We do not think that the pure Assam is capable of giving a flavour such as Darjeeling is so famous for!

Produce per Acre—on these Hills—is just one-half in China as what it is in Assam varieties, all other things being equal; but we do not see why, with proper treatment, prices of China leaf tea should not be double that of Assam. Quite the contrary pertains at present we are aware, but this is due, as already indicated, to want of proper cultivation of the China bush, and also partly to the broker deciding value by strength of liquor and pungency, as much as by flavour. Personally, we prefer to drink tea made from China leaf to that from Assam, as the latter has an unpleasant bitter taste with but little flavour; and several cups, after a heavy meal, prevents digestion and leaves many regrets! No wonder that the doctors have so much to say against tea-drinking. If the planter is to succeed directly with consumers, he must strive to have a blend of the various varieties.

Pruning.—This operation is needed by the tea bush, periodically, if the maximum produce per acre and good quality are to be secured. Very little is needed by the bush up to its seventh year, unless growth has been extremely vigorous. An annual cutting out of water shoots (called gormandizers in coffee), and all shoots that spoil the symmetry of the frame, with a levelling down to various heights, being all that is necessary. Good brown wood of quarter to half inch in diameter is what must be aimed at.

Heights to level to—must be determined by the appearance of the bush; but these may be roughly put as follows:—

2nd year	18 inches as stated before.
3rd "	23 inches or an inch below what the bush is supposed to be plucked at.
4th "	22 inches.
5th "	21 inches.
6th "	20 inches.
7th "	19 inches, or an inch above.

What the young plants were topped at after that, the cut can be below the 18 inches, say, 15 to 16, and on to straight wood, removing all knots.

THE U. P. A. S. I. SECTION.

[UNDER THE CONTROL OF THE SECRETARY, U. P. A. S. I. (INCORPORATED)].

The following extract from a letter from Dr. Geo. Watt, to the Secretary of the Chamber of Commerce, Madras, should receive the attention of planters and more particularly of the Honorary Secretaries of District Planting Associations. Dr. Watt says:—The Government of India have authorised me to make tour to the chief commercial centres of India. It is presumed that there may be many points regarding which information may be desired by the merchants and manufacturers, as such details can often be best settled by personal dealings. I hope to reach Madras on Monday, 16th October, and to stay until the 19th. I propose to visit Tanjore on the 21st and

22nd; Trichinopoly, Monday 23rd and Tuesday 24th; Dindigul, Thursday 26th and Friday 27th; Madura, Saturday 28th and Sunday 29th; Tuticorin, Monday 30th and Tuesday 31st; I shall then very possibly go to the Nilgiri Hills, from Thursday, the 2nd November, to Monday, the 6th; I shall break journey at Coimbatore for Wednesday, the 8th, and proceed on the 9th to Calicut; I next contemplate marching through the coffee districts to Mercara, where I hope to arrive about the 20th November; from Mercara I propose, if possible, to visit other coffee plantations till the 24th and reach Mysore on the 27th; Bangalore on the 30th November and 1st December and sail from Madras for Burma on the 7th. As I should like very much to see as much of the tobacco and coffee industries of South India as possible, I shall deem it a great favour, if you will be good enough to mention the above tour to any persons likely to be willing to assist me.

* * * *

It may be mentioned that Dr. Watt has also written to the Secretaries of the Bengal and Madras Chambers of Commerce concerning the efforts that have been made during the past few years to organise "what may be called a Commercial Museum in connection with the Indian Museum, Calcutta, and the Imperial Institute, London." The work done up to the present time appears to consist principally of the collection of "produce of every description known to the people of India." A hope is now expressed that merchants and manufacturers will submit samples of such produce, thus supplementing the work already done by Government officials. Dr. Watt gives a classified list of Madras economic products and manufactures and offers sundry remarks on various articles.

* * * *

Regarding the products of most immediate interest to our readers, Dr. Watt writes :—

Tea.—The remarks that I have already offered in my letter to the Bengal Chamber (copy of which has been appended) apply with equal force to Madras. I should very much like to obtain as full and comprehensive a series of samples as possible. What is meant by Hocorra Tea? (shipment March 27th, 1899). I am led to understand that a patent mixture known in London as "Jyree Tea" is exported from Madras, but I can find no confirmation of this in the Trade Returns.

Coffee.—This article is grown all over Western India, and here and there in the other provinces (more especially Burma) has alone attained commercial importance in South India. It is most desirable, therefore, that the planters and agents concerned in this trade should furnish a complete series of samples. If possible, these might be shown in every stage of manufacture, the ripe berries being preserved in a strong solution of alum in water. Every recognised quality of the prepared article should be fully exemplified. A large glass case has been specially set up apart for this industry, alongside of the cases devoted to tea; but at present no samples of coffee have been received. As indicated in my remarks, in connection with Bengal Tea, it is hoped that the chief coffee plantations will participate so as to make the display a satisfactory one.

Condiments and Spices.—The most important articles of this class met with in South India are cardamoms, black pepper, nutmegs, turmeric, ginger, chillies, tamarinds, cloves, coriander, omum (*Carum copticum*), fennel and adjawan. The last mentioned, I am not sure that I know. Is it *Carum roxburghianum* of my Classified List? I should have thought it might have been *Carum copticum* (the ajwan and ajowan of other provinces), but for the fact that that seems to be the omum of the Madras Daily Lists.

Cardamoms and Black Pepper.—Perhaps the two most important in the above series are cardamoms and black pepper. It is desired that all the recognised trade qualities of each known spice should be fully represented, and, where plantations exist for any of these, it is further desired that special contributions may be obtained with the object of exhibiting the names of the plantations, agencies, &c.

THE BOTANICAL SURVEY OF INDIA.

The following is the Report of the Director of the Botanical Survey of India for the year 1898-99 :—

During the year 1898-99 every advantage was taken of the funds placed at the disposal of the Botanical Survey for exploration in Burma, Assam, and Bangal. In Burma, attention continued to be given to the Kachin region, where a native collector was at work under the supervision of Lieutenant Cruddas, S. C, whose assistance to the survey was acknowledged in last annual report, and afterwards under the supervision of Lieutenant Lee, S. C., who has most kindly continued the work initiated by his predecessor. In June 1898, however, Lieutenant Lee had to suggest the necessity for recalling the collector Mokeem, whose health had broken down. From the Chin region, Mr. Prazer, formerly a Collector of the Survey, sent some plants, while Mr. Peche, of Moulmein, again assisted the Survey by making collections on its behalf in Tenasserim. In Assam, attention has been particularly given to two areas, the Jaintea Hills and the Eastern Naga Hills. In the Jaintea Hills, some trained Lepcha collectors selected by Mr. R. Pantling of the Cinchona Department have worked during the past cold season under the supervision of Mr. S. E. Rita, Assistant Commissioner at Jowai; the results of their work are most satisfactory. In the Eastern (Jaboka) Naga Hills, an area never before botanically explored, a native collector, Abdul Huq, was at work from September 1898 till the close of the official year. The results of his work have also been good; this is altogether due to the kind assistance given to Abdul Huq by Mr. T. F. Severin, of Tingali Bam, whose influence with Nagas has enabled the collector to visit the area in safety. The Director of the Survey visited the Andamans in January 1899, taking with him the collector Mokeem, whose health had, meanwhile, improved. Advantage was taken of this visit to investigate points of interest in connection with the Andaman vegetation, and the native collecter was left behind under the protection of Mr. E. H. Man, C.I.E., to assist the permanent collector whose work Mr. Man kindly superintends. This permanent collector, Behari, has been at work throughout the year collecting in various parts of South Andaman and in the Nicobars. Shortly before the close of the official year, an opportunity was afforded of visiting North Andaman, the botany of which is not well known, owing to H. M. I. M. *Investigator* proceeding there on survey work. Captain Anderson, I.M.S., Naturalist, attached to the Marine Survey, very kindly took Mokeem with him during the month of February 1899 to collect on behalf of the Botanical Survey. In Bengal collections were made, in connection with hand-lists which the Director of the Survey proposes to issue, in various districts that are not yet adequately surveyed, and with the aid of Mr. G. A. Gammie, an interesting collection of fruiting specimens was obtained from the Eastern Himalaya. The Director was further able to depute Mr. Gage, the Curator of the Calcutta Herbarium, to the South Lushai Hills, a region that is botanically quite unknown, from 15th March 1899. Major Shakespeare, C.I.E., and the other officers of the Lushai Hills gave every assistance to Mr. Gage, the results of whose deputation will have to be fully dealt with in the annual report for 1899-1900.

2. *Survey of Northern India.*—The report for 1898-99, prepared by Mr. Duthie, who was in charge of the department throughout the year, is submitted in original. His duties have, as usual, included those of instruction and examination at the Forest School, Dehra Dun, those of inspection of Government Gardens, Parks and Reserves in the North-West Provinces, and that of a visit to Calcutta to compare with the material in the Herbarium of the Royal Botanic Garden, the critical plants obtained during the year by the native collectors working under him. Their collections have been mainly obtained with reference to the "Flora of the Upper Gangetic Plain" on which Mr. Duthie is closly engaged and which continues to make satisfactory progress, and with reference to the proposed "Flora of the Punjab Plain and Rajputana." In connection with this matter it seems necessary to advert to a belief which appears to prevail in many quarters, that there is little left to be done as regards the botanical investigation of the territories under the rule or the protection of the Government of India. The discoveries of Mr. Duthie's collectors in Rohilkund, North Oudh and Gorakhpur during the past year are alone a sufficient proof that this belief is very far from being justified. But they only confirm for the Upper Gangetic plain the experience of the former and the present Director of the Survey as regards the Lower Provinces. Nor is there room for doubt that what is true of Upper India is true of Central, Western and Southern India as well. As regards Southern India in particular, the probability, based on the past history of botanical exploration there, is that more has yet to be done than remains to be done in Northern India. The prevalence of the belief is to be deprecated because of two undesirable results that have followed it. The first of these is a very unfortunate one. In the early days of British rule in India, intelligent officers of the civil executive, soldiers and medical men, took the greatest interest in the botanical resources of the country and rendered much spontaneous and hearty assistance to Kyd, Roxburgh, Wallich and the other early heads of the Indian Botanical Department. Now, with a few notable exceptions, sufficient only to prove the rule, nothing is done spontaneously to assist the department. Doubtless this is largely due to the fact that official duties occupy now, more than at any previous period in the history of British rule in India, the greater part of any officer's time. But that this is not the whole explanation is shown by the fact that a few officers of Government and a few private gentlemen do still give the department the valuable help recognised in this and other annual reports of the Botanical Survey. The second result of the belief is a much more serious one, for it has led to the erroneous supposition that an accurate botanical survey of a particular area can be completed within a definite and very limited period.

3. *Survey of the Bombay Presidency.*—Mr. G. Marshall Woodrow was in charge of the department throughout the year. He retired almost immediately after its close and has therefore submitted no annual report. The Director understands that Mr. Woodrow's efforts were chiefly concentrated on the Dang country, but that, owing to difficulties due to the state of the public health, his native collectors were unable to obtain very satisfactory collections.

4. *Survey of Southern India.*—For the fourth time in succession no annual report has been submitted from this Survey. The organisation of the Botanical Survey, generally approved of in India Office Despatch No. 53 (Rev.) of 21st July 1887, was sanctioned as to details in India Office Despatch No. 17 (Rev.) of 13th February 1890. By the arrangement that then met with the approval of the Right Honourable the Secretary of State for India, which the Government of Madras had previously accepted, and had expressed to the Government of India its willingness to co-operate in carrying out, the Botanical Survey of Southern India was placed in charge of the Madras Government Botanist The Director was authorised to ascertain, on the occasion of his deputation to Madras in January and February 1899, whether the newly-appointed Government Botanist at Madras had assumed charge of his duties, and, if so, to consult with him as to the most suitable programme of work for the ensuing year. During his visit the Director made the acquaintance of the newly-appointed Government Botanist. The matter, however, ended there. The Government of Madras appears not to see its way to carrying out the agreement entered into by it with the Government of India, and approved by the Right Honourable the Secretary of State. At all events, no official intimation has been received by the Director that the Madras Government Botanist has assumed charge of his duties as an officer of the Survey; no report has been submitted regarding the work, if any, done during the year 1898-99; no programme has been submitted detailing the work that it is intended to do during 1899-1900.

5. *Publications.*—Since the submission of the report for last year, the three papers then described as ready for issue have been distributed by the Superintendent of Government Printing. During the year under review, another paper has been prepared for the Records of the Botanical Survey and is now passing through the Press. This paper, which forms No. 12 of the series, consists of a report on a collection of mosses made by Dr. T. L. Walker in Coorg during the cold weather of 1897-98, and has been drawn up by Dr. V. F. Brotherus, of Helsingfors. Mr. Woodrow has continued his catalogue of plants of Western India; it is given as an appendix to this report.

6. *Economic and Agricultural Botany.*—The study of the leguminous crops of Bengal on which the Director is engaged has not yet come to an end. In conjunction with the Inspector-General of Forests, he is engaged in collecting material for an authoritative report on the trees of the species of Pterocarpus that yield the timbers known as padouk and Andamans red-wood. For the benefit of the Reporter on Economic Porducts and of the Central Indigenous Drugs Committee, he has cultivated and identified the sources of a number of drugs and economic products, the origin of which has hitherto been doubtful. On behalf of the Directors of Land Records and Agriculture, Madras and Bengal, an exhaustive examination has been made of a very large series of specimens of diseases in sugar-cane sent by them for investigation. The necessary reports were duly placed in the hands of these officers. In connection with this important enquiry, the Director has to acknowledge the great assistance rendered by Lieutenant Gage, Curator of the Calcutta Herbarium.

7. *Staff.*—The officer in charge of the Survey of Western India intimated his intention to retire shortly after the close of the year. An effort was conjointly made by the Government of Bombay and by the Director of the Botanical Survey to induce Mr. Woodrow to reconsider his determination, but without success. The newly-appointed Government Botanist, Madras, reached India before the close of the year. As, however, the Bombay officer did not retire till after the close of the year, and as the Madras officer has not commenced the discharge of his duties, no change in the staff has to be recorded. The Director of the Botanical Department Northern India, and the Director of the Survey held charge of their respective departments throughtohe year.

AFTER THE BATTLE

Although the great Tea fight has ended, details of the battle will still be read with considerable interest We, therefore, publish the following extracts from the great mass of literature that has been written on the subject:—

Mr. T. Lough, M. P., wrote to the *Times* as follows:

Enough of your readers are interested in Indian and Ceylon tea to justify me in asking for a little space in your columns to refer to the extraordinary incidents which have taken place this week in the tea sale rooms at Mincing-lane All teas catalogued by the importers have been withdrawn, as no buyers appeared, and the London dealers are perfectly united in a determination not to attend the auctions until the threat made by the importers to change the conditions of sale is withdrawn.

The deadlock has been suddenly sprung on a great industry, and the brokers and dealers, with their large staffs of assistants, have been all this week—as they will also be next week—walking about idle in Mincing-lane. I do not desire to enter into the merits of the question at issue, but in the interests of peace to complain of a breach of faith of which Mr. Rutherford, the chairman, and the committee of the Indian and Ceylon importers have been guilty.

In the hope of avoiding the disastrous strife which has broken out a conference was held on June 26th between the importers and dealers. At this conference the former indignantly denied that there was any intention to spring the new conditions on the

market without giving long notice. As early as May 25th, Mr. Rutherford had promised this in a conversation with Mr. Densham, the chairman of the Mazawatte Company. This promise was most emphatically repeated at the conference referred to. Yet the dealers had hardly left the room on that day when the importers issued a notice that on the 17th of this month the new sale conditions would be forced upon the market.

The object of this move—which I may almost call an act of treachery—is not concealed. The importers think that they can defeat the dealers now, because stocks are short, while they would not have a chance of doing so towards the end of the year. However this may be, it does not condone a breach of faith. If these contests must take place they should be fought out fairly. I therefore appeal to the large public who are interested in the Indian and Ceylon tea companies to express their disapprobation of the action of the committee, and if the importers could be induced to reconsider their present attitude and give the notice which Mr. Rutherford at first distinctly promised, it would bring the present unhappy contest to a conclusion. We might then hope that wiser counsels might prevail in the time for consideration that would thus be given and that the peace would not again be broken.

This called forth a reply from Mr. H. Rutherford, the latter part of which contains a succinct diary respecting the early part of the "preparations for war":—

MR. RUTHERFORD'S REPLY.

With reference to Mr. Thomas Lough's letter in your issue of to-day, I write to say that every member of the joint committee of the Indian and Ceylon Tea Associations—and I have seen them all to-day—absolutely denies the accuracy of the one important statement in that letter, namely, that a "promise" was made by us, either individually or as a committee, to give "long" notice of the proposed new conditions.

As there appears to be some misunderstanding, I give the following dates:—

1. On April 26, our committee issued its first circular on the subject of the 1-lb. draft to growers and importers.

2. On May 24, the Wholesale Tea Dealers' Association proposed to meet us in order to discuss the subject.

3 On June 6, my committee wrote the following letter:—

"Dear Sir,—In reply to your letter of the 24th ultimo, I am to say that my committee will be very pleased, before any definite steps are taken in the matter of the 1-lb. draft allowance, to arrange for a meeting with some of your members to confer on the subject.

"It is not likely that any steps will be taken immediately, and I will communicate with you again in good time before anything is done.

"I am, dear Sir, yours faithfully,
Wm. Martin Leake, Secretary.

"R. Sedgwick Esq., Hon. Sec., Wholesale Tea Dealers' Association."

4. On June 7, a mass meeting of buyers was held, which condemned the proposal beforehand and without waiting for any meeting of representatives of each side.

5. On June 16, the wholesale dealers wrote to cancel the meeting between them and us which had been fixed for June 21, and a meeting between our committee and representatives of the wholesale and retail trade was arranged for June 26.

6. On June 26, this meeting came off, but the buyers refused even to consider the question of a compromise. Neither I, nor any member of my committee, as stated by Mr. Lough, repeated at that meeting any "promise" to give "long" notice before making the proposed change.

7 On June 29, the tea buyers issued a notice of a resolution against purchasing at the sales fixed for the following Monday, which was virtually a boycott on our teas.

8. On July 3, importers at a general meeting resolved to bring the abolition of the 1-lb. draft into operation on July 17.

From the above dates it is apparent that the buyers knew of our proposal at least as early as May 24, that my committee has shown the utmost willingness to discuss the matter with the buyers and that it was only after the buyers' peremptory refusal to consider our proposal that we fixed July 17 for its introduction.

With regard to myself personally and my conversation with Mr. Densham on May 25 last, there was no "promise" made by me on behalf of my committee as to "long" notice, my statement to that gentleman being that the buyers would have sufficient time to consider the subject. As the committee had not then even discussed the question of date, I was not in a position to name any date between this and next year. Yours truly, H. K. Rutherford, Chairman, Joint Committee, Indian and Ceylon Associations.

London, July 10.

THE "DAILY MAIL" FOR THE PLANTERS.

Mr. "Francis Ford" wrote in the *Daily Mail*:—

"The struggle in and around Mincing-lane over the allowance of a 1 per cent. draft on tea imports is fraught with grave consequences to a large and important British industry. It is a struggle in which every Englishman and Englishwoman must needs take an interest; for where is the home not grateful for the blessings of cheap tea? The British planter of India and Ceylon has by his enterprise and pluck converted tea from a luxury into a necessity. Small advantage has he gained from his enterprise; much has he lost through it. As usual, the golden harvest has been reaped by the middleman. It is the blender who has waxed fat on cheap teas. Of recent times the margin of profits on tea cultivation has been so small, that every expense has been cut down to its very lowest limit on the plantations and the planting community have now not unnaturally determined to stop this draft allowance to the buyers, this 'crumb of comfort' to the wholesale dealers and blenders. The history of tea-planting in India and Ceylon is a splendid story of indomitable pluck."

After describing the history of tea cultivation, Mr. Ford says: The British planter in the East has literally made two blades of grass to grow where one grew before; he has reclaimed desolate mountains and inhospitable forests; he has provided work for hundreds of thousands of labourers, and he has poured new revenues into the public exchequer. The plantations of India and Ceylon together provide work for, roughly speaking, one million labourers, for the island draws its labour from the mainland. This fact makes their existence a matter of Imperial importance, for one of the most difficult problems that confront the Government of India is overpopulation. Were these two great planting industries destroyed, it would ruin hundreds of thousands of industrious peasants, and spread misery over a vast area of the Indian Empire. The "brutal planter" is a phrase that has brought much unmerited obloquy on the planting community. There are, of course, black sheep, but they are fortunately very rare. Some two or three years ago a Government inquiry was held into the planting industry of South India covering a period of forty years, and this committee gave as its deliberate judgment, that the coolie had been treated by his British employer with uniform kindness. There is a reason for this, quite apart from sentiment. A coolie, that is to say, an Indian labourer, is a child in his ways; if you treat him kindly you can do almost anything with him, and get double as much work out of him as you would if he were bullied. Nowadays, when scores of planters are out of work, and when every proprietor, be this an individual or a company, has to keep the labour-roll as low as he dare, the superintendent who does not get on with his coolies has no chance of employment. And the life the tea-planter leads—what is it? If his lot be cast in a populous planting district, that is to say, in one where his next-door neighbour is not more than two or three miles distant, it is a happy one, provided there is health, and poverty does not press too hardly. But in the outlying districts where for weeks the planter never sees a white face, nor hears the sound of his mother-tongue, the loneliness is terrible. In these times poverty is the planter's heaviest burden. Many of them married when tea paid well, and salaries were big; and now, as their families grow up, their pay grows smaller and smaller. If this old custom of draft be abolished it will, for a time at any rate, prevent more planters being thrown out of work or their pay being further reduced. When one contrasts the circumstances of the tea blender, living comfortably, not to say luxuriously, in England, with those of the tea-planter, put to sore straits to earn a decent living in exile, often amid malarious jungle, and when one then turns to this boycott in Mincing-lane, the conduct of the buyers is enough to make the blood fairly boil with indignation."

A PROPHETIC SUGGESTION.

Mr. Thornton A. Williams of Mincing-lane, seems to have been the first to publicly suggest that a compromise was the only safe way out of the trouble. He wrote to the *Times* on 12th ultimo :—

With reference to the letters which have appeared from the leaders on both sides I would venture to appeal to sellers and buyers to endeavour to forget any errors of judgment committed by the other side—to cease to bring charges of breach of faith, but to devote their whole energies to bring about a settlement of a most unfortunate and damaging trade dispute.

For either side to gain the day would, I venture to assert, be a disaster, because the beaten side would feel sore for a long time and would probably retaliate, in some form or another, at every opportunity. I speak as one who has the interests of the importers at heart, but my long experience in Mincing-lane has taught me that no good is ever done by having a fight between buyers and sellers if the two can by any means be brought together to effect a compromise. When feeling has been aroused, as is unfortunately the case now, it may be difficult to bring the two parties together in a reasonable frame of mind, but surely this is not impossible. To prolong the present state of matters is ruinous to many people who have had no part in the agitation, and in their interest I take the liberty of appealing for peace.

REGULATING THE AUCTIONS.

Mr. William Dew thought the time ripe for raising this question and wrote as follows :—

The unanimity of merchants at the present juncture leads one to hope that it is at last possible to deal with the subject of the weekly supply in auction. The object should be to encourage a steady, all-the-year-round demand instead of the spasmodic and spurious activity of a few months, which taxes the resources of buyers to the uttermost, and gives tea no fair chance.

Towards the close of last season's Indian crop, as sales diminished, a fair basis of price was reached. The aim should be to reach this again, and maintain it. Fatal mischief to the market has always been caused by temporary excess of supply, forced off, instantly on arrival, practically without reserve.

It is a fallacy to argue that the large autumn and winter deliveries mean any appreciable increase of consumption at that period. They are largely attributable to the laying in of stocks, which can almost always be done at bedrock prices owing to the glut of supplies in auction. The actual consumption of Indian and Ceylon tea last season was about 225,000 packages per month.

The statistics of imports of each individual merchant are now in the hands of the secretaries of tea districts associations. It is, therefore, easy to arrive at the proportion of a week's sale that each importer is entitled to.

Now take the extreme view. Assume the combined Indian and Ceylon output for twelve months to amount to 255,000,000 lbs. This would run out about 3,000,000 packages, or 64,000 packages per week for forty-seven working weeks. Of this three-fifths would be Indian, two-fifths Ceylon.

As the heaviest crop times in the two countries vary, a little give-and-take in the proportions could be arranged, say four months of equal quantities, and four months of two-thirds to one.

If the at present united merchants would agree to it a sale of 55,000 to 60,000 packages per week might be arranged, printing instructions being handed in, well in advance of the day of the sale, to some authorised officials, say the secretaries above named, who would check the quantities of each seller, and pass on the instructions to the brokers. Tea could then be catalogued much earlier, to the general convenience, nor would it be hurried through the stages of preparation for sale.

Calcutta-bought tea presents some difficulty, but the larger importers would probably readily fall into line, and we think there would be but little sold independently of the Conference plan. Merchants might grumble at an accumulation of shipments. Still, somebody has to hold the tea, and while steadying the market they would be making a distinct concession to the convenience of buyers.

RUMOURS OF PEACE.

A special telegram, dated 31st July to the *Times of Ceylon* contained the first assurance that peace was practically certain. It said :—

Throughout last week the committees of the two sides in the Draft Allowance Dispute were occupied with proposals which included an attempt to re-organise the weighment system at the Customs and the making of the Draft Allowance a secondary consideration. No result has been arrived at to date, as the dealers are undecided and to move the customs requires thorough unanimity.

THE PROPOSED CONDITIONS OF SALE AT PUBLIC AUCTION ON AND AFTER 17TH JULY, 1899.

Indian Tea Association (London), 14, St. Mary Axe, E. C., Ceylon Association in London, 61 & 62, Grace-church Street, E. C., July 13th 1899.

It is recommended by the Joint Committees of the Indian and Ceylon Association that Clause No. 3 of the conditions of sale be altered to read as follows :—

Every person who shall be declared the highest bidder shall pay to the selling broker a deposit of 20 per cent. *ad valorem* with a maximum of £1 per chest at the time of sale, if demanded, or on the Saturday following the day of sale, or on the delivery of the weight notes; the remainder of the purchase money to be paid on or before , 1899. Interest at the rate of £5 per cent. per annum will be allowed on payment of the deposit and on the remainder from the day of payment to the prompt day. The tea to be taken by the buyers at the Customs weight, and to be delivered in bond, with Custom's tare.

By order of the Committee, Ernest Tye, Secretary, The Indian Tea Association (London); Wm. Martin Leake, Secretary, the Ceylon Association in London.

SECOND REPORT OF THE JOINT COMMITTEE.

Indian Tea Association (London), 14, St. Mary Axe, E. C.
Ceylon Association in London,
61 and 62 Grace-church Street, E. C.
July 12th, 1899.

India.—Messrs. W. H. Verner, A. Bryans, C. W. Wallace, C. C. McLeod, D. Cruickshank and J. N. Stuart. *Ceylon.*—Messrs. H. K. Rutherford, R. A. Cameron, J. L. Shand, J. Sinclair, G. A. Talbot, and C. E. Strachan.

The Committee's first report was dated 28th June last. Since then a General Meeting of Importers was held under the Chairmanship of Sir H. Seymour King, M. P., on the 3rd instant, to receive that report, and also the Committee's recommendation, which was as follows :—"That it is the unanimous recommendation of the joint committee of the Indian and Ceylon Associations appointed to deal with the question of the 1-lb. draft abolition on tea, that notice be immediately given to the Tea Brokers' and Wholesale Dealers' Associations that on and after the 17th instant all teas shall be sold on the condition that the 1-lb. draft allowance shall not be made to the buyers."

The recommendation of the Committee was adopted by the meeting with one dissentient. The full proceedings of that meeting have been published, and copies circulated among those interested. The Tea Brokers and Tea Dealers' Associations were duly notified in terms of the resolution passed at the General Meeting.

It must not be forgotten that the buyers had given notice on the 29th June as follows :—

"At a special meeting of the General Committee of wholesale tea buyers, representing practically the whole of the wholesale and blended tea trade, held to-day at the London Commercial sale rooms, Mincing-lane, E. C., the following resolution was passed :—'Pending the result of the meeting of importers on Monday next, and as a protest to what we have heard on good authority to-day, that, contrary to the understanding that the question of the abolition of the 1-lb. Draft should not be forced upon us, it is to be proposed by the importers at their meeting, that the 1-lb. Draft be withdrawn on the 17th July, we hereby resolve to absent ourselves from the tea sales on Monday next, and also not to buy, either directly or indirectly, any tea which is catalogued for that day's sales."

On the 7th instant, Mr. M. P. Evans kindly offered his services as intermediary between the parties in the dispute, and submitted a proposal that the following gentlemen should be asked to arbitrate with a view to a settlement :—Sir John Lubbock, Sir Joseph Dimsdale, Mr. J. H. Gwyther and Mr. A. G. Sandeman.

Your Committee signified their willingness to accept the arbitration of these gentlemen, but the proposal was not agreed to by the buyers' representatives, who forwarded for your Committee's consideration the following resolution passed by them, and sent by the hand of Mr. Evans, on the 7th instant :—

20. Eastcheap, London, E. C.—" At an informal meeting of tea buyers it was resolved that they would recommend the General Committee formed under the presidency of the Lord Mayor on 6th June to withdraw the resolution of the 4th instant, provided that the Indian and Ceylon Associations first withdraw their resolutions of the 3rd instant. with the view of facilitating the discussion of the whole question in dispute."

This proposal your Committee could not agree to and suggested a Conference, of four delegates on each side, to discuss the matter with the view of arriving at an understanding.

This suggestion was accepted by the buyers at a meeting held on the 10th instant, and the Conference took place on the afternoon of the 11th instant, at which were present, on behalf of growers and importers:—Messrs. Rutherford, Cameron, W. H. Verner and A. Bryans, and representing the buyers :—Messrs. J. Lane Densham, J. Innes Rogers, R. H. Salmon, and T. C. Tanner.

Your representatives stated that in the event of an agreement being arrived at now they would, in order to suit the convenience of the trade, be prepared to defer the operation of any new conditions for two or three months, and for the purpose of coming to an agreement they were willing to meet the buyers in any reasonable way, in the matter of Customs weighment and draft. The representatives of the buyers stated that they had no authority to agree to any terms, and that only in the event of our withdrawing our notice for the abolition of the Draft would the Trade be prepared to discuss the whole question of the Sale conditions; a discussion which must, they said, occupy months. The representatives of the buyers would, however, give no sort of promise that in the event of such discussion we should obtain any concession, and under the circumstances your Committee was obviously unable to accept their proposal and thereby detract from the strength of our present position. Your Committee again suggested arbitration, but were informed that there was nothing to arbitrate about Your Committee have to record that the conference was conducted in a friendly spirit by both parties, but regret to say no progress was made towards a settlement.

Under these circumstances your Committee are unable to see what further steps towards an understanding they can take, but will give the most favourable consideration to any proposal which may come from the other side. Meantime, of course, the agreement entered into by you that on and after the 17th instant your teas shall be sold only on the condition that the allowance of 1-lb. draft shall not be made, remains in force, and your Committee recommend you to limit the quantity of Tea offered except for export.

By order of the Committee, Ernest Tye, Secretary, the Indian Tea Association (London); Wm. Martin Leake, Secretary, the Ceylon Association in London.

PRESENT CONDITIONS OF SALES.

The following account of the present condition of sales in London will enable our readers to see exactly what change is to be made on 1st October :—

Fractions of pounds, even though they be 15 oz., are disregarded by the Custom House authorities, and the tea has to go through a double weighment, as well as another 15 oz. on the taring. The following will put the case clearly :—

Supposing a chest of tea weighs exactly 130 lbs. 15 oz. gross, the Customs, on whose weights the trade work, would disregard this 15 oz., and have that chest scribed as 130 lbs. In order to find the amount of tea in that package, the tea itself is not weighed, but the weight of the empty package is taken and deducted from the gross; so that in the event of the empty package weighing just over 29 lbs. (say 29 lbs. 1 oz.) the package is put down as weighing 30 lbs. It will be seen that another 15 oz. is by this means lost to the importer, as here 15 oz. of what is really tea is calculated as wood, and not paid for. Now, deducting the scribed weight of the empty package from the customs gross weight, it will be seen that 100 lbs. would represent the net weight of tea; but, according to the trade custom, this particular package would be paid for by the trade as weighing only 99 lbs., whereas the tea contained would actually weigh as much as 102 lbs. all but 2 oz., or nearly 3 lbs. overweight. This is of course an extreme case, but it is as likely to happen as the case of exact weighment, as the scale has always to *turn* at the weight scribed, "an even beam" not counting.

Below will be found an interesting comparison of the dock charges on Indian Tea and Coffee in this port. As regards the weighing question, the *Produce Markets' Review* says that an experiment shows that to overcome the inertia of a chest of tea the following "turns of the scale" are required :

1 cwt.	1½ oz.
1¼ „	2 „
1½ „	2½ „

Tea and Coffee Dock Charges in London Company.

Charges on 1 ton Indian tea landed and sold at public sale, taking 20 chests to a ton :

		£	s	d
Management Rate	... 1/6 each	£1	10	0
Bulking and Taring	... 1/5 „	1	8	4
		2	18	4
	Less 10 per cent.	0	5	10
		2	12	6
Weight Notes ...	... ...	0	0	8
Warrant Stamps ...	... ...	0	0	9
		£2	13	11

Charges on 1 ton Coffee landed and sold at public sale :

		£	s	d
Consolidated Rate	8½d. per cwt.	£0	14	2
Sorting and Lotting ...	1¼d. per bag	0	1	8
		0	15	10
	Less 12½ per cent...	0	2	0
		0	13	10
Warrant Stamp ...	... ...	0	0	3
		£0	14	1

This is equivalent to a surcharge of 2s. a chest on Indian tea as compared with Indian Coffee, and the latter is the more costly commodity. The comparison is not so unfavourable in the case of Ceylon tea. The subsequent cost of weight notes to the importer, the broker, and the wholesale trade is very great, through the immense and absolutely needless work they cause, with no appreciable result at the end of it all.

PRESS OPINIONS.

The *Ceylon Observer* says :—

The struggle over the draft allowance has at length come to an end. And while neither side has shown any unmistakable superiority of strength in forcing their opponents to accept exactly their own wishes and nothing else, still the main point,— whether the pound- draft has to stay or go,— has been conceded in favour of the dealers. The dealers, unlike Shylock, have their pound. We regret the issue of the struggle, for should the importers decide to renew it at any future period the dealers remembering their past success—for success they will undoubtedly consider it to be—will be still more confident of their strength and, with a longer fight, the injury to both parties will be infinitely more severe.

But the importers have not fought for nothing, and though they cannot claim to have gained *a* pound in a place of *the* pound they were fighting for, there is a substantial advantage gained, namely, they will not in future (that is, after October 1st when the new regulation comes into force) lose more than half-a- pound on every chest. The Customs will, in future, weigh tare to half-a-pound, says our telegram to-day. That is to say, on a chest of tea which, let us imagine, weighs 112 lbs. 14 oz. gross, supposing the tare weight is 26 lbs. 6 oz. the latter will in future be reckoned as 26½ lbs. not as 27 lbs.—as has been the custom hitherto. It is satisfactory that recourse was had to the Customs weighment system and that both dealers and importers resolved to effect a reform in this as a means of effecting a compromise and a way out of the terrible dead-lock in which they seemed to have become wedged fast. For, by this neutral method, the antagonistic feelings that have been aroused and kept aflame throughout the course of the struggle should speedly sink to rest, and the counterpart branches of the great business that involves the supply and distribution of tea in the United Kingdom will be able to work together once more to their mutual restoration and benefit.

No doubt, praise is due to the Indian and Ceylon Association in Ceylon for their tenacity and persistence in holding to the struggle once they had entered upon it, and Mr. Rutherford especially, for sparing no pains, nor one jot of his keen business capacities to prevent an ignominious collapse But as far as the commencement of the struggle is concerned, we cannot but regret that the Importers should have put themselves more or less on a level with their opponents by withdrawing from their original conditions as soon as the latter threw down the glove and refused to attend the sales. They should have pressed still further for the negotiations once refused and, by so doing, made it plain, in spite of the unresonable, sudden and unwarrantable initial action of the dealers, that they had not at once thrown up the original proposals in their first circular and declared that their teas would be offered without the draft allowance, on July 17th. We merely make these retrospective criticisms in view of a possible recurrence of the struggle and in the hope that, should the fight begin again, the importers may plan the field of action with greater deliberation and with superior readiness for negotiation than their foe—*from the very moment* a hand-to-hand struggle begins to be foreshadowed. Planters all, both proprietors and managers, we heartily congratulate upon the termination of a struggle in which their rights all through were undeniable, though the manner in which those rights had been initially asserted was not so clearly defined, as quite the best that could have been desired.

The *Times of Ceylon* remarks :—

To-day, Reuter confirms our special telegram of yesterday, and adds the additional information that the reform to be introduced at the London Customs on the 1st October is weighing tare to the half-pound. We presume, this means weighing gross to the half-pound as well, for half the change would not spell the amount of success which we believe the importers have gained. We yesterday expressed the hope that net weighment had been secured; but the reform obtained is the one which the Customs authorities ineffectively attempted to introduce nine years ago. It is, perhaps, wonderful, after the way critics have been putting their "spoke" into the wheel, that the Joint Committee achieved anything ; but we admit we are disappointed, for the average of the "concession" represents not the 1 lb., but ½ lb., per chest saved to the producer. In an extreme case there may, after the 1st October, be 7 oz. each way ; but to take the other extreme there may be only 1 oz. each way—the letter from a London expert elsewhere will explain our meaning if any readers has not by this time mastered the subject of Customs gross and tare weighment—and the average must be taken as stated. It is possible that a "level beam" will also be allowed in future; and if the supply of tea in London is regulated—not only just now, but throughout the year—much more gain than loss will be the result of the struggle. We now have to speak of the contest in the past tense, for after August Bank holiday - possibly in that week—sales will be resumed under the old conditions. The deak-lock lasted just long enough for an auction to be held in Colombo under conditions which vindicated the practicability of the request of the P. A. General Committee to the Tea Traders' Association. This ought never to have been in doubt, but some people required an actual example, with printed catalogue and samples distributed as usual. We welcome this justification, too, of our own strictures. Buyers know very well that, had the whole auction sales for the past three weeks been held under the same special conditions, no one would have been any the worse, and the good name of Colombo and Ceylon would have been preserved. This remains as the chief point on this side in the recent struggle; and it is not necessary to discuss whether the P. A. could have effected more than the Chairman and Committee accomplished had they taken more energetic steps to see their wishes carried out. We do not forget Mr. Lane's outspoken appeal which was none the less welcome because a long time had elapsed; and, *en passant*, we would remind that gentleman of our suggestion that an Emergency Sub-Committee of the P. A. is needed.

A telegram announcing the compromise has not yet arrived from the Joint Committee, so far as we can learn ; but they have not been encouraged to spend money on telegrams to inform Ceylon of how events have been developing, and the news to hand from separate quarters is thoroughly trustworthy. Those who loyally responded to Mr. Lane's appeal may consider themselves absolved from it from this date ; and unrestricted shipments and offerings will doubtless be resumed. Last month's export to the U. K. was a quarter of a million less than the estimate and this difference, we believe, is more than accounted for by the quantity of tea kept back during the past fortnight which would otherwise have come forward direct as usual. Here arises the question whether it is expedient to ship all available teas to London? On the plan of "starving the London market"—which continues a good "tip"—we trust that more tea will be offered locally, notwithstanding the way local buyers refused to risk a single connection or one lb. of business. The demand just now, we are told, is decidedly greater than the supply ; and owners who have not done so before had better give the Colombo market a trial—in reason, and not flooding it—rather than increase the difficulties of the London Association in regulating supplies, and perhapes having to pay warehouse charges for several weeks. The cost for this accommodation, we believe, is higher in London than in Colombo, and in any case the market here is firm, while the position in London must remain doubtful for some time. Reviewing the "lighter" features of the contest now over, the funniest suggestion made throughout the whole dispute was—as usual—certainly the "Observer's," that directors of local companies would render themselves liable to prosecution if they gave instructions for their companies' teas to be sold for outside markets only One might be liable to prosecution if he trod on a piece of orange peel and fell against a fellow pedestrian, but, as no conviction could possibly follow, he would not refrain in future from walking in the street ! If he did, he would be as fearsome and susceptible to a plausible excuse as the Baillie Street paper, which repeated the absurdity, notwithstanding the recent declaration of the Chairman of our Chamber of Commerce and Tea Traders' Association, that public sales could be "stopped by firms instructed by directors, or by private individuals sending instructions to their brokers" !

The *Planter* says, we cannot say that we consider the compromise entirely satisfactory; but on the principle that "half a loaf is better than no bread," we may rest content for the present at having got in the thin end of the wedge. The battle may be termed a drawn one. Meanwhile, we have enormous stocks of tea to work off, which means a slump in prices, if it means anything and the final result will inevitably be a very heavy and serious loss to producers and importers. We fear the prospects of a good season for 1899 are more remote than ever. The good, sound, paying concerns can face it, but the outlook for those concerns that are not so well off as to be able to face a bad market are about as gloomy as can be.

TELEGRAPHIC QUOTATIONS.

London.—	August	5	7	8	9
Bar Silver ...	...	...	...	27¾	27¾
Bank Rate ...	...	...	...	3½%	3½%
Coffee.					
Ceylon M. P.	...	...	...	...	105*s.*
Mysore med. (B) size.		...	...	...	51*s.*
New York.—					
Coffee—Fair Rio ...		5¾	5¾	5¾	5¾
„ Futures, Sept.		5·54	5·56	5·60	5·72
Silver—Comml. Bars ...		60½	60½	60½	60½

NOTES.

Coffee in Cuba. In 1895 there were 998 coffee plantations in Cuba ; in 1899, there are 115—a decrease, in four years, of 883.

Natal Tea. The next crop of tea in Natal is estimated at 1,250,000 pounds, against from 300,000 to 400,000 pounds this season.

London Tea Sales. Reuter reported on 3rd instant that the market was generally rather dearer; 13,000 packages Ceylons offered were all sold, average for the week 7⅞d : Fair Pekoe Souchong 6½d Of Indian Tea, 6,000 packages were sold out of 8,000 offered ; average unquotable.

Venezuelan Coffee. The British Consul at Caracas reports that the price of coffee has gone down more than 50 per cent., and that, as coffee is the staple product, the effect has been disastrous, not only to the grower, but indirectly to all classes and all business, as it reduces the amount of money current.

Java Coffee. The yield of coffee in Java in 1898 is reported to the United States Consul at Batavia at 63,007 piculs of Liberian and 138,833 piculs Java—a total of 27,450,240 pounds. The estimate for 1899 is for a yield of 84,004 piculs Liberian and 365,241 piculs Java, or about twice greater than the yield in 1898.

Shipments of Brazil Coffee. Total shipments for the crop from Rio and Santos were, on 23rd June, 1,655,832 bags less than for the corresponding period last year. This represents a shrinkage in f.o.b. value of £3,232,607. Entries for the crop up to 23rd June were 1,732,782 bags less than for the 1897-98 crop.

The Tea Duty. "There is a very strong feeling in England at present," writes Mr. Thos. Christy, of Lime Street, "that the Government will have to yield on the question of duties, and if they do not take off the 4d., at any rate that 2d. will be knocked out in the next budget, to be followed in a later budget by another 2d."

Tea, "an Exotic in India." A writer in the *Madras Mail* says that "tea in India and Ceylon is an exotic. Its home is China." A little more study might have satisfied him that there is good reason to believe that tea is indigenous to Assam as well as to China. Dr. Falconer considered the Assam Tea tree to be a distinct species, M'Cleland considered it a native product.

The "Agricultural Ledger." No. 5 of 1899 deals with *Hyoscyamus muticus* (Indian henbane), treating specially of its use as intoxicant in Sind. No. 6 of 1899 is on the "System of ledgering economic information" and contains a fund of information as to how the "ledger" is compiled. The admirable results of the excellent plan adopted are too well known to require comment.

Tea in Malacca. A sample packet of Malacca tea has been sent to the Editor of the *Straits Times*, who has tried it, and writes:—"It seems very good tea of a distinct and wholesome flavour, and pure; and one is not surprised to learn that large quantities of it are now being sold in the Straits. The Malacca tea is also being shipped to Egypt and to London, so much so that a new drying machine will shortly be added to the factory."

Vanilla Culture in Tahiti. The increase of Vanilla culture in Tahiti is said to be spreading rapidly; the natives, with few exceptions, are giving their whole attention to the growth of the plant, and curing of the pods. Its export, which in 1893 was 29,858 lbs., valued at £3,938, reached during 1898 to 92,137 lbs., but owing to a serious decline in its market value, that quantity realised only £20,468, as against £35,862 for 75,740 lbs. in 1897.

Germicides. The *Planter* states that the juice of lemon and lime is as deadly to cholera germs as corrosive sublimate, or sulphur fumes, or formaldehyde, or any other disinfectant. It is so powerful a germicide that if the juice of one lemon or lime be squeezed into a glass of water, that is then left standing ten or fifteen minutes, the water will be disinfected. It makes little difference where the water has been obtained, or whether it has been boiled or filtered. This is a fact worth knowing.

Mild Coffee in the U. S. The *American Grocer* gives statistics of coffee importations and deduces from these "that the demand for mild-flavored coffee is so much less than the supply that the producers receive an average price two to three times more than the average obtained by the planters of Brazil. British Honduras and Cuban planters received the highest average price from last year's crop. Costa Rica beat Guatemala 2¼ cents. Hawaii received an average of 15·67 cents." The British Honduras figure was 20 cents: the British East Indies, only 12·96!

Cocoa in Venezuela. The British Consul at Caracas reports that the cultivation of cocoa is well established in Venezuela, and Caracas cocoa (as it is called) is the best in the world. It is generally used to flavour inferior kinds. As a slight set-off against the loss on coffee, the price of cocoa has improved and the cultivation is increasing; but the cocoa bush is five years before it bears, a very long time for a planter here to wait for a return for his capital.

Coffee in New York. The report of the New York Chamber of Commerce states that one notable feature of the coffee-trade during the past year has been the great preponderance of the better grades, which have been so much in over-supply that they have almost become a drug in the market. This is due to the fact that manufacturers of package coffee seek for the cheapest grades, and, as they are by far the largest distributors, the lower grades, which are most in demand, become scarce, because of the moderate supply, and the higher grades were correspondingly neglected.

Coffee and Tea in Tangier. *Coffee* of Brazilian growth imported through Germany and France still holds the market, comparatively small quantities reaching this country through Belgium and England. *Tea* shows an improvement in 1898 over 1897, the value imported having risen to £18,922 which, however, is still short of the amount previously imported, which averaged during the five years 1892–96, £22,852. Germany appears to be gradually increasing its share in this trade, which was formerly entirely in British hands; in 1898, £1,420 worth of tea came from Germany.

Ceylon and the Paris Exhibition. It has been decided that the exhibits from the Planters' Association, should be in before November 15th next. The quantities of the different products is left to the discretion of the Association on the understanding that sufficiently large samples be sent both for exhibition and for furnishing samples to the juries and to business inquirers. On the suggestion of Mr. F. G. A. Lane, it has been decided to have the models in lead of the mountings

of the book presented by the P. A. to the Emperor of Austria mounted on velvet and exhibited in the Ceylon Tea House. A large map of Ceylon has also been ordered through the Surveyor-General.

Calcutta Tea Sales. The average realised at the sales held during the last week in July was 5 annas 11 pies. The sale held on 4th instant comprised 23,000 packages. Last week 25,000 packages were offered for sale. There was a rather improved selection excepting in the case of Darjilings. A good demand obtained throughout the sale and the tendency was upwards, especially for medium to good grades. A very considerable business was done for various outside markets. The best averages were Chamong Tea Estate, Darjiling, 40½ chests Broken O. Pekoe, Re.1-3-0 per lb.; Imperial Tea Co., Ld., (Tarajuli Division, Assam), 48½ chests Broken Pekoe, Re.1-3-0 per lb.

The Export of China Tea. The "China Overland Trade Report" of the 22nd July states that the export of tea to the United Kingdom and the Continent was, up to that date, 15,401,179 lbs. as against 10,281,615 lbs. up to the 15th July, so that the quantity shipped during the week was 5,119,564 lbs. In a circular issued by Messrs. Welch, Lewis & Co. it is stated:—As usual the bulk of the business in black tea is being done at Hankow and by Russian buyers. The size of the second crop is not yet ascertained, but it is not expected to exceed last year's. In quality it shows the same freedom from damage as characterised the first crop. The lowest quotation in Hankow for whole leaf tea is Tls. 11·30 short.

What is Coffee? That very respectable paper, the *Chemist & Druggist*, gives the following recipe for the manufacture of "Essence of Coffee." Freshly roast and grind 1 *lb. of coffee and* 12 *oz. of chicory*, and percolate with hot water till 30 oz. of percolate is obtained. Boil the marc in two pints of water, press, and, when cold, mix with the percolate and dissolve therein 7 lbs. of sugar, and add water to make the whole measure 1 gal." This, it is remarked, is only an outline of the process usually adopted, the different manufacturers have their special methods. But why call it "Essence of Coffee," when over 40% must be Essence of Chicory? This is the sort of thing that Planters' Associations should band together to stamp out. It is not trade, but fraud.

Pot-pourri. The following formula for the preparation of a "scent-pot" may interest some of our readers. It is from D. McDonald's book *Sweet-scented Flowers and Fragrant Leaves*. Take the rind of two lemons, cut thin, 1 lb bay salt, 1 oz. of powdered orris-root, 1 oz. gum benzoin, 1 oz. cinnamon, ½ oz. cloves, 1 oz. nutmegs, 1 grain musk, 12 leaves of sweet bay, a few of sage, rosemary, and lavender, cut small; 1 oz. lavender-water, eau de Cologne, and 1 oz. bergamot. Mix all together in a pan, and add sweet flowers in their natural state as they expand; stir the whole often, at least once a day. It must be put into a stoneware-pot provided with a cover, and a wooden spoon with which to stir the contents. At the end of two or three months, this will be a sweet-scented mass ready to fill a number of ornamental jars. From time to time, throw in fresh petals of fragrant roses.

The Quality of Queensland Coffee. That there is some uncertainty as to the quality of Queensland coffee would appear from the fact that at a recent meeting of the Coffee Growers' Association in that colony one gentleman moved:—"That the Coffee Expert should examine all coffee leaving the district for sale, and that none should be allowed to leave, unless he passed it as properly cured." There was no seconder to this motion but it was discussed nevertheless. The meeting, as a whole were agreed that something should be done to stop the export of badly-cured coffee, but how the Association could deal with the matter was not satisfactorily settled. The Press were invited to give their ideas on the subject. In response to the invitation the *Cairns Argus* remarks:—The Coffee Growers' Association are doing right in having all coffee sent through their Association examined by an Expert, in order to keep up the standard of quality. In doing this, they are only protecting their own interests. But as for preventing any coffee leaving the district that has not been so passed, we fail to see how any such resolution could be carried out. It would be beyond their powers. . . Let them affix a brand to all parcels of coffee that has been passed by the Association Expert, and that will then become a sort of hall-mark or test of quality.

An Impetus to the Manufacture of Attar-of-Roses in Turkey. It is stated in a recent issue of the *Bulgarian Commercial Gazette*, the official organ of the Government, that orders have been given by the Turkish Government to remit the tithe on all land under roses for commercial purposes, and all rose nurseries and plantations for a period of fifteen years, in order to extend and aid the cultivation of roses in the empire. The majority of these rose nurseries and schools for teaching the art of rose cultivation and process of manufacture of attar, are found at the present time in Broussa (Asia Minor) and Salonica (Macedonia), and a few are found in other parts of the empire. In Broussa the results have been very satisfactory, both in the quantity produced and in the condition of the plantations. At this place the best machines and implements have been procured for the manufacture of attar, and the pupils at the nurseries are being instructed in their use. This news is creating no little searching of hearts among the southern Bulgarians who, hitherto, have been the chief producers; and among the Gremans, who contemplate the wholesale cultivation of roses, the soil and climate of Asia Minor being without doubt very favourable for rose cultivation, and, what is still more important, labour is very cheap there as compared with the rates prevailing in Germany.

Ceylon Tamils in the Straits. The Jaffna *Star* says:—In the Straits the Government are training locally-born young men for the various positions in their service, so that ere long the Jaffna man will find his chance for occupation there gone. The Superintendent of Post and Telegraphs in Selango writes of the Jaffna Tamil: "Their handwriting is bad they are inaccurate as operators; too weak, physically, to endure the long hours frequently required of postal clerks and too nervous to converse rationally with strangers." On the other hand he acknowledges that they are honest and more trustworthy than any other eastern nationality

Their deficiencies are largely owing to the fact that they leave Jaffna before they are well educated. A large percentage of those employed in the Straits have had little more than an VIII standard education.

Colombo Tea Sales.

At the public sales of tea at Colombo on 2nd instant about 6,011 pkgs. = 456,429 lbs., were offered, of which about 4,625 pkgs. = 357,400 lbs., were sold. At the small auction prices ruled very firm for all grades, and generally showed an advance. Good invoices were offered from St. John's, Agra Ouvah, Glasgow, Monkswood, High Forest, and Stamford Hill. The *Times of Ceylon* states that Mr Barber, of Messrs. Forbes and Walker, put up for sale, among the small breaks, 1 box of Bargany Silver Tips weighing 5 lbs. The bidding rose from R1 to R7 per lb., for which price it was knocked down, the buyer being Mr. F. F. Street. The lot was a portion of the tea which took the silver medal at the recent Agri-Horticultural Show in Colombo, and was remarkably fine.

Coffee Supply and Demand.

Coffee growing is slow to respond to the influence of supply and demand, owing to the fact that it takes about four years to bring a coffee tree to the bearing point, says the *New York Merchants' Review*. Afterwards it may continue to furnish an annual crop for some years with very little care. Hence any stimulus given to the industry by high prices would be felt long after the period of high prices had gone by. But when the price sinks beyond a certain level, the production may instantly be affected, owing to the abandonment of the plantations that are furthest from the avenues of transportation. That is what is happening in some parts of Brazil this season, it appears from a clipping in *The Rio News*. It is declared that in Sao Paulo the market price in some parts of the province does not cover the cost of transporting the berry to the coast.

The Tea Crisis.

Thus *Capital*:—The terrible fuss that is being made regarding the 1-lb. draft allowance seems to us to partake rather of straining at a gnat and swallowing a camel; the consequence will be to disorganize the whole trade, and we shall not be surprised to see a fall in prices when sales are fully resumed. We have before us the accounts of a company whose teas are shipped to London. The gardens contain about 2,500 acres of tea. The outturn is about 11,500 maunds, or, say, 9,200 chests. We see that the freight for carrying these teas from Calcutta to London *via* the Canal was about £1,700, while, on the other hand, the warehouse charges in London were £1,700. Comment on the above is almost superfluous; but it seems to us that, if the warehouse charges had been anything like a reasonable sum, a dividend might have been paid out of the savings effected.

Tea-planting in the U. S.

The Secretary of Agriculture is following in the foot-steps of former Commissioner Le Duc, in furthering tea-planting in the Southern States. The *American Grocer* states that Secretary Wilson regards a domestic tea industry as one of the hopeful problems of the day, if, indeed, it has not been demonstrated to be a success already. From the specimens sent to the Department of Agriculture, he is induced to believe that the plant can be produced at a profit in the United States, and to this end he is prepared to use his best efforts. Fourteen thousand tea plants have been secured and sent to the South in continuation of the experiments started by General Le Duc several years ago, when the labor question was the difficult problem to solve. Since then machinery has come into use for the preparation of the leaf for market, but there still remains the question of labor for picking. In Ceylon and India, pickers receive a few cents per day, and it is doubtful if tea-planting in this country can be made a profitable industry until labor is as cheap here as in China and other tea-growing countries.

Private Tea Sales in Colombo.

The *Times of Ceylon*, on 1st instant, said:—"It is understood that the Directors of the Tea Plantations Company, the Proprietary Tea Estates Company, and the Eastern Produce and Estates Company have sent out orders to sell some of their teas in the local market, under the conditions desired by the P. A., instead of having them shipped to London as usual. In accordance with this new departure, a private auction sale was held by Messrs. Forbes and Walker this afternoon, details of which are not available. One of our representatives waited upon the Manager of the Eastern Estate and Produce Company, who, while confirming this information, preferred not to say whether the whole of the produce of the companies' properties was to be sold in Colombo, and could not say how long the present arrangement would be continued. The point of chief interest to us is that probably no one will lose by the arrangement, except the London middlemen. It brings more legitimate business to the local market, too, and we therefore hope it will not be only temporary." But the conclusion of the "war" has no doubt swept this scheme away.

A Cryptogamist for Ceylon.

The *Times of Ceylon* states that a request has just been sent out to the Planters' Association from London, signed amongst others by Messrs. Rutherford, Talbot, Herbert Anderson, James and George Anderson, (Messrs. Lyall Anderson & Co.), James Wilson (Ceylon Land and Produce Co.), C. M. Robertson, Alex. Thomson, A. Bethune, Ralph Cameron, and Atkinson, asking the Association to approach the authorities with the view of getting Mr. Carruthers appointed as Government Cryptogamist. Our contemporary remarks:—The cacao investigation was never completed, and the pod-disease wants more exhaustive study. The growing number and activity of tea-pests, too, distinctly point to the need of the colony being thoroughly prepared with scientific assistance; and, besides these considerations, it is perfectly understood that Mr. Carruthers' services would be as thoroughly available for research in matters affecting native agriculture as European pursuits. The Ceylon papers consider that the absolute necessity for a Cryptogamist as well as Entomologist on the Government staff is every day becoming more and more apparent. The *Observer* says:—The sooner the "gray" and other blights are investigated on the spot, the better for all concerned—*tax-payers and Government* as well as the planters.

GENERAL ARTICLES.

THE INDIAN TEA ASSOCIATION.

A Meeting of the General Committee of this Association was held in Calcutta on the 3rd instant, when there were present:—Mr H. S. Ashton, Chairman; Mr. H. C. Beeg, Vice-Chairman; Messrs. W. Brown, A. C. Lawrie, R. Magor, M. R. Quin, A. Tocher, R. R. Toynbee, and T. Traill.

AUSTRALIAN LADY BIRDS FOR INDIA.

In connection with the suggested importation from Queensland, Australia, of a species of Australian lady bird, which was believed to feed on the red spider, the Committee's attention had been called to the insect early in June, and they had referred the matter to Dr. Geo. Watt, Reporter on Economic Products to the Government of India, the Assam Branch of the Association, and the Agricultural and Horticultural Society of India. From the correspondence there appeared to be considerable doubt as to whether, from the evidence adduced, the insect could be said to be a feeder on the red spider. It was quite clear that its chief food was the scale insect, and Dr. Watt pointed out that, so far as he knew, it was rather an exceptional circumstance for a species of lady bird to feed on both the red spider and the scale insect. Generally speaking, the latter family of insects alone had been successfully dealt with by lady bird beetles. The Committee of the Assam Branch agreed with Dr. Watt, and in the circumstances the General Committee decided to take no action in the direction of importing the insect from Australia.

TEA SAMPLES FOR THE INDIAN MUSEUM.

A communication from Dr. Geo. Watt, Reporter on Economic Products to the Government of India, was considered, asking for the assistance of the commercial community in the task of completing, as far as possible, the collection of Indian products in the Economic Section of the Indian Museum. The assistance of the Association was asked by the Committee of the Chamber in the direction indicated.

Dr. Watt desired to obtain samples of teas of all descriptions, and hoped that at least one-half of the gardens in India would contribute such samples. The Committee directed that Dr. Watt should be addressed upon this point, to the effect that in their opinion it would probably be sufficient for his purposes if a representative collection of samples from the various Districts were arranged for. To obtain samples from each garden would not only be a matter of difficulty but would result in a large number of duplicates being received, which would occupy space needlessly. In the event of Dr Watt agreeing with the Committee's suggestion, the Committee of the Calcutta Tea Traders' Association were to be approached with a view to a representative collection of samples being procured.

MALE COFFEE PLANTS.

A writer in the *Planter* says:—Your correspondent in the Coorg district writes that it is hard to say whether there are any male coffee plants. Although I have never seen a male coffee plant to my knowledge, I would think that such an occurrence is very far from being improbable. The coffee is what is known as an hermaphrodite, but it is a well-known scientific fact that, although an hermaphrodite tree has the power of fertilising itself, the pollen of a different individual has a preponent effect. That is, if the pollen from one tree is brought into contact with the pistil of the flowers of another, the foreign pollen is preferred by that other tree to its own, which would appear to be important when the foreign pollen is available. This peculiarity of vegetable life has a tendency to produce male plants, and it is believed by some that every species of vegetation is evolving towards a dicœcious state. The Coorg correspondent says that a mixture of male tree among the others would, of course, be utterly useless and would only be worth keeping as a curiosity. I expect upon such a question there will be considerable diversity of opinion.

It is thought that when hermaphrodite plants are in a state of transition from that to a dicœcious state, that the pollen of the most advanced takes precedence of and is more powerful than the pollen of plants the flowers of which possess the organs of both sexes. If this is correct I would think that a few male coffee plants scattered here and there throughout a plantation would be conducive to a good setting of the blossom. Male plants, I would think, would be more apt to show themselves in a district which had been under cultivation for many generations of one variety of plants and where fresh blood in the shape of seed from an entirely different district had never been introduced. It is questionable if there is a single species of plant, which have the sexes on different trees, would entirely die out if either the male or the female was entirely isolated from each other. It has lately been pointed out to me that the male papita sometimes bears fruit. I have never seen this myself, but as the male flower possesses a female organ in a more or less rudimentary state I can see no reason why a pistil may not get sufficiently developed occasionally as to be capable of fecundity.

Then again we are aware that in the entire absence of the male papita, the female is capable of self-fertilisation, but she does so only very imperfectly. Under conditions of self-fertilisation only a very few of the seeds germinate and they are apt to produce plants with a constitutional weakness. But as there will be a certain percentage of males, in a few generations the plants would regain their original robustness. Whenever we get the male coffee plant (if we have not got it already) according to the eternal fitness of things our present hermaphrodite plants will gradually give place to the more advanced, and that there can be no doubt, from a biological point of view, a more highly elaborated individual. There is nothing in creation considered more conducive to constitutional weakness, a low state of vitality and disease than "in-breeding." When this is carried to a certain extent, nature shows her abhorrence by making a clean sweep and clearing the way for something higher, purer and stronger. How far our coffee disease was induced by using seed for the production of bushes which had been, through continual self-fertilisation, brought into a state of one identical constitution, I have not had experience enough to say, but I would not at all be surprised to hear that it was the main cause of the disaster.

CHILDISHNESS OF CINCHONA PEOPLE.

The quinine-works in Java have had much tribulation to go through, and an avalanche of complaint, fault-finding, and quarrelling has accompanied the tribulation. Amidst it all the industry has progressed, but the spirit of mischief has never been absent, and, if there is nothing internal to grumble at, something is found outside to create annoyance. European quinine-manufacturers are the chief enemies of the industry, according to Java papers, which credit these manufacturers with Machiavellian habits that astound those who happen to know the quinine-manufacturers. For example, they say that the plant obtained from Europe for the Bandong works had been supplied purposely of such defective construction as to lead to frequent failures and breakdowns; also that the steamship companies, threatened with the loss of the shipments of bark to Europe, insisted upon having the wooden barrels used for the transport of oil required by the works enclosed in iron casks costing 25s. each. An even worse instance of irritation is given quite seriously. An important contract for sulphate of quinine was received from Holland, and duly executed by the Bandong works. The quinine was packed in the regulation tins, similar to those supplied by European makers. After a few months the whole consignment was returned with the remark that the quinine would only be accepted if the tins were properly painted. The works did as desired, painted the tins with enamel paint, and reshipped them to Holland. A second time they came back, "as the bottoms of the tins had not been painted." This was also done, and the lot shipped out again, and then it was at last accepted. The European Syndicate are now credited with having taken steps to establish works of their own in Java, in the immediate neighbourhood of the Government cinchona-plantations. We can find no trace of this in the recent official publications, but should it be a fact it would be another reason for the Bandong works to come at the earliest possible moment to a definite understanding with the Java planters. Want of unity amongst themselves is really at the bottom of all their troubles.—*Chemist and Druggist.*

THE HYBRIDISATION CONFERENCE.

(Continued.)

HYBRID DIOSCOREA.

The Chinese Yam (Dioscorea batatas) has an elongated tuber, penetrating with its bigger end the soil for 3 to 4 feet, and consequently not easily to be dug up. Mons. P. Chappellier, in trying to obtain a variety that should not present this disadvantage to the culturist, made a series of hybridising experiments, on which he furnished an account.

He took principally the species D. decaisneana, with a spherical tuber as the seed parent, and crossed it with the pollen of the Chinese Yam, without, however, getting very far towards gaining his end, though obtaining some thousands of seedlings. Most interesting, however, was one individual hybrid he obtained between the two species, for it bore both male and female flowers, these, of course, being restricted to different plants in the parent species; the seeds, however, did not ripen. Another experiment was made in sheer desperation. Mons. Chappellier tried to cross the pigmy D. pyrenaica with D. batatas, but obtained no result whatever.

Monsieur Chappellier briefly alluded also to a hybrid he had obtained from Mirabilis longiflora ♀, and M. jalapa ♂. This pre-eminently displayed the common characteristics of hybrids to be more vigorous than either parent species, a single plant of the one in question bearing no fewer than four hundred flowers at one time. The plants are also fertile *inter se*, but such variations arise among the seedlings that it is necessary to propagate them vegtatively. Reprints also of his paper on "Recent Hybrids of Crocus sativa (*Bul. Soc. Bot. de France*, vol. xliv., Feb. 24, 1897), and others bearing upon the question, were sent to the conference by M. Chappellier.

PROGRESS IN THE UNITED STATES.

Professor Bailey, of Cornell University, in his paper on the progress of Hybridisation in the United States of America, gave a bold summary of results rather than an investigation into specific experiments in hybridisation. In judging the question it must be remembered that the standards are different on the two sides of the Atlantic, because the natural and economic conditions are not the same.

In relation to area, intensive gardening is rarer in America than in Europe; there are relatively fewer glass-houses, less interest in individual plants, and less of the amateur's instinct. On the other land, larger tracts of land are devoted to horticulture. Fruit-growing is more developed than anywhere else in the world, and greater interest is taken in cosmopolitan varieties.

Again, there is much less interest in hybrids, simply as hybrids. Those hybrids most valued in America are those which fulfil some particular conditions of withstanding sun, or rain, or drought; and it must be remembered that there is as great a diversity of climate in the United States as in the whole of Europe. Hybrid ornamental plants, such as cannas, lilies, &c, are quite common over the water, but they are purchased from Europe; and Professor Bailey suggested that we probably should not care for this to be altered.

The hybridising of fruit trees, vines, apples, plums, &c., with native species, was then gone into in some detail, all the work apparently having been undertaken from an economic standpoint, with a view to obtaining plants suitable to special cases. An apple is wanted to stand the climate of the cold North—Russian races, and Siberian crab are stocks that have been imported to aid in the pursuit, and so on.

An idea of the magnitude and scope of the work is, that Craig alone made 5,000 crosses in Iowa in 1899, and a messenger went 200 miles into Arkansas to obtain pollen to be used at the Experimental Station in the former place.

The European pear does not thrive in the Southern States, and the introduction of a new specially-raised variety has made profitable pear-growing possible there.

Attention was also drawn to the orange experiments brought before the Conference by Mr. Webber. The paper concluded with a list of the chief experimenters, the names of plants dealt with under the heading of particular States, and including Canada.

In his final sentences, Professor Bailey pointed out that by producing a single hybrid which could be named and sold, more immediate results, so far as glory and so on, might be obtained; but when species are blended so that the resulting plants cannot be distinguished from ordinary varieties, then a more useful end is attained.

HYBRIDS IN THE JARDIN DES PLANTES.

Mons. L. Henry, Curator of the Open-air Department of the Paris Natural History Museum, contributed his notes upon the hybridising experiments, successful or the reverse, to the number of over a hundred, made by himself between the years 1887 and 1899. Perhaps the fullest account which he presented was upon lilacs, and he sent for exhibition a water-colour drawing of a hybrid and its parents. This was obtained by crossing Syringa bretschneideri ♀ and S. josikæa ♂, and the object sought was accomplished, namely, to get darker flowers than those of the seed parent, while retaining its foliage

In the converse experiment, S. bretschneideri ♂ showed its prepotency again, so far as foliage went, the flowers on the other hand, agreeing with the seed-parent in colour, form, and size.

M. Henry also made experiments similar to those of M. Lemoine alluded to elsewhere, with a view to clearing up the origin of S. dubia, or Varin's lilac. By crossing S vulgaris and S. persica (? S. p. laciniata), he obtained plants identical with Varin's form, so far as foliage went, but unfortunately they died before flowering.

Proposed Experiments.—Monsieur Henry, when alluding to the discovery of the parentage of the Varin's lilac (Syringadubia), through the crossing of various species of the genus, took the opportunity of suggesting that the Conference should institute a series of investigations with a view to clearing up the doubtful history of other plants. His first selection of species to be made the subject of hybridising experiments is given below:

Amygdalus persicoides, Duham.
" = persico-amydala, Dalsch.
Æsculus rubicunda, D. C.
Berberis Neuberti, Hort.
" = ilicifolia, Hort.
" stenophylla, Moore.
Cerasus fontanesiana, Spach.
" = prunus græca, Desf.
Cratægus oxyacantho germanica, Gilot.
" = C. lobata, Bosc. = Mespilus smithi, D. C.?
Cytisus Adami, Poit.
Dianthus semperflorens, Hort.
Juglans hybrida, Hort.
Juglans pyriformis Carr.
" Vilmoriniana, Carr.
Prunus cerasifolia, Hort.
Pyrus malifolia, Spach.
" bollwylleriana. D. C.
Ribes Gordonianum, Lem.
" intermedium (Billiard, 1867).
Robinia decaisneana, Cam.
Rosa alba, L.
" Fortuneana, Lindl.
" Hardyi Cels.
" hybrida, Scleich.
" Noisettiana, Red.
Rubus nobilis. Rge.
Sorbus hybrida, L.

HYBRID FERNS.

Mr. Charles T. Druery, V.M.H., pointed out in his paper on "Fern crossing and Hybridising," the difficulties arising from the microscopical size of the reproductive organs in ferns, and their position on the underside of the prothallus. Scientific accuracy as to percentage is one of these, as stray fern-spores cannot easily be kept out. Florists, he said, can practically make sure that a seed-pod contains A + B, but in ferns the cross is mainly determined by the resulting combination of characters.

The ordinary process of reproduction in ferns was entered into in order to emphasise the points alluded to, and then Mr. Druery went on to give details of several planned as well as unintentional crosses which cannot be doubted. Mr. E. J. Lowe's hybrid between Scolopendrium vulgare and Ceterach officinarum is one, and Mr. Druery exhibited fronds of the scaleless Caterach form with confluent libs and sori infused pairs. P. schneideri × was next described and brought forward as illustrating the possibilities of endowing exotics allied to our rare British ferns, with the characteristics of the latter, increasing their beauty, and at the same time rendering them more hardy.

Hints were then given as to facilitating the transit of antherozoids from one prothallus to another in mixed sowings, or where prothalli from separate sowings are subsequently paired, and these were followed by suggestions as to the severance of the sexes by cutting up the prothalli. Crossing in ferns, continued Mr. Druery, is not limited as in flowers by the necessity of the pollen-tube being of a length agreeing with that of the style, the prothalli being alike except in the case of filmy ferns, and the size of the fern proper being quite immaterial. On the other hand, it was noticed, in conclusion, the habitual asprogamic reproduction proves an effectual bar to cross-fertilisation in many ferns.

HYBRID CLEMATIS.

A paper was received from M. Morel on "Hybrids and Mongrels

of Clematis," and these may be considered under his various sub-headings.

Clematis coccinea-Pitcheri.—The first experiment in crossing Clematis coccinea ♂ and C. Pitcheri ♀, which belong to the same group, produced a large number of fertile seeds. The seedlings obtained were chiefly interesting from their resemblance *inter se*, and constituted a form intermediate between the species they were derived from (see E. Andre, *Revue Horticole*, August, 1893, for a detailed description of the hybrid, as well as for figures of itself and its parents) From C. coccinea it gets its habit of early flowering and its colour, while from C. pitcheri its vigour, its sepals reflected at their extremities, and its sweet vanilla-like scent. This hybrid seeds copiously and reproduces itself almost exactly, but if pollen from one of the parent species is used, a large number of forms is obtained, that more nearly resemble the pollen parent Its fertility is adduced as evidence of the near relationship of C. coccinea and C. pitcheri.

Hybrid No. 378.—This is between C. coccinea ♂ and a large-flowered Clematis as yet unnamed (No 140(♀, two species which belong to very different groups. The pollen-parent contributes the consistence and a number of sepals. The flower is intermediate in form between the urceolate blossoms of C. coccinea and the spreading ones of No. 140, which latter gives the colour. The leaves are more like that of the former species, and the hybrid has proved sterile up to the present.

Hybrid No. 401.—This hybrid, though having the same pollen-parent as the last, and produced also from the seeds of a large-flowered Clematis (Oriflamme), almost completely retains the characters and habits of C coccinea. The number of its sepals is variable, being sometimes four as in the latter species, sometimes five or six as on the other parent. No. 401 has always proved sterile

Clematis à Ville de Lyon.—This, which M. Morel considers the most beautiful form of the genus yet obtained, was described and figured in the *Revue Horticole* of April 16, 1899. The parents are C. coccinea ♂ and a large-flowered form called Viviand morel. and the appearance of the progeny at first sight seems to belie its origin. The foliage of the hybrid is altogether that of a large-flowered form; the enlarged open flowers in no way recall the sepals of C. coccinea, to which its other hybrids retained some resemblance. The colour of the blossoms, as well as the number, dimensions, and arrangement of the stamens, agree with the pollen-parent, which it also resembles in its constitution, being immune against the attacks of the terrible disease that attacks the large flowered species of Clematis. M. Morel quoted a parallel case of the hybrid Pæonies between Pæonia officinalis ♀, and P. Rossii ♂, which altogether resemble the seed-parent.

HYBRID LILACS.

Under the title of "Hybrids of the common and of the laciniated Persian Lilac," Monsieur Emile Lemoine pointed out that in approaching the subject of hybridisation, the technical processes must be studied by means of which the work is accomplished. His paper illustrates how the classificatory position and origin of certain plant forms may be cleared up by hybridising trials. Opinions differ as to what the lilac of Varin really is, whether it be a pure species, a hybrid. or simply a form of Syringa vulgaris.

In endeavouring to obtain a double-flowered variety, M. Lemoine persistently tried to cross Varin's lilac ♀, and the common double form , and *vice versâ*. but without success. A like attempt where the Varin's lilac was replaced by the typical Persian lilac, and the white form with similar leaves also failed, but all the flowers of the laciniate Persian lilac, which has very different foliage from the other, yielded seed when supplied with pollen from the common double Lilac. Some sixty seedlings were obtained; some which have produced single, half-double, and double flowers, and the last have been named Syringa varina duplex. The conclusions are that Varin's lilac is a hybrid. and arose as a chance cross between Syringa vulgaris ♀, and S. persica laciniata ♂. M. Lemoine's cross, in which S. vulgaris was the pollen-parent, has usually leaves which are smaller than the original Varin form, and sometimes at the base of branches are slightly lobed. The experiments point towards the typical Persian lilacs also being hybrids.

HYBRID MIMULAS, VIOLA, &c.

Dr. Stuart, of Chernside, sent in an account of his hybridising work as an amateur horticulturist. First of all he gave a description of his raising of Mimulus tigrinoides from the garden Mimul (Scarborough defiance)♀, and M. cupreus♂. The plants whi proved the dwarfest of this particular section of Mimulus were se out by Mr. Cannell, of Swanley, and were favourites in their da

Next, the author alluded to his verification of the steps by whi Mr. Grieve obtained his "coloured Pelargoniums." Very we plants, with highly-coloured leaves were produced as a result crosses either way between golden choice and golden pheasa To give vigour of constitution, a dwarf horseshoe-leaved speci was used as seed-parent, and pollen taken from one of the high coloured forms.

Among Dr. Stuart's seedlings, obtained from a horseshoe-leave seed-parent crossed with one of Mr. Grieves' highly-coloured form those that had parti-coloured leaves showed most tendency to se out a branch with the characteristic tri-colour markings. Wh these appeared they were cut off and struck, and the plants raised kept their character wonderfully. Some plants did no however, show their true character for years.

Passing on to the question of tufted pansies, as he calls th plants commonly alluded to as Violas, Dr. Stuart went into th origin of his well-known hybrids on the genus. Following the ide started by Mr. Wills, of crossing Viola cornuta from the Pyrene and the garden pansy, to increase the hardihood of the cultivate varieties. Dr. Stuart chose "Blue King" as the pollen-parent, a was able to raise a dozen hybrid seedlings from Viola cornut Their flowers showed the long spur of the mother, but were marked different from known varieties. The reciprocal cross resulted straggling plants with pansy-like flowers, that were of no intere horticulturally speaking. By again crossing the first hybrids wit garden pansies, a number of the large flowered kinds were obtaine Much interesting information was also given by Dr. Stuart wit regard to hybrid Aquilegias, Trollii, and Primulas.

THE CURRENCY COMMITTEE'S REPORT.

For the information of such as our readers as desire to see mor of the Report in the Indian Currency Committee than the bric telegraphic summaries that have hitherto appeared. we reproduc the report, omitting

SECTION I.

which merely describes the monetary system of India from th beginning of the present century. It occupies four pages, but w need not trouble our readers with any of it, and therefore proce wi th our reproduction of the Report from

SECTION II.

17. Having thus set forth the origin and present position of th monetary system of India, we proceed to consider the questio whether, in the light of the six years' experience gained since 189 it is desirable to reverse the policy initiated in that year and t re-open the Indian mints to the unrestricted coinage of silve Such a step has not been advocated in the Memorials which we hav received from the Chambers of Commerce of Bengal. Bombay. Madra and Karachi. Nor is there unanimity among those who do advocat so important a change of policy. Apart altogether from the fac disclosed by the evidence that some who were opposed to the closin in 1893, now advocate a gold standard, there is a clearly marke division between those who would re-open the mints to silver forth with and those who, while contemplating such a course eventuall hesitate to re-open the mints immediately. The latter class ma be further subdivided into those who propose to leave the time an conditions of such re opening to be hereafter determined, an those who suggest immediate steps towards a gradual re-openin With regard to the last suggestion, which aims at mitigating wha its advocates have represented to us as the prospects of disaster t merchants and traders and of grave difficulty to the Government o India from the sudden drop in exchange to the bullion value of th rupee (about 10½d. at the present time), no scheme has been sub mitted to us which appears likely to attain the object in view. I our opinion, any measures for gradual reopening would be so full and immediately discounted as to defeat the precise objects fo which they are suggested. It is obvious, moreover, that the certai

prospect of a heavy fall in the exchange would at once drive capital from India.

18. As regards the policy which, while declaring in favour of open mints, would leave it to future undefined circumstances to indicate when the step should be taken, this (so far as it is not dictated by the desire for an international agreement, to which we refer presently) recognises that, for the present, the benefits anticipated from a return to a silver standard do not counterbalance the evils which would result from abandoning the *status quo*. The hope apparently is that, from a rise in the gold-price of silver, or from a fall in the sterling exchange of the rupee, or from a combination of these or other undefined circumstances, it may hereafter become possible to revert to a silver standard without causing a sudden and heavy fall in the exchange value of the rupee. Meantime it is proposed that the present arrangements should continue indefinitely, in spite of the disabilities considered to be thereby imposed on what are regarded as the true interests of India. This suggestion could, of course, only be entertained by the Government of India if it were definitely decided, in principle, to re-open the Indian mints to silver; and its adoption or rejection must depend on the answer to the broad question with which we are about to deal, viz.:—Is it desirable for India to revert to silver monometallism?

19. The policy of re-opening the mints at some future date to silver stands on a different footing when urged by those who look forward to an international agreement and consider that there is reasonable hope of such an agreement within a limited period. Such persons, unlike those above referred to, aim directly at a stable exchange between India and the United Kingdom, and advocate delay only in order that an international agreement may be reached. With regard to this anticipation, we confine ourselves here to stating that, the negotiations of 1897 with France and the United States of America having proved fruitless, no fresh proposals, so far as we are aware, have been, or are being, made by any of the Governments concerned.

20. The main proposal that the Indian mints should be re-opened forthwith to the unrestricted coinage of silver has been supported by witnesses on various considerations, one of which is that "a low rupee and a low exchange" encourage the export trade on which India's prosperity depends, and that an "arbitrarily enhanced" rupee discourages exports. It is urged that encouragement would best be given to exports by a reversion to the system of open mints, so that the rupee in exchange would again coincide with the gold price of silver, with the result that an end would be put to the unfair advantage which the present system is held to give to the silver-using competitors of India, and which (according to this view) the effective establishment of a gold standard would perpetuate. Great stress is laid by the advocates of open mints upon the burthen imposed on the export of India by stringency in the Indian money market which they attribute to the closing of the mints, and represent as likely to increase under the present systen of closed mints. It is admitted generally by the advocates of open mints that the benefits which would accrue to India from restoring the silver standard would probably lead to difficulties on the part of the Indian Government; but it is urged that these difficulties would be temporary only, and that they could be met either by borrowing or by increased taxation, including import and export duties.

21. Dealing first with the question of discount rates, it will be sufficient to remark that the anticipations of increasing stringency have not been verified during the recent busy season. Whereas the minimum rate of the Bank of Bengal was 10 per cent on 6th January, 1898, rising on 24th February to 12 per cent. (at which figure it stood until 27th April, 1898), and did not fall below 10 per sent. until 16th June, 1898, the rate for the busy season of 1898-99 has never exceeded 7 per cent., and this though the total volume of India's seaborne foreign trade exceeded Rx.210,000,000 in 1898-99, as against (under) Rx.199,000.000 in 1897-98.

22 While it may be questioned whether banking arrangements in India might not with advantage be strengthened and adjusted to the grow ing requirements of Indian trade, we cannot doubt that one of the main causes of the stringency of 1897-98 was the reversal (necessitated by the exceptional circumstances of India at the time) of the relations of the Government of India and the money market in the autumn of 1897. In ordinary years the Government is able, through the sale of Council Bills and Telegraphic Transfers, to place large sums at the disposal of the money market throughout the autumn and winter. Thus, during the last four months of 1894, the bills and transfers sold by the Secretary of State amounted to Rs.8,052,000; in 1895, for the same period of the year, the amount was Rs.9,888,000; in 1896 the amount was Rs.6,056,900. But in 1897, owing to the depletion of the balances of the Government of India, brought about by expenditure on famine relief and military operations and by failing revenue, the Secretary of State was unable, from 1st September to 15th November, to offer bills or transfers for sale, and was compelled to purchase drafts on India for Rs.1,000,000. Thus, during the last four months of 1897, the amount placed at the disposal of the Indian money market in the Presidency towns in consequence of the remittance transactions of the Government was only Rs.332,700, or Rs.5,724,200 less than the year before.

23. It must not be forgotten that high discount rates were not unknown in India under the system of open mints; for example, the Bank rate reached 12 per cent. in April 1890 (in which year the rate did not fall below 10 per cent. from 10th February to 24th April), while in 1889 12 per cent. was quoted continuously from 21st February to 28th March, the rate not falling below 10 per cent. from 17th January to 11th April of that year.

24. We come next to the suggestion that the present system of closed mints handicaps India in her industrial competition with countries on a silver standard.

Of such countries China may be taken as the type, and it is said that the greater fall in (say) the London exchange with China as compared with the fall in the exchange with India stimulates exports from China which compete with exports from India, and also stimulates native production in China to the disadvantage of Indian imports into China; and that in this way India is placed at a disadvantage, and that the disadvantage to India is increased when an actual rise occurs in the Indian exchange.

It is explained that a fall in the price of silver is necessarily accompanied by a fall in the China exchange, that the producer in China consequently receives a higher silver price in respect of the same gold price, whilst wages and the other factors in the cost of production do not increase in the same proportion; that production in China becomes more profitable and is therefore stimulated; that, on the other hand, if the Indian exchange does not fall to an equal degree, the Indian producer does not receive this stimulus and, if the Indian exchange rises, the producer in that country receives a lower rupee price, while wages and the other factors in the cost of production do not proportionately diminish; that the Indian producer does not receive the same profit as before, and that production is therefore checked.

This aspect of the question was considered by Lord Herschell's Committee, and the conclusions at which they arrived will be found in paragraph 27 of their Report. They expressed the opinion that, even if we assume the argument as to a stimulus or check to production to be sound, the effect of each successive fall in exchange must be transitory, and could only continue until circumstances have brought about the inevitable adjustment. In this opinion we concur, and evidence has been laid before us which shows that prices and wages have risen in China since silver has fallen in price and the local copper currency has appreciated in terms of silver.

25. Lord Herschell's Committee examined the statistics of Indian exports for a series of years, and came to the conclusion that "although one may be inclined, regarding the matter theoretically, to accept the proposition that the suggested stimulus would be the result of a falling exchange, an examination of the statistics of exported produce" [from India] "does not appear to afford any substantial foundation for the view that in practice this stimulus, assuming it to have existed, has had any prevailing effect on the course of trade; on the contrary the progress of the export trade has been less with rapidly falling than with a steady exchange."

We need not quote the statistics of the export trade to which that Committee called attention, but we desire to state that we have been unable to find any statistical support for the theory that exports are largely and permanently stimulated by a depreciation of the standard of value, resulting in a fall in the exchange.

The statistics of the Indian export trade since the mints were closed to silver might have been expected to throw light on this portion of the question, but their value for this purpose is much diminished by the special disturbing influences to which that trade has been subjected during the last six years.

The closing of the Indian mints, the cessation of the purchases of silver by the United States of America, the consequent fall in

the price of silver, and the apprehension to which it gave rise, undoubtedly disturbed the course of trade for a time, and when recovery to more normal conditions might have been expected, India was affected by war, famine, and plague, and its finances were so seriously embarrassed that the drawings of the Secretary of State were largely reduced and loans of unusual magnitude were raised in London on account of the Government of India. The exports from India were largely reduced in 1897-98. In the following year (1898-99) there was a marked recovery; the drawings by the Secretary of State were unusually large; and a substantial sum in gold was brought to the Indian Treasury.

26. For convenience of reference we give in this place the figures of gross exports from India in the twelve years from 1887-88 to 1898-99:—

Year.	Exchange.	Silver, per oz.	Exports of Merchandise. Rx. (000 omitted).
	d.	d.	
1887-88 ...	16·898	$44\frac{5}{8}$	90,471
1888-89 ...	16·379	$42\frac{7}{8}$	96,978
1889-90 ...	16·566	$42\frac{11}{16}$	103,397
1890-91 ...	18·089	$47\frac{11}{16}$	100,136
1891-92 ...	16·733	$45\frac{1}{16}$	108 036
1892-93 ...	14·985	$39\frac{13}{16}$	106,536
1893-94 ...	14·547	$35\frac{5}{16}$	106,448
1894-95 ...	13·101	$28\frac{15}{16}$	108,815
1895-96 ...	13·638	$29\frac{7}{8}$	114,263
1896-97 * ...	14·451	$30\frac{3}{4}$	103,914
1897-98 * ...	15·354	$27\frac{9}{16}$	97,537
1898 99 * ...	15·978	$26\frac{15}{16}$	112,723

For the reasons we have stated in the preceding paragraph, we hesitate to draw any positive conclusion from these figures, but they afford no support to the theory that large exports are incompatible with a rise in the rate of exchange.

27. In this connexion we wish specially to notice the very important Tea Industry of India and Ceylon, which certain witnesses stated to be seriously threatened by competition with China tea produced in a country on a silver basis. We recognise the large capital invested in the tea estates, and that their maintenance is of vital importance to the many Europeans and natives employed therein. It was represented to us that the profits of the producers of Indian and Ceylon tea had been affected by the recent rise in the Indian exchange; that although this diminution of profit could not immediately affect the total export of tea from gardens already in existence, or the increase from gardens in process of formation and about to come into bearing, it would tend to diminish the extension of cultivation, and thus prevent the export of tea from increasing to the extent to which it would otherwise have done.

We do not doubt that the recent rise in the Indian exchange temporarily diminished the profits of the producers of tea, just as the previous fall had temporarily increased them; but, as we have already said, we see no reason to suppose that the strength of the competition of China tea will be permanently increased by the fact that China is on a silver basis. So far there is no evidence to show that the exports of China tea have appreciably increased, and there is evidence to show that the rise in Chinese wages and general prices has at least begun to take effect.

It appears to us that the permanent interests of the tea gardens of Ceylon and India will be promoted rather than injured when their operations are carried on under the same standard of value as exists in the countries to which their produce is exported.

We find that this question of the competition of China with Indian tea was specially considered by the Government of India in 1892, before the Indian mints were closed to silver, in connection with a memorial on the subject from the Darjeeling Planters' Association. The views of the Government of India on the subject are contained in a letter to the Honorary Secretary to the Association, dated 12th October, 1892, and printed at pp. 176-77 of the Minutes of Evidence before Lord Herschell's Committee. The following extract from that letter contains a summary of the views which the Government of India expressed at that time:—

"To sum up, the Government of India are of opinion—

"(1) That a country, as a whole, makes no gain in its international trade by a depreciation of its standard, since the extra price received for its exports is balanced by the extra price paid for its imports.

"(2) That the producer of an article of export may make a temporary and unfair gain from depreciation of the standard, at the expense of his employés and of other persons to whom he makes fixed payments.

"(3) But that this gain, while not permanent, is counterbalanced by a tendency to over-production and consequent reaction and depression, by a liability to sudden falls in price as well as to rises, and by the check to the general increase of international trade which necessarily results from the want of a common standard of value between countries which have intimate commercial and financial relations."

We are unable to find that anything has occurred since the closing of the Indian mints to silver to throw doubt on the soundness of the views expressed in 1892 by the Government of India.

28. As regards the argument that a low exchange stimulates exports and discourages imports, it is further to be observed that whatever advantages attach to a low exchange should be increased by parity of reasoning, by a still lower exchange; and it has accordingly been represented to us that it is a falling exchange which stimulates exports. But, as regards the ultimate limits of beneficial fall, we have failed to discover at what precise point, if at all, the advocates of this view would hold that the alleged advantages of a falling exchange cease.

29. To re-open the Indian mints to silver without an international agreement would necessarily result, according to all past experience, in renewed instability of the exchanges between India and gold-standard countries. It is generally recognized that fluctuations of exchange constitute an obstacle to international trade, the true interests of which are to be sought in a stable monetary par of exchange. Since over four-fifths of India's seaborne foreign trade is with gold-standard countries, it follows that the balance of advantage is heavily in favour of stability of exchange with gold-standard countries; and accordingly, considered by itself, the instability of exchange which must be anticipated from re-opening the Indian mints to silver is a powerful argument against taking the step.

30. So far we have considered the matter solely from the standpoint of trade; and the above remarks will have indicated our conclusion that, even apart from considerations primarily affecting the Government of India, it is not in the permanent interests of India that her foreign commerce, over 80 per cent. of which is with gold-standard countries, should be hampered by the restoration of silver monometallism. This conclusion is strengthened by considerations affecting the Government of India, which is the representative of the general interests of India. Apart from certain large payments in India (such as the pay of British soldiers serving in that country), the rupee total of which payments is regulated by the sterling exchange, the Secretary of State for India has now under normal conditions, to meet obligations in England amounting annually to between 17 and 18 millions sterling. In order to make these payments, the Government of India raises taxation in rupees, and would therefore be seriously affected by the re-opening of the mints to silver. It is impossible to foretell what would be the actual effects of this step on exchange. But a drop even to 1s (which is about 2*d.* above the present bullion value of the rupee) would, on a moderate estimate, increase the necessities of the Government of India by at least Rx.10,000 000 gross, against which might be set some possible increase of revenue, leaving an increase of at least Rx.7,000,000. This sum exceeds the total excise revenue of India by Rx.1,500,000, exceeds the total stamp revenue by Rx.2,160,000, and is nearly four times the total yield of the Indian income tax. An increase of expenditure to this extent would not only absorb the whole of the present surplus—which is the result of an increase in taxation imposed since 1886 principally to meet exchange difficulties—but would also necessitate further taxation. As regards an increase of taxation, Lord Northbrook has expressed the opinion (Q. 8,407) that, while it would be possible, "it would be in the highest degree "unwise, both in respect of the trade of India, the welfare of the people of India, "and I will go so far as to say the security of the Indian Empire." Concurring as we do in this opinion, which has been supported by the independent testimony of other distinguished administrators of India, we must add that the Government of India would not be justified in assuming that, with the mints re-opened to silver, the fall of the exchange to a shilling is the greatest fall which they might be called upon to face either immediately or at a future time.

* Famine years.

31. It has been urged before us that, so long as the rupee is current at a value considerably above that of the silver which it contains, there is serious risk of counterfeit coins in silver of standard fineness being manufactured and put into circulation. This subject has engaged the attention of the Government of India; and in a despatch, dated 12th January 1899 (more than five and a half years after the closing of the mints), they express the opinion that there is no evidence of such counterfeiting on any appreciable scale. We see no reason to doubt the correctness of that opinion; nor does the experience of other countries, in which silver coins circulate at an enhanced value, suggest any other conclusion.

32. In view of the considerations which we have stated, we concur with the Government of India in their decision "not to revert to the silver standard."

SECTION III.

The Principle of a Gold Standard.

33. At the present time, the practical alternative to silver monometallism is a gold standard, that is to say, gold as the measure of value in India, either with a gold currency or with a gold reserve.

34. We have already referred to the fact that over four-fifths of the foreign trade of India is with gold-standard countries, and that for this reason it is desirable that India should have the same measure of value as those countries. Regard being had to the supremacy of gold in international commerce, the change to a gold basis has been represented to us by Professor Marshall (Q. 11,815) as "like a movement towards bringing the railway gauge on the side branches of the world's railways into unison with the main lines." This consideration directly relates to facilitating interchange of commodities.

35. A further and certainly not a less important consideration for a country like India is that an established gold standard is the simplest and most effective means of attracting capital. The need of India for foreign capital is indisputable, and this need is partly of a temporary and partly of a permanent character. For climatic reasons, India is essentially a country of seasonal trade; she has a busy season and a dull season, though the tendency of late years has been to diminish the disparity and to exhibit approximation to a more uniform average within each year. From this seasonal character it follows that the demand for money is much greater for one part of the year than for the other. In the busy season there is a brisk demand for temporary advances to move the crops; in the dull season money is in little demand. The distinction is shown in an extreme form by the facts of the money market in 1897-8, when there was a seasonal variation in discount rates of no less than 7 per cent., and the fluctuations were even greater in 1889 and 1890 In order to diminish the risk to Indian commerce of a recurrence of such stringency, and in order to reduce the average rate charged for the local use of money, the sound policy is to attract capital to India from the gold-standard countries which have capital to lend, and this can best be achieved by a gold standard and a stable exchange. Moreover, it is in many ways as important that money should be able to flow out of a country without depreciation, when it is no longer in relative demand there, as that it should flow in when required. A gold standard is, in our opinion, the only means by which, under present conditions, these benefits can be secured.

36. The natural resources of India are beyond question, as also is the need for their development. In order to develope and reap the benefit of her resources, India requires, and must long continue to require, foreign capital. Such foreign capital can only be drawn from the gold-standard countries; and the capital of these countries can only be attracted by a moderate rate of interest or profit on condition that the investor is satisfied that there is not likely to be a fall in sterling exchange. We have had the valuable testimony of Mr. Alfred de Rothschild (Q. 11,853) that British capital would be at once forthcoming if the British investor knew that there was a fixed rate of exchange between the two countries. We attach great importance to this argument in favour of a gold standard for India.

37. It seems unnecessary to discuss the further considerations which point to the benefits to India of a gold standard. We desire, however, to remark that the effective establishment of such a standard in India would not preclude India hereafter from considering responsible proposals for an international agreement, if circumstances should arise to render such negotiations practicable.

38. Before discussing the various further measures which have been proposed for establishing a gold standard in India, we submit to your Lordship the following considerations relating to the existing currency arrangements. Inasmuch as, for practical purposes, the sterling exchange furnishes a broad test of a country's claim to be on a gold standard, and inasmuch as the Indian exchange since January, 1898, has been stable (within what may be regarded as "specie points") at 16d. per rupee, it has been represented to us that the gold standard may be regarded as having been reached in India already. According to this view, the closing of the Indian mints to silver and the undertaking by the Government to give rupees for gold has already had the result of making gold practically a legal tender in India, present arrangements being sufficient to supplement automatically from time to time the stock of currency.

39. Judged solely by existing facts, this contention cannot be disputed in its essentials. Events have proved more favourable than was anticipated by the Government of India when, in their despatch of 3rd March 1898, they represented that it was not very probable that gold would be presented in the early future. And, although they expressed the opinion that it was "in any case extremely unlikely to be presented in such quantity as to lead automatically to an accumulation of gold sufficient for a reserve," statistics indicate that a considerable accumulation has already been effected. On 31st March, 1899, the reserve of the Paper Currency Department of the Government of India included gold to the amount of over £2,000,000. At the present time the amount of gold is £2,378,609.

40. While this substantial addition in gold was being made to the Indian currency, the Government of India was able, within the year to 31st March 1899, to remit by the sale of Council Bills a sum of £18,712,454, which is considerably more than the average sterling requirements of the Secretary of State, and was £2,712,454 in excess of the original estimate of his sterling drawings. This has been accomplished without lowering the average price realised by the sale of Council Bills below 15·978d. (or as nearly as possible the limit fixed in 1893); and stringency has not recurred in the Indian money-market. Automatically, therefore, existing currency arrangements sufficed not only to maintain—without monetary stringency—a steady gold standard in 1898-9, but also to initiate a gold reserve in India, to serve as a bulwark for the maintenance of the gold standard in future years.

41. If it has been possible to secure these results in the past in the face of distrust, it may be argued that even greater success may be expected in the future with the growth of confidence. We are by no means prepared to suggest that this may not prove the case, or that the mere continuance of the *status quo* may not prove adequate by itself gradually to supplement the currency of India with a margin of gold sufficient to tide her over adverse years hereafter. But the same considerations which tell in favour of maintaining the *status quo* for the present, equally tell against its maintenance permanently. In practice it would be impossible for the Government of India to receive gold beyond a certain point into their Treasuries or their Paper Currency reserve, unless they were also empowered to pay that gold out again in cashing their notes or meeting other liabilities in India. But this would mean declaring gold a legal tender at a fixed rate, and thereby superseding the purely provisional machinery of the existing system According to this argument, therefore, maintenance of the existing system comes to mean little more than postponing further action for a time. The interval would be long or short, according to the slow or rapid accumulation of gold; but in no case could the provisional arrangements now in force constitute—nor indeed, were they ever intended to constitute—a permanent settlement of the problem. The practical question is, therefore, narrowed to this:—Should the *status quo* be allowed to continue until events force the Government to take action? There would have been more to be said in favour of suspending action and leaving facts to settle the problem had it not been for the circumstances which led the Government of India to formulate proposals for curtailing the transition period and taking "active steps to secure the early establishment of a gold standard and a stable exchange." That opinion having been expressed by the Government of India, and public discussion having been aroused by the publication of their proposals and by the present inquiry, it appears to us undesirable, even though results have proved more immediately successful than the Government of India anticipated on 3rd March, 1898, to leave matters as they are. If in face of the public attention which the question has attracted, and in face of

the considerable divergence of the views expressed on the subject, no further steps were now to be taken, an additional uncertainty would be caused; doubts would be excited as to the ultimate success of the gold standard; rumours would arise of a possible change of currency policy; the Government, both in India and at home, would be pressed for a final pronouncement, alike by the friends and by the foes of a gold standard; and meantime the material interests of India would suffer from the withdrawal of confidence in her monetary future.

For these reasons we conclude that steps should be taken to avoid all possibility of doubt as to the determination not to revert to a silver standard, but to proceed with measures for the effective establishment of a gold standard.

SECTION IV.

The Indian Government's Proposals.

42. Having thus expressed our agreement in the objects which the Government of India have in view, we pass to the consideration of the specific measures proposed by them with a view to making effective the monetary policy adopted by Her Majesty's Government in 1893 and initiated by the closing of the Indian mints to the unrestricted coinage of silver.

43. The proposals of the Indian Government were contained in their despatch of 3rd March, 1898, and have been explained to us by official witnesses. They may be summarised as follows:—

In order to keep the exchange value of the rupee at a steady level of 16d., it was deemed necessary to decrease the rupee circulation so as to remove the relative redundancy. The amount to be so withdrawn could not be foretold with exactness, but it was more than probable that it would fall short of Rx.24,000,000. Within this outside limit it was proposed "to melt down existing rupees, having first provided a reserve of gold, both for the practical purpose of taking the place of the silver, and in order to establish confidence in the issue of our measures." The first step was to take powers to borrow sums not exceeding in the whole £20,000,000, and at once to remit £5,000,000, in sovereigns to India as a first instalment. If exchange remained at or above 16d., there would be no further step [Q. 2,653]. But if, and so long as, the exchange fell below 16d. [Q. 26,578], the Government of India would take rupees from its balances, melt them down, sell the bullion for other rupees in India (at an assumed loss of 40 per cent.), pay these other rupees into its balances, and finally make good thereto the 40 per cent. balance of loss with part of the borrowed gold. It was anticipated [Q. 2,663] that one borrowing (£5,000,000) might be sufficient, that sum approximately covering the assumed loss to Government of Rx.8,000,000 on melting down Rx.20,000,000. As a result, it was anticipated that by the automatic operation of trade, gold would flow into the country and remain in the circulation. But until the exchange value of the rupee was established at 16d., and sovereigns became, to some extent, however small, a permanent part of the circulation, it was not the Government's intention to part with any of the gold in their possession. Meantime, gold was not to be made a legal tender in India, though the Government looked forward to this as a future goal.

44. The proposals of the Government of India were based on the belief that the rise in the value of the rupee, and in the exchange with London, subsequent to the year 1894-5, was due to a contraction of the Indian currency relative to the demands of trade, that this cause would continue to operate so long as the Indian mints were closed to silver, and that, if only that stage of distrust could be passed, "which appears the moment exchange approximates to sixteen pence to bring into operation influences which interfere with the actual realisation of that rate," the exchange, under normal conditions of trade, might be expected "to attain the level at which gold would be tendered under the notification of 26th June, 1893, and the introduction of the gold standard would become practicable."

They were anxious "both in the interests of the State and of the mercantile community to terminate the period of transition without delay,"—in the interest of the State, because it would be cheaper in the end to acquire a reserve of gold by borrowing, and thus keep the exchange value of the rupee at a steady level of sixteen pence than to bear for years the burden of expenditure entailed by the lower level of the rupee; in the interests of the commercial community, because it was not desirable that their legitimate business should be hampered and embarrassed by the uncertainty of exchange, while the want of confidence in the stability of the rupee discouraged the investment of capital in Ind and available capital was remitted to England whenever the change value of the rupee rose to a high level.

The proposals of the Government of India were made in Mar 1898, and since that date there has been a marked improvement the position. The exchange has been steady at or about 1s. 4d., drawings of the Secretary of State have been unusually large, a a substantial sum of over £2,370,000 in gold has been brou to the Indian Treasury; in other words, what the Governm of India described as the "stage of distrust," which interfe with the actual realisation of a rate of sixteen pence, has b already passed.

If the Government of India could have foreseen the course events in the past year, it is possible that their recommendatio might not have taken the precise form in which they were p forward; and we are informed that, even if their proposals h been sanctioned at once, they would not under the conditions th have since prevailed have given effect to that portion of th scheme which provided for the withdrawal of rupees from t Indian currency. However that may be, we think it desirable th the proposals of the Government of India should, even under t altered conditions of the present day, be carefully considered by

45. In the first place we desire to point out that it has not be proved that the rise in the value of the rupee since 1894-5 is d solely to relative contraction of the Indian currency; and it m be that it is not due mainly to this clause. It is not certa that there has been any contraction of the Indian curren which has materially affected the exchange, though it may r unreasonably be inferred that there must have been some contra tion, and that such contraction has had some influence on t exchange value of the rupee. On the other hand, there are cau other than contraction of the currency which affect the val of the rupee and the exchange with London. Large borrowi in London on account of India, reduction of the drawings of t Secretary of State, an increase in the exports from India unacco panied by an equivalent increase in imports, as well as a gene rise in gold prices, would all affect the rate of exchange wi India, though it is quite impossible to estimate the relative i portance of these factors among themselves, or the amount their influence on exchange as compared with the effect a contraction of the currency, or to state the precise degree influence which any, or all of them, have had on any par cular alteration in the exchange. Nor, on the other hand, is certain that the unusually low rate of exchange that prevail in 1894-5 was due solely to a relative redundancy of the Indi currency. The closing of the Indian mints necessarily brou into play many disturbing influences which may have affect 1894-5.

Since the mints were closed there has also been large borrowi on Indian account, and there have been, in some years, large redu tions below the normal amount in the public remittances fr India, while fluctuations have been experienced in the foreign tra of India, due to Famine and Plague as well as to other causes. these causes must at different times have affected the exchan either favourably or unfavourably.

Another influence which must have had a favourable effect the Indian Exchange is the reduction in the imports of silver d to the closing of the mints. The average yearly net import in t three years preceding the closing of the mints was 43,133,678 oz of the value of Rx.12,020,296; and, for the three years endi 1898-9, the average net import was 31,126,376 ozs., of the value Rx.6,103,431.

46. In face of the facts we have just stated, we are unable accept, without qualification, the opinion that the rise in the val of the rupee since 1894-5 has been due, wholly or mainly, to a re tive contraction of the Indian currency. We are not prepared say that the contraction of the Indian currency has not been important factor in the rise in the Indian exchange; but, so long the facts of the case are surrounded by so much obscurity, we c sider that it would be unsafe to base action of so drastic a ch acter on this assumption.

If it be the case that the rise in the value of the rupee sin 1894-5 is not due, wholly or mainly, to the relative contraction the Indian currency, it follows that an additional contraction that currency, produced artificially by the withdrawal of rupees the way proposed by the Government of India might not have much effect in strengthening exchange as the Government of In

believed; and, though we accept in principle the position that a reduction in the number of rupees tends to increase the value of the rupee, we are not prepared to admit that such effect must necessarily be direct and immediate; nor are we satisfied that such reduction, carried out on a large scale and within a limited period, might not aggravate, if it did not produce, a period of stringency in the Indian money market.

47. So far as the proposals of the Government of India were intended to secure the confidence of the commercial community, they have failed in their effect; these proposals have not been supported before us by the representatives of the commercial and financial interests connected with India, nor, indeed, by any of the independent witnesses whom we have examined. The commercial classes of India appear to have feared that the withdrawal of rupees from the currency would inevitably aggravate or produce stringency in the Indian money market, and that the sale of silver by the Indian Government would lower the price of that metal, and disturb the exchanges with China and other countries on a silver basis.

The argument of the Government of India that the adoption of their proposals would involve less loss to the Indian Exchequer than the maintenance of the *status quo*, does not appear to us to possess much force. If the principle on which they based their proposals was sound, namely, that the rise in exchange was due to the contraction of the Indian currency, and that the same cause would continue to act in the same direction so long as the Indian mints were closed to silver, there was no likelihood of any serious fall in exchange, and, consequently no prospect of any considerable increase of expenditure on this account. If, on the other hand, the basis of their proposals was unsound, it was not certain that they would have produced the desired effect, and, while a considerable expenditure would have been incurred in borrowing in gold and withdrawing rupees from the currency, the operation might not have resulted in any material reduction in the charge for exchange.

Although we sympathise with the Government of India in their desire to shorten the period of transition to inspire confidence in the commercial community, and to remove an impediment to the flow of British capital to India, and recognise the force of the pressure upon them in the beginning of 1898 to take immediate steps in a direction which, it was hoped, would lead to the desired result, we can only say that, for the reasons already stated, we do not approve of their proposals, and cannot recommend their adoption.

SECTION V.

A Gold Currency.

48. It is of great practical importance at the present time to consider what steps the Government of India contemplated taking when, by their methods, that state of things had been established which is in actual operation to-day. They did not definitely propose to make gold coins a legal tender; but they did not hesitate to express the opinion that "the only state of things which can be called a thoroughly satisfactory attainment of a gold standard is one in which the gold coins which represent our standard are those also which are good for payments in England." As a matter of principle, therefore, the Government of India favoured a gold standard *with* a gold currency

49. This brings us to the consideration of schemes which have been proposed for establishing a gold standard *without* a gold currency. Great stress has been laid upon the hoarding habits of the natives of India; and, in view of the direct encouragement which a gold currency might give to the hoarding of gold, it has been represented to us by Mr. Lesley Probyn that, "if gold coins were passed into the currency, it would be at first almost like pouring water into a sieve." He accordingly proposed (i) to institute a separate issue of gold notes of the denomination of Rs.10,000; (ii) to issue such notes only in exchange for gold; (iii) to make them payable (at the option of the holder) either in rupees or in gold; (iv) to make it optional to the Currency Department, when gold is demanded, to pay either in sovereigns or in gold bars of not less than £67. It was hoped that gold would be attracted to India, and that a gold reserve would be gradually accumulated which would be strong enough to allow the Government to undertake ultimately the universal convertibility into gold of all rupees and rupee-notes, when presented in parcels of not less than Rs.10,000. Under this scheme the gold standard would be left to automatic agencies to establish, and its establishment would coincide with an ultimate undertaking to exchange rupee currency for gold bars of high value.

50. On this scheme we remark that, while bullion may be regarded as the international medium of exchange, there is no precedent for its permanent adoption for purposes of internal currency; nor does it accord with either European or Indian usage that the standard metal should not pass from hand to hand in the convenient form of current coin. No real support for such a scheme is to be drawn from the purely temporary provisions of "Peel's Act" of 1819, whereby, for a limited period, the Bank of England, as a first step to the resumption of cash payments, was authorised to cash, in stamped gold bars, its notes, when presented in parcels of over £200. Little or no demand for gold bullion appear to have been made on the Bank under these temporary provisions, which were repealed at the instance of the Bank itself in 1821.

As regards the hoarding difficulty in India, we are not satisfied that the danger therefrom is so great as has been suggested. There is little or no likelihood, even according to the most sanguine view, that for a long time to come gold coins, even if declared a legal tender forthwith, would find their way to any great extent into general circulation. Even under silver monometallism India imported and absorbed gold, as she is doing to-day, and as she may be expected to do in the future, no matter what her system of currency. In a strongly conservative country like India no sudden changes are to be expected in the habits and customs of the people, particularly in matters relating to currency and hoarding; but, while we must look to the continuance of the habit of hoarding, we may also feel satisfied that, until gold has penetrated into general circulation (so far as the relatively small transactions of India permit), there will be no materially increased temptation to the natives of India to hoard gold instead of silver. Moreover, the introduction of a gold currency into India would not be an untried experiment. As has been shown above, gold coins were in common circulation in India generally within living memory, and were expressly stated in 1806 to form the principal currency and money of account of Madras. If hoarding did not render a gold circulation an impossibility in the past, we look for no such result in the future.

51. Consequently, we are of opinion that the habit of hoarding does not present such practical difficulties as to justify a permanent refusal to allow India to possess the normal accompaniment of a gold standard, namely, a gold currency.

52. Another plan for establishing a gold standard in India without a gold currency, was submitted and explained with great ability by Mr. A. M. Lindsay. In order to fix the sterling exchange, he proposed to make the rupee currency freely convertible in India at a fixed rate into drafts on a sterling fund located in London. At the same time rupee drafts were to be sold at a fixed rate in London. Assuming a par of 16d sterling in London was to be convertible into rupees in India at $16\frac{1}{16}$d., and rupees in India were to be convertible into sterling in London at $15\frac{3}{4}$d.; drafts were to be sold both in India and in London to any extent; but the amount in each case was to be not less than Rs.15,000 and £1,000, respectively. In order to provide for meeting the sterling drafts, a loan not exceeding £10,000,000 was to be raised in London, while, so far as the available stock of rupees proved insufficient, silver would be purchased (also out of the loan) and sent to India to be there coined into rupees. If an excess of rupees accumulated as the result of selling sterling drafts, it might be necessary to sell the excess of bullion and credit the proceeds to the sterling fund. Under the scheme, rupees would continue to form the circulating medium of India, gold not being admitted to legal tender. While Mr. Lindsay held that such a system of currency would answer all purposes and be economical, and might, therefore, be permanently adopted, he considered [Q. 4503-4] that his scheme would be the best means of leading up to a gold currency, if this were ultimately thought desirable.

53. It is evident that the arguments which tell against the permanent adoption of Mr. Probyn's bullion scheme and in favour of a gold currency for India, tell more strongly against Mr. Lindsay's ingenious scheme for what has been termed "an exchange standard." We have been impressed by the evidence of Lord Rothschild, Sir John Lubbock, Sir Samuel Montagu, and others, that any system without a visible gold currency would be looked upon with distrust. In face of this expression of opinion, it is difficult to avoid the conclusion that the adoption of Mr. Lindsay's scheme would check that flow of capital to India upon which her economic future so greatly depends. Moreover, if the system were to be permanent, it would base India's gold standard for all time on a few millions

of gold (or rather command over gold) in London, with a liability to pay out gold in London, in exchange for rupees received in India, to an indefinite extent. This was the main reason which weighed with the Government of India in deciding not to adopt the scheme, and we think they were justified in their conclusion. We are not prepared to recommend Mr. Lindsay's scheme, or the analogous schemes proposed by the late Mr. Raphael and by Major Darwin, for adoption as a permanent arrangement; and existing circumstances do not suggest the necessity for adopting any of these schemes as a provisional measure for fixing the sterling exchange.

54. We are in favour of making the British sovereign a legal tender as a current coin in India. We also consider that, at the same time, the Indian mints should be thrown open to the unrestricted coinage of gold on terms and conditions such as govern the three Australian Branches of the Royal Mint. The result would be that, under identical conditions, the sovereign would be coined and would circulate both at home and in India. Looking forward as we do to the effective establishment in India of a gold standard and currency based on the principles of the free inflow and outflow of gold, we recommend these measures for adoption.

SECTION VI.

Convertibility.

55. Under an effective gold standard rupees would be token coins, subsidiary to the sovereign. But existing conditions in India do not warrant the imposition of a limit on the amount for which they should constitute a legal tender; indeed, for some time to come, no such limitation can be contemplated.

56. It is true that in the United Kingdom the silver currency has a fixed limit of 40s., beyond which it cannot be used to pay a debt. But this has not always been the case. Prior to 1774 the English Mint was open to silver, and silver coins were an unlimited tender. In 1774 the tender of silver by tale was restricted to £25 in any one payment, although it was left an unlimited tender by weight. In 1798 the free coinage of silver was stopped altogether, the English Mint being thereby closed to silver. In 1816, when gold monometallism was formally established by law, silver coins were placed on a purely subsidiary footing, with a 40s. limit of tender. At the present time the right to coin silver is confined to the Government, who are responsible for seeing that there is no over-issue; and in the exercise of that responsibility no additional silver is coined at the Royal Mint for the United Kingdom, except in response to the automatic demands of trade, as testified by requisitions received through the Banks of England, of Scotland, or of Ireland. Seeing that for every 20s. of additional silver coin requisitioned the Banks have to credit the Royal Mint with a sovereign, there is certainly no temptation to them to demand an over-issue, the immediate profit on which would go not to themselves but to Her Majesty's Government. While it cannot be denied that the 40s. limitation tends to emphasise and maintain the subsidiary character of our silver coinage, yet the essential factor in maintaining those tokens at their representative nominal value is not the statutory limit on the amount for which they are a legal tender in any one payment, but the limitation of their total issue. Provided the latter restriction is adequate, there is no essential reason why there need be any limit on the amount for which tokens are a tender by law. It is principally to restriction of the total issue of silver coinage in the United Kingdom that we attribute the fact that 20 silver shillings (intrinsically worth at present about 8s. 6d.) pass current and are freely received, for all purposes of internal currency, indifferently with the sovereign which they purport to represent. By law there is no convertibility of our silver coins into gold. They possess an extra-legal convertibility evinced by their being generally and popularly exchangeable into gold, and this quality they owe essentially to the fact that they are not issued by the Government in excess of the volume required for the purpose which they discharge.

57. Outside the United Kingdom there are two principal instances of countries with a gold standard and currency, which admit silver coins to unlimited tender. These countries are France and the United States of America. In France the five-franc piece is an unlimited tender and for all internal purposes is equivalent to gold. The same remark applies in the United States to the silver dollar. At the present time there is no addition to the coinage either of five-franc piece or of United States silver dollars. In the case of the five-franc piece there was free coinage up to 1874, in January 1874 the coinage was limited, and in November 1878 it was suspended altogether. With the repeal in 1893 of the purchasing clauses of the Sherman Act, the same result was reached with regard to the United States silver dollar. Both in France and in the United States the mints are now closed to the coinage of silver coins of unlimited tender. In neither country are such coins convertible by law into gold; in both countries alike they are equivalent to gold for all internal purposes. For international payments, so far as specie is concerned, France and the United States depend ultimately on the international medium of exchange, which is gold. In the last resort, it is their gold which, acting through the foreign exchanges, maintains the whole mass of their currency at its nominal value for internal purposes.

58. We do not doubt that it is, in theory, possible to attain the same result in India as in France and the United States of America by limitation of the quantity of the rupee currency. The special difficulty in the case of India is one of degree and not of principle. We are unwilling to commit ourselves to the acceptance of the estimates which have been made of the number of rupees actually circulating in India. There can be no doubt but that it is very large; and there are also large quantities of rupees in existence which, though not actually circulating, might, under certain conditions, be brought into circulation. On this account, doubts have been entertained in the past whether the mere closing of the Indian mints to silver would, in practice, be attended with such a restriction of the rupee currency as would make the rupee permanently exchangeable for gold at a fixed rate.

The experience which has been gained since the closing of the Indian mints supports the belief that this result will be attained. From the nature of the case, the demand for rupee currency increases every year; there is no evidence that large quantities of rupees that were formerly hoarded have been thrown into circulation since the mints were closed; the exchange has risen steadily since 1894-95, and the rupee is now actually exchangeable for gold at the rate of 1s. 4d.; while the demand for additional currency has been so great that over 2,370,000l. in gold has been paid to the Indian Treasury for the purchase of silver rupees.

The forces which affect the gold value of the rupee are complicated and obscure in their mode of operation, and we are unable, therefore, to say positively that the mere closing of the mints to silver will, in practice, lead to such a limitation of the rupee currency, relatively to the demands for it, as will make the rupee permanently exchangeable for gold at a fixed rate; but we have no hesitation in repeating the opinion that the experience of the last few years, so far as it goes, indicates that this result is attainable—if, indeed, it has not already been attained.

59. The position of the currency question in India being such as we have explained in the preceding paragraph, we do not consider it necessary to recommend a different policy in the case of that country from that which is found sufficient in France and the United States, by imposing a legal obligation on the Government of India to give gold for rupees, or in other words, to substitute the former for the latter on the demand of the holders. This obligation would impose on the Government of India a liability to find gold at a moment's notice to an amount which cannot be defined beforehand, and the liability is one which, in our opinion, ought not to be accepted.

Although the Government of India should not, in our opinion, be bound by law to part with its gold in exchange for rupees, or for merely internal purposes, we regard it as the principal use of a gold reserve that it should be freely available for foreign remittances whenever the exchange falls below specie point; and the Government of India should make its gold available for this purpose, when necessary, under such conditions as the circumstances of the time may render desirable. For example, the Government of India might, if the exchange showed a tendency to fall below specie point, remit to England a portion of the gold which it may hold,—a corresponding reduction being made in the drawings of the Secretary of State; and, when it has accumulated a sufficient gold reserve, and so long as gold is available in its Treasury, it might discharge its obligations in India in gold, instead of in rupees.

60. The exclusive right to coin fresh rupees must remain vested in the Government of India; and, though the existing stock of rupees may suffice for some time, regulations will ultimately be needed for providing such additions to the silver currency as may prove necessary. The Government should continue to give rupees for gold, but fresh rupees should not be coined until the propor-

tion of gold in the currency is found to exceed the requirements of the public. We also recommend that any profit on the coinage of rupees should not be credited to the revenue or held as a portion of the ordinary balance of the Government of India, but should be kept in gold as a special reserve, entirely apart from the Paper Currency reserve and the ordinary Treasury balances.

SECTION VII.

The Sterling Rate for the Rupee.

61. We have now to consider the fixed relation which, under a gold standard for India, the rupee should bear to the sovereign. Hitherto we have dealt in general terms with the question of a gold standard, and our recommendations have pre-supposed a fixed relation, but have not specified the actual rate which should be adopted. We have now to state to your Lordship the conclusions we have reached on this matter.

62. The Government of India proposed in 1892 to close the Indian mints to silver and to pass an Act authorising them to declare gold a legal tender at a rate not exceeding 18d. for the rupee. They would not have exercised this power at once, and they would have been guided by circumstances and the experience gained by the closing of the mints in determining what should be the fixed, permanent, legal ratio between the rupee and the sovereign. The rate could not, however, under the law proposed by the Government of India, have exceeded 18d. for the rupee, though it might have been lower.

The proposals of the Government of India were generally approved by Lord Herschell's Committee, but the Committee recommended a provisional limit which would prevent the exchange with India from rising materially above 1s. 4d. for the rupee. The Committee did not recommend that the limit of 1s. 4d. for the rupee should be the permanent legal ratio between the rupee and the sovereign. It left the question of the permanent legal ratio between the two coins to be decided in the light of subsequent experience. In paragraph 151 of the Committee's Report the following language is used:—"It would not, of course, be essential to the plan that the ratio should never be fixed above 1s. 4d.; circumstances might arise, rendering it proper, and even necessary, to raise the ratio; and the Indian Government might be empowered to alter it with the sanction of the Secretary of State. Such a scheme would, indeed, in the first instance, be tentative, and would not impede further action if circumstances should render it desirable."

The modifications of the proposals of the Government of India recommended by Lord Herschell's Committee were accepted, the Indian mints were closed to silver, and a provisional arrangement was made for giving rupees in exchange for gold at the rate of 16d. for the rupee.

The maximum limit of 18d. for the rupee, originally suggested by the Government of India, was not imposed, and the question of the permanent legal ratio can now be considered in the light of what is expedient in the present day, and unfettered by any promises made, or conditions imposed, in the past.

63. In dealing with this question at the present day, it is desirable to have in view an outline of the whole series of facts of exchange, both before and after the closing of the Indian mints to silver on 26th June 1893. Starting from the year in which Germany demonetised silver, the following table shows the average rate per rupee at which Council Bills and Telegraphic transfers on India were sold in London:—

	d.		*d.*
1872-73 ...	22·754	1886-87 ...	17·441
1873-74 ...	22·351	1887-88 ...	16·898
1874-75 ...	22·156	1888-89 ...	16·379
1875-76 ...	21·626	1889-90 ...	16 566
1876-77 ...	20·508	1890-91 ...	18 089
1877-78 ...	20·791	1891-92 ...	16·733
1878-79 ...	19·794	1892-93 ...	14·985
1879-80 ...	19·961	1893-94	14·547
1880-81 ...	19·956	1894-95 ...	13·101
1881-82 ...	19 895	1895-96 ...	13·638
1882-83 ...	19·525	1896-97 ...	14·451
1883-84 ...	19·536	1897-98 ...	15·353
1884-85 ...	19·308	1898-99 ...	15·978
1885-86 ...	18·254		

From these figures it will be observed that, after a fall of about d. in the first six years, there was comparative stability above 19d. or the seven years from 1878-79 to 1884-85; that, apart from the temporary effects of the passing of the Sherman Act in 1890 and the speculation connected therewith, the average rate ranged round 16½d. in 1887-88, 1888-89, 1889-90, and again in 1891-92; and that, in 1892-93, the average rate had fallen to under 15d. It was under these circumstances that, on May 31st, 1893, the Herschell Committee, recommending the closing of the Indian mints to the public, further recommended that rupees should be coined on tender of gold at the mints "at a ratio to be fixed in the first instance not much above that prevailing, say, 1s. 4d. the rupee." They did not propose to go back to the so-called par of 2s.; they fixed, provisionally, a maximum limit which was lower by 2d. than the limit of 1s. 6d. proposed by the Government of India. Apart from a momentary rise to 1s. 4$\frac{7}{32}$d. for Telegraphic Transfers on 27th June, the Indian Exchange fell steadily away through the second half of 1893, and through the whole of 1894, until on 23rd January, 1895, Council Bills were sold at 1s. 0$\frac{13}{32}$d. From that date onwards there was, on the whole, a steady and a continuous rise of the exchange, and 16d. was regained (after an interval of six years) in the early days of January, 1898. From the beginning of 1898, up to the present time, a rate of 16d. has practically been maintained without a break, the extreme limits of oscillation of Bills being 15$\frac{11}{16}$d. and 16$\frac{1}{8}$d.

64. In the year 1898-99 the total volume of the export trade exceeded that of all past years, amounting to over Rx.120,000,000 and showed a net surplus over total imports of no less than Rx.30,000,000. As we have pointed out, this result was achieved with a 16d. rate of exchange, and without monetary stringency. We have further pointed out that in the year 1898-99 the Government of India has been able to accumulate a gold reserve of £2,378,609, which will contribute towards the maintenance of exchange. Moreover, the continuance of existing arrangements, under which no fresh rupees are coined except in exchange for gold at a fixed rate, must tend more and more to establish the exchange at such rate and to ensure the gradual and automatic introduction of a gold currency to supplement, in response to the growing demands of trade, the relatively shrinking stock of rupees.

65. Although the limit of 1s. 4d. for the rupee was declared to be merely provincial, it has been regarded generally as the permanent rate at which the Indian monetary standard was to be transferred from a silver to a gold basis. There are some who would prefer a lower rate, and there are others who are prepared to accept a higher rate; but it is not desirable, in the absence of any strong reason, to adopt a rate different from that on which calculations have been based, and which has formed the ground of practical action.

We also desire to point out that the rate of 1s. 4d. is that of the present day; prices in India may be assumed to have adjusted themselves to it, and the adoption of a materially lower rate at the present time would cause a distinct and, in our opinion, a mischievous disturbance of trade and business. The *onus probandi* rests on those who would now propose a different rate. Between the rate of 1s. 4d. and the rate determined by the bullion value of the rupee, there is no one rate which can be described as natural or normal rather than any other rate.

66. Various proposals have been made for disturbing the existing rate by the substitution of another rate. It has been proposed to fix the rate at 1s. 1½d., 1s. 2d., 1s. 2$\frac{1}{17}$d., 1s. 3d., and 1s. 6d. All these proposals are arbitrary, and involve a dislocation of the existing ratio between rupee prices and sterling prices. For such disturbance no adequate reasons, in our opinion, have been adduced. In great part these proposals (other than that of 1s. 6d.) are based on the belief that a lower sterling value of the rupee would cause a rise in rupee prices, benefit the Indian producer, check consumption of foreign goods, and so affect the balance of trade as to promote the importation of gold needed for expanding the volume of currency to an extent commensurate with the rise in the scale of prices.

In our opinion a rise in prices which expresses only the depreciation of the currency is no gain to the community as a whole, and, although the fixing of a lower denomination in sterling for the rupee might for a time give some advantage to producers and induce for a limited period a larger importation of gold than would otherwise take place, this would be at the expense of every holder of a rupee, or debt or security for a fixed amount of rupees; and the taxpayer would again be compelled to provide a larger amount of currency to meet the sterling requirements of the State. It is not by such an expedient as the writing-down of the rupee in

sterling that a permanent stimulus can be given to production or to the importation of the standard metal. We see no sufficient reason for altering the existing relations of prices and the essential conditions of contracts expressd in Indian currency, or for reversing the course of exchange and returning to some basis of value which may have prevailed during the interval between the fall and partial recovery in the sterling value of the rupee, and which does not possess elements of permanent stability in a higher degree than the present rate. We are, therefore, of opinion that the permanent rate should be that which has been adopted as the provisional rate in the past, and which is also the market rate of to-day, viz., 1s 4d. for the rupee.

67. In recommending a fixed legal rate of 1s. 4d., we are not unanimous, though the majority hold the views we have just expressed.

One of our number would not fix the permanent rate at once, but would leave that question to be decided in the light of further experience,—the final rate being fixed either below or above 16d., as further experience might show to be expedient. We are of opinion that any advantage which might arise from this course is more than counterbalanced by the importance of removing doubts as to the future policy of the Government of India, and giving increased confidence to those who are engaged in commercial and financial business in connection with the Indian Empire.

68. Two other members of the Committee are not prepared to accept the rate of 1s. 4d., and recommend that it should be fixed at 1s. 3d.

It is argued that the rate of 1s. 3d. will be more favourable to the Indian export trade than 1s. 4d.; but we have already expressed the opinion that any advantage to the export trade that is gained in this way, is gained at the expense of other members of the community, and is only temporary. If the rate is to be fixed at 1s 3d., in order to benefit the Indian exporters and the Indian producer of articles of export, the same argument would justify a further reduction to 1s. 2d., and so on, without any limit which we have been able to discover. Nor do we think there are any good grounds for holding that the gold standard cannot be established in India at 1s. 4d., while it can be established at 1s. 3d.

If it is impossible at 1s. 4d., it will be impossible at 1s. 3d.; and we have already dealt in paragraph 66 with the question of temporary loss and gain to individuals and classes of the community caused by a lowering of the existing rate of exchange. We would add that, if the exchange were now lowered from 1s. 4d. to 1s. 3d., the classes of community who would gain are those who have already gained through the fall from 2s. to 1s. 4d., and the classes who would lose are those who have already lost through that fall. Stronger reasons than appear to us to exist would be needed to justify a measure which would have the effect of adding to the gains of the former classes and intensifying the losses of the latter.

It is said that the conditions prevailing in 1893 show that 1s. 3d. is the rate that should have been adopted at that time. We do not accept this argument and the conditions have changed since 1893. The rate of 1s. 3d. may have prevailed shortly before the mints were closed, but the rate of that time was a fluctuating rate. If the mints had been closed some years earlier, and the market rate had been adopted, the permanent rate would have been considerably higher than 1s. 4d.; if they had been closed some years later and the same principle had been followed, the permanent rate would have been lower than 1s. 3d. As we have already said, between the rate of to-day and that determined by the bullion value of the rupee, there is none which can be described as natural or normal; and we can find no good reason for making the permanent rate depend upon the accident of the date on which the Indian mints were closed to silver.

It is true that Lord Herschell's Committee remarked that "to close the mints for the purpose of raising the value of the rupee is open to much more serious objection than to do so for the purpose of preventing a further fall;" but an undue stress is laid on these words when they are used as an argument against permanently adopting a rate of 1s. 4d., since that Committee actually adopted a provisional rate of 1s. 4d. and expressly said that circumstances might arise rendering it proper, and even necessary, to raise the rate.

69. We recommend that there should be no change in the existing relation of the rupee to the sovereign. The experience gained since the mints were closed in 1893, and particularly that of the last eighteen months, appears to us to justify the anticipation that the existing rate of 1s. 4d., will, with possible temporary fluctuations, due to the course of trade, be maintained in the future.

SECTION VIII.

70. In conclusion, we desire to record our opinion that the effective establishment of a gold standard is of paramount importance to the material interests of India. Not only will stability of exchange with the great commercial countries of the world tend to promote her existing trade, but also there is every reason to anticipate that, with the growth of confidence in a stable exchange capital will be encouraged to flow freely into India for the further development of her great natural resources. For the speedy attainment of this object, it is eminently desirable that the Government of India, with whom it will rest to decide when successive steps should be taken, should husband the resources at their command exercise a resolute economy, and restrict the growth of their gold obligations.

71. We desire to express our high appreciation of the assistance which Mr. Chalmers has rendered to us throughout the whole course of this inquiry. We feel it to be our duty to recognise in the strongest terms the knowledge, ability. courtesy, and industry which he has displayed and which have greatly facilitated our labours.

Henry H. Fowler. Balfour of Burleigh. *John Muir. Francis Mowatt. D. Barbour. C. H. T. Crosthwait. Alfred Dent. F. C. Le Marchant. E A. Hambro. W. H. Holland. *Robt. Campbell.

ROBERT CHALMERS, *Secretary.*

A DECLINING MARKET FOR TEA.

It is now three months, says the *Grocer*, since the market for tea was in a buoyant condition, with prices of the common descriptions astonishingly high for these modern days of cheapness, and when, moreover, the position of the distributing trade in April last was exceedingly strained and awkward. The subsequent trend of the market has proved that at the period referred to quotations had touched their highest points, when at public auction the Indian growth fetched the following rates:—Common to good leafy pekoe at 8d. to 1s. 3d.; broken pekoe at 8d. to 1s. 4¼d.; orange pekoe at 8¼d. to 1s. 5½d., with finer grades up to 1s. 10d. and 2s. 3¼d.; also broken O P. from 10d. to 1s. 6¾d.; pekoe souchong and souchong both at 7¾d. to 11d.; fannings at 6d. to 1s. 4½d ; broken tea at 7d. to 11¼d.; and dust at 6d. to 8¼d. per lb. Also at the same time Ceylon tea was readily taken off as under:—Common pekoe souchongs at 7¾d. to 8½d.; pekoes at 8d. to 8¾d.; ordinary broken teas at 6d. to 8½d.; with fine broken and orange pekoes at from 1 to 1s. 4d. From these extreme rates there has latterly been a gradual though uninterrupted, decline of 1½d. to 2d. per lb., so that common grades of Indian pekoe and souchong now are not worth more than 6½d. to 7d., and those of Ceylon realise only 6d. to 7d., with the medium sorts in proportion.

This reduction in the value of both Indian and Ceylon tea marks a great step towards a return to lower rates, such as will enable tea dealers and retailers once more to push the sale of the article with their accustomed vigour and success; and, provided that the rupture between importers and the wholesale dealers is soon healed up there is a prospect of business being renewed with increased activity during the remainder of the year. At first, when "top" prices were the rule, operations were more or less cramped, partly by the manipulations of speculative members of the trade, and also by reason of the fix in which many blenders found themselves in having no reserved or precautionary stocks to fall back upon at the moment they were most needed. The comparative dearness of teas that had to be pressed in to do duty for the popular "shilling canister" likewise helped to instil a fresh spirit of cautiousness in all *bonâ fide* purchases for home use, and for several weeks in succession considerable difficulty was experienced in satisfying all retail requirements with the same promptness and satisfaction, as when in the latter part of 8198 clean leaf teas were easily procurable at 5d. to 6d. per lb. Stiff prices, nevertheless, wrought good service in hastening forward the arrival of new season's teas from India, which came to hand in large quantities and earlier than they did last year. Besides this the merchants were willing sellers on terms which continued to show

* Subject to a reservation as to the ratio to be adopted between gold and rupee and the points connected with that question.

distinct improvement on the lowest rates that were current before the extraordinary rise commenced, and enough tea was secured by the blenders and others to keep matters going on pretty smoothly at a season of the year when, as if by universal consent, the wants of consumers generally are neither so large nor so urgent as in the cooler months, when supplies are superlatively abundant.

Notwithstanding the fact that the clearances of tea in the United Kingdom have been somewhat inflated by the heavy duty payments made in March and April last, in anticipation of an increase in the Customs' impost, there is reason to believe that the rate of consumption is fully equal to, if not decidedly beyond, that in 1898, or, indeed, in any previous year, and this may be regarded as a guarantee for the continuance of a strong and unimpaired demand on home trade account. Granted thus much it naturally follows that, with a plentiful supply of new season's teas coming on from all parts, the necessities of the market here will be well provided for, and orders to any extent will be capable of fulfilment at more reasonable prices than were demanded in the spring of this year. Other questions of vital importance have also to be considered just now, and it will be greatly to the advantage of both importers and dealers if they can succeed in arriving at a friendly understanding where any cause for disagreement is supposed to exist, and so keep the whole machinery of the London tea trade in perfect working order.

TEA PEST IN THE PANADURE DISTRICT.

A well-known tea plantation, not twenty miles from Panadure, is suffering a good deal just now from an attack of insects which not only devour the leaves, but attack the bark and stem as well. The *Ceylon Observer* says :—The proprietor has brought us a bottle-ful of the "poochies," alive and kicking in their curious vegetable cases, which have given them the appellation of "bag-worms"; for we think the following extract from Cotes, describes the pest and suggests what should be done:—

PSYCHIDÆ—(*Bag-worms*).

Several species of Psychidæ attack tea. The caterpillars, which are popularly known as "bag-worms," may be recognised by the curious little cases of sticks or leaves which they carry about upon their backs. They injure the tea plant by eating up the foliage. The caterpillar enlarges its case from time to time as it grows bigger. When full grown it fastens its case with silken strands on to some twig or leaf. It then closes up the entrance in front and, after turning completely round upon itself inside the case, so that its head comes where its tail had previously lain, it moults its skin for the last time and transforms into a pupa (=chrysalis). After resting for a while, the pupa, which is armed with curious backward set spines for the purpose, works for itself an opening in the loose end of the case. The pupal skin then cracks and the sexually mature insect emerges The female is a degraded wingless grub which never quits the case. The male is an active winged moth which flies rapidly about and mates with the female as she lies inside the case. After mating, the male dies and the female proceeds to lay her numerous eggs inside the case.

The treatment that seems to be generally adopted upon tea gardens is that of collecting the cases by hand. As the eggs are laid inside the case, it is necessary to collect not only those which have caterpillars inside them, but also the old and apparently dead cases; for otherwise there will be fear of leaving cases full of live eggs from which young caterpillars may afterwards emerge in great numbers. As the female is incapable of flight, the only way that the insect spreads is by the caterpillars, which are very active, crawling from bush to bush. The evil, therefore, can easily be kept in check by a vigilance in picking off the caterpillars.

A small trench with a streak of coal tar at the bottom is likely to be sufficient to prevent the insects from invading a garden from the neighbouring jungle. This they are always liable to do, for most of the species feed upon numerous other plants besides tea. The species hitherto recorded as attacking tea are as follows:—

Eumeta crameri, Westw. Caterpillars of this species have been sent to the Indian Museum on several occasions from tea gardens alike in Sikkim and Assam.

The insect has also been recorded by Green as feeding upon both tea and coffee bushes in Ceylon.

The cases, ... are like miniature fagots of sticks. The most remarkable feature about the caterpillars is their extraordinary vitality. Indeed, they will withstand an amount of rough handling which would be fatal to the larvæ of almost any other group of Lepidoptera. The point is an important one to remember in considering how best to dispose of what are brought in by coolies.

The present abnormal season has evidently led to the appearance of a number of insect pests to our low country districts; but none of them is of more than temporary and isolated importance. True, we hear this little caterpillar is troubling several of the plantations in the Panadure district; but they can be very effectually dealt with by setting the cooly children to collect them, in order to be burnt. We would recommend, too, for such plantations, that a trench be cut between the tea and the jungle and coal tar or quick lime laid in the bottom of it: that, we believe, would prove an efficient check, in preventing such "poochies" coming in from jungle plants which they frequently do. Similarly a trench should be of benefit, if cut between any part of the estate affected and that portion still free of the pest.

We sent the bottle of specimens to Mr. F. M. Mackwood, who has been kind enough to write as follows (confirming our opinion of the insects belonging to "Psychidæ;" but of a smaller type than the "bag-worm"):—

"The bottle of case-bearing caterpillars sent belong to the 'Psychidæ' family, feeding alike on leaves and bark of the tea bushes, preferably the latter. Several years ago they did great damage to a 20-acre field of tea on an estate in Kalutara; the remedy then adopted (if commenced early) should be followed, *viz.*, children were put on to collect the larvæ, of which some two or three bushels were collected and burnt. If, however, the bark of the bushes has already been greatly eaten, it would save time and disappointment to cut down the bushes and burn the prunings, forking up the soil and dusting it with lime. In the case I refer to this treatment practically destroyed the pest, but few surviving. This species of 'psychid' if left alone has great power of reproduction"

PACKET COFFEE IN THE UNITED STATES.

An experienced broker has informed the *American Grocer* that "the output of cheap package coffee has not made very serious inroads into the city trade, and probably will not, though it must be confessed that the retailer is the best agent for the introduction of these low grade coffees that the manufacturers could wish, because he will handle them at a merely nominal profit, while on the high grade coffees, to which the bulk of the population is accustomed, he expects to make an inordinate profit, which the following brief example will show:

"A good Cucuta (which probably represents the bulk of the coffee retailed as 'Java') costs, more or less, about 8 cents green, and about 10 cents roasted. It is sold to the grocer probably at 13 cents. As every consumer knows, the price demanded for Java varies from 28 to 40 cents, according to the location of the grocer. Of course, many dealers sell blends into which much poorer coffee may enter, or which may consist of much better coffee; yet the best of these should not cost the retailer over 16 or 18 cents, but for which he exacts probably 30 to 40 cents. If the retail grocers would be satisfied with a reasonable profit on good high grade coffee sold in bulk, nobody would think of buying the common grades which are so extensively used for cheap package coffee.

"It is but just, however, also to state that there are many package coffees on the market which contain not only good, but very superior coffee, and for these a very full price is asked. It may also be of interest to know that the comparatively poor foreign populations, living in quarters where one would not expect a good article to be in demand, buy the best coffee; while in many of the fine quarters in town a poorer article can be sold at a comparatively higher price. Much of this is due to the fact that where everything is left to servants, because the mistress knows nothing about, or is indifferent to, housekeeping, due attention is not given to buying and making the coffee, and, therefore, a great deal of coffee is wretchedly prepared. When this is the case, a poor coffee will drink about as well as a good coffee."

"Can you state what proportion of the coffee sold in the West and South is mild, and if there is any notable difference in the character of the consumption at the present day as compared with fifteen years ago?

"Your second question," said Mr. Schramm, "I can only answer in a general way—*viz.*, that, as a rule, the South is not, nor has it

ever been, a great consumer of mild coffee, preferring the rank Brazilian grades. This also holds good of the South-west; while in the Middle and North-west States a considerable quantity of mild coffee is consumed, and the increase in consumption of milds in the northern tier of Western States has been very great within the last fifteen years, repeating former experience—that as the population become more wealthy and civilized it takes the finer flavored and superior mild coffee that costs more money."

"Is it a fact, as reported in some quarters, that the coffee coming from Central America is not cured as well as it was formerly, and can you state whether it is true that coffee is grown at a loss in some parts?"

"There may be some truth in the fact that Central American coffees are not prepared as carefully as formerly, which from the appearance of the last two years' arrivals, seems to be a fact; but the same holds good in reference to most any of the mild coffee countries, from where (owing to certain conditions, such as higher priced labor than in Brazil, poorer transit, fewer railways, higher steamship freights, and other difficulties) coffee cannot be laid down here as cheaply as from Brazil; and as most of these countries are probably now growing coffee at very great loss, it is to be assumed that not the same care is given as in the earlier days; and, furthermore, the continuance of low prices will result in more or less reduced production of coffee. In fact, it is asserted by well-posted parties that all coffees are now grown at a loss, the amount differing in the various countries."

"Cannot a mixture or blend of mild coffee grown in the Western Continent be made that will equal in cup quality the best Padang Java, and at about half the cost?"

"Mixtures, or 'blends,' as the trade call them, is a very far-reaching question, and one that I am not competent to answer. Every roaster puts up his own blends, or such as his buyers might desire; and there are very many coffees on the market that are vastly superior to any Java coffee in drinking quality. Take, as an instance, Bogota, which seems unquestionably the finest coffee that is grown. The greatest humbug of the business is, and always has been, the notion as to Java and Mocha. This is probably owing to the fact that people who know the least about it sing the praises of these coffees. Mocha by itself is of a bitter flavor and rather unpleasant tasting. Java consists of so many varieties—good, bad, and indifferent—that it is difficult to pass judgment upon it as a whole. There are some very fine Javas grown, but they are so few that they bear about the same proportion to the total consumption as the alleged 'Mocha and Java' do in some of these cheap package coffees, where probably a bean or two to the bag justifies the statement of 'A blend of Mocha, Java, etc.'

"The great bulk of East India coffee is by no means superior to, or, in many cases, even as good as, the milds grown in the Western Hemisphere, yet many of these enter the market as 'Javas.' The Old Government Java crop, about which so much has been said, and under which name about everything is sold, is so small that it would probably not represent more than 2 per cent. of the coffee grown in the world, which shows at a glance what a glaring falsehood most of the signs in stores represent. 'Padang' coffee is something which is rapidly going out, and in recent years amounts to almost nothing as to quantity. By this you can see that taking the total crop of Mocha and Java, there must be very many times the quantity sold that is produced.

"There is a new feature appearing in the business, which is probably owing to changed conditions, particularly the desire of the dealers in milds to meet the competition of cheap package coffees. Many years ago all the wholesale grocers and moderately large roasting concerns bought their coffees directly from the importers. Then very large jobbing houses sprang up, and readily buying the coffees as quickly as they arrived and holding them for resale, practically shut out all the smaller concerns, who had to go to them for supplies, paying them a jobbing profit. This now seems to be changing back to old conditions. The importers, anxious to realize, and finding that there are very few jobbers, and these only willing to carry exceedingly moderate supplies, find themselves compelled to carry the bulk of the importations, which makes them so anxious to find new outlets that they are now all willing to sell to anybody in quantities to suit; and this fact being taken advantage of by the trade in general, will go a long way towards enabling the dealers in wild coffees to make a more successful fight against the cheap package goods, which consist almost entirely of Brazilian sorts."

DISTRICT ASSOCIATIONS.

SHEVAROY.

Proceedings of a General Meeting of the Shevaroy Planters' Association, held in the Victoria Rooms, on Monday, the 7th August 1899, at 1 p.m. PRESENT:—Messrs. W. J. Lechler, Thurston Short, R. A. Gilby, C. Rahm, W. Rahm, E. Dickins, F. B. Nicholson, Rev. M. Andersen, Messrs. F. Short, C. G. Lechler (*Chairman*), H. B. Evans, R. Foulkes, C. Large, S. M. Hight, W. Hight, C. A. G. Turner, Rev. J. M. Kempf, Messrs. S. Campbell, and R. Gompertz (*Honorary Secretary*).

PROXIES.

Mrs. Gaitskell by Mr. C. Large.
Mrs. Dickins by Mr. E. Dickins.

1. Certain samples of coffee brought in by Messrs. C. Lechler, Thurston, Short, and E. Dickins were handed round.

Resolved that samples of Waverley and Rock Dering Coffee be taken down by the delegates to the Meeting of the U. P. A. S. I., about to be held at Bangalore, being the only samples procurable here at this season and from the remnants of last year's crop.

2. *Read* letter from Mr. A. G. Nicholson suggesting that all the Planters belonging to the Association could combine to reduce the rates of coolies' wages.

Proposed by Mr. Foulkes—*seconded* by Mr. Gilby,—That the present rates of As. 3 and 2 for men and women, respectively, be reduced to 2 annas 8 pies and 1 anna 8 pies per day.

AMENDEMENT.—*Proposed* by Mr. S. M. Hight—*seconded* by Mr. C. Large,—That, instead of reducing the rates of coolies' wages, we should enhance the tasks performed under contract rates.

The amendment was put to the meeting and lost.

The original motion was then put to the meeting and carried by 13 to 7, Mr. F. Short not voting.

3. Mr. Large rose and said that in the list of waste lands lately advertised for sale, the upset price of those blocks for which he meant to bid was not given, and he only became possessed of this information last Saturday, too late to enable him to give the usual notice.

He wished to propose a motion on this subject, though the notice required had not been given.

The Chairman took the sense of the meeting by a show of hands. The result being in favor of granting Mr. Large's request, it was *proposed* by Mr. Large—*seconded* by Mr. S. Hight,—That the Honorary Secretary be requested to address the Collector, asking him to reduce the very high upset prices demanded for the waste lands advertised for sale on the 26th proximo. Carried unanimously.

4. At the request of the Chairman, Mr. H. B. Evans read a very interesting paper on Nitrogen hunger and Leaf-disease connected especially with certain excrescences on the roots and the presence of Legumen in the seeds as the nitrogenous material shewn in the analysis of the coffee bean previous to the appearance of leaf-disease.

Resolved that Mr. Evans' very interesting paper should be printed at the expense of the Association, if he had no objection, and a copy of it given to each Member.

Read and *recorded* the following letters:—

50/U.W. Circular from the Secretary, U. P. A. S. I., informing that the Association was registered under the Indian Companies' Act yesterday and will be known henceforth as "The United Planters' Association of Southern India (incorporated)."

52/U. W. Circular from the Secretary, U. P. A. S. I., forwarding copy of proceedings of the Government of India on the report of the South of India Planters' Enquiry Committee.

53/U. W. Circular from the Secretary, U. P. A. S. I., regarding tea and coffee samples and informing that the Secretary, U. P. A. S. I., has received samples of coffee from Costa Rica, Mexico, Porto Rico, etc., and requests delegates to bring with them typical samples of Shevaroy coffee for comparison. Any member who may have a good sample of coffee by him is requested kindly to bring it to the meeting. Half a pound would be amply sufficient for purposes of comparison.

54/U. W. Circular from the Secretary, U. P. A. S. I., revised draft of the Agenda paper for the next Annual Meeting.

55/U. W. Circular from the Secretary, U. P. A. S. I., forwarding a copy of circular to all members of the Indian Tea Association regarding the *Paris Exhibition*, 1900.

7/N. Letter from Mr. A. G. Nicholson asking that a General Meeting of the Planters may be called for the purpose of united action in reducing wages, etc., on estates.

21/S. Circular from Stanes & Co. (R. J. Rouse & Co., Weekly Coffee report).

The following papers were laid on the table :—
Proceedings of the Wynaad Planters' Association.
Do. Central Travancore Planters' Association.
Do. Kanan Devan Planters' Association.
Planting Opinion, 3 copies, dated July 15th, 22nd, and 29th.
Notification of the Collector and District Magistrate (sale of waste lands).
Commercial Circular No. 5 (Hides and Skins).
Memorandum of Association of the U. P. A. S. I. (incorporated).
List of Coffee Estates for correction.

(Signed) C. G. LECHLER, *Chairman.*
(„) R. GOMPERTZ, *Honorary Secretary.*

NILGIRI.

Proceedings of a General Meeting of the Nilgiri Planters' Association held at the Masonic Hall, Ootacamund, on Friday, August 4th, 1899. PRESENT.—Messrs. Wapshare, R. Buchanan, J. T. F. Wilson, H. D. Wilbraham, L. W. Grey, A. N. Groves, D. Cockburn, H. Crewe, W. L. Edmiston (*Chairman*), E. G. Windle (*Honorary Secretary*).

I. Proceedings of last meeting were taken as read and confirmed.

II. Mr. Windle announced that he would be unable to attend the U. P. A. meeting; but suggested that Messrs. Hodgson and Edmiston would amply represent the Association. Carried unanimously.

III. *Lady-birds.*—Read Mr. Newport's letter of June 23rd The Honorary Secretary replied officially as requested, and asked Mr. Newport, in concert with the Queensland Government Entomologist to arrange for relays of lady-birds to be sent postally. Recorded.

IV. *Coffee-stealing.*—Read letter, dated 17th July. Recorded,

V. *Plague.*—Read Collector's letter of July 11th. Mr. Weir enquired into matters mentioned by Mr. Grey, and offered to supply perchloride of mercury to district centres, so that all planters should be able to obtain.

VI. U. P. A. Agenda paper.

Mr. Hodgson was unanimously selected as member of Council.

Currency. The meeting considered that rate of exchange should be kept as low as possible.

Paris Exhibition. The Association resolved that all funds should be provided from the U. P. A. Reserve Fund, and that district samples were preferable to individual ones.

Coffee. The delegates were instructed to press the following subjects :—Adulteration; Deterioration; Scalepests, and Lady-birds.

Cinchona. The Honorary Secretary, N P. A., mentioned that he wrote to the Secretary, U. P. A., asking him to address Government with the view of stopping further extension of Cinchona until the matter had been considered by the U. P. A., but that the Chairman, U. P. A., had decided that it was useless taking action. The remaining matters were left to the discretion of the delegates.

VII. *Stamps on Hypothecation Deeds.* Read letters from Secretary, U. P. A. Recorded.

VIII. Mr. Buchanan proposed, and Mr. Wapshare seconded, the following resolution to be forwarded through the Government of Madras :—

Proposed by R. Buchanan, and seconded by H. Wapshare,—That, in view of the alarming fall in the price of Coffee by which the very life of the industry is threatened, the U. P. A. be asked to combine with other Associations throughout India and Ceylon to approach the Home Government, through the Government of India, with the view of pointing out that, owing to their recent decision to fix the rate of exchange at 1*s.* 4*d.*, the tea and coffee industries are handicapped. As regards other tea and coffee-producing countries to the extent of 40 or 50 %, and that the Government be asked to either grant bounties to all growers of tea and coffee in India and Ceylon, or to remove the existing duty on British-grown teas and coffees. Carried unanimously.

IX. It was resolved that the N. P. A. subscription to the U. P. A. for the next year be a minimum of Rs. 400.

X. Resolved that the District Forest Officer be asked to become a member of the Association.

(Signed) W. L. EDMISTON, *Chairman.*
(„) E. G. WINDLE, *Honorary Secretary.*

MARKET REPORT.

Per Mail Advices of 21st July 1899.

COFFEE.

The *London Commercial Record* says:—The slight improvement noticed last week has not been maintained, and the tone of the market is very dull. A good part of the offerings has consisted of East India Coffee, for which there was practically no bidding and nearly all was bought in. Ceylon partly sold at some reduction. The supplies of other descriptions have been smaller than for a long time past, importers holding for a better market, but not much more than half disposed of, and prices favoured buyers in nearly every instance. The demand for cherry pickings seems to have come to an end for the moment. With continued heavy receipts in Brazil, "futures" have been very weak, and prices have given way 1s, closing as follows :—

London ...	Santos ...	Sept. delivery	... 26s. 9d.
New York	... No. 7 Rio...	„ „	... 4·40 cents.
Hamburg...	... Santos ...	„ „	.. 27¼ pf.
Havre ...	... Santos ...	„ „	... 32¾ francs.
Holland ...	... Good ordinary Java ...	...	... 26¾ cents.

Imports, Deliveries and Stock of Coffee in London are as follows :—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
	Tons.	Tons.	Tons.	Tons.
West India ...	882	563	1,312	1,552
Ceylon ...	118	99	275	185
East India ...	5,798	2,425	9,113	5,333
Mocha ...	457	460	440	450
Brazil ...	4,552	3,121	2,212	2,179
Other Foreign ...	13,641	12,248	20,587	22,549
Total ...	25,548	18,956	33,939	32,248

	Home Consumption.		Export.	
	1899.	1898.	1899.	1898.
	Tons.	Tons.	Tons.	Tons.
West India ...	202	233	629	1,092
Ceylon ...	76	86	146	111
East India ...	1,531	1,569	2,789	2,405
Mocha ...	401	404	87	84
Brazil ...	500	607	718	1,422
Other Foreign ...	6,629	5,331	9,209	9,638
Total ...	9,339	8,230	13,489	14,752

The preceding figures exhibit—

	Tons.
In the Imports an increase this year of	... 1,691
In the Home Consumption an increase of	... 1,109
In the Export a decrease of	.. 1,263
In the Stock an increase of	 6,592

Auctions this week have passed off as under :—

CEYLON.—*Plantation.* 23 casks 2 barrels barley half sold—smalls 38s, low medium to bold 70s to 86s, pea-berry 76s.

EAST INDIA.—Of 4,546 bags offered, only a small part sold as follows :—*Mysore*, small 30s to 33s 6d, low middling 36s 6d to 39s, pea-berry 44s; *Coorg*, smalls 32s, low middling 38s; *Neilgherry*, smalls 33s to 35s, low middling 37s 6d to 42s, pea-berry 40s; *Wynaad*, low middling dull greenish 40s.

MOCHA.—85 bales withdrawn.

NYASALAND —24 bags sold—smalls 32s, low middling 38s, pea-berry 40s 6d.

JAMAICA.—79 barrels 189 bags offered, but only a small part sold —common greenish very mixed 24s to 25s, fine ordinary greenish 30s to 33s 6d.

COSTA RICA.—118 bags sold, ordinary brownish green 31s, good to fine ordinary 33s 6d to 37s, pea-berry 30s.

GUATEMALA.—Of 292 bags offered 250 bags sold, smalls 31s to 36s, middling 43s 6d, good middling 48s, pea-berry 53s to 67s 6d.

SALVADOR.—Of 1,356 bags catalogued 200 bags sold, good ordinary 32s, fine ordinary to low middling 36s 6d to 39s 6d, pea-berry 38s to 43s.

NICARAGUA.—Of 175 bags, only one lot smalls sold at 35s.

VERA PAZ.—Of 110 bags offered, 8 bags sold, smalls 30s.

COLOMBIAN.—Of 1,557 bags catalogued about half sold—smalls 24s to 41s, good to fine ordinary 30s to 37s, low middling to middling 39s to 45s 6d, good middling coloury 46s to 51s, good to fine bold blue 55s to 66s, fine bold blue 85s, pea-berry 40s to 69s 6d.

NEW GRANADA.—353 bags mostly sold, fine to fine fine ordinary 33s 6d to 37s, good bold grayish 57s to 58s, good coloury 60s 6d.

BRAZIL.—375 bags Santos bought in.

To-day's auction supplies consisted of 581 bags East India, 112 bags Nicaragua, 1,166 bags Guatemala, 349 bags Colombian. 1,592 bags Costa Rica, and 1,431 bags Salvador. The auctions passed off heavily, and very little sold.

Receipts in Rio and Santos.

Since July 1	1899-1900. Bags.	1898-99. Bags.	1897-98. Bags.	1896-97. Bags.
Rio	163,000	163,000	216,000	217,000
Santos ...	313,000	264,000	358,000	294,000
Total ...	476,000	427,000	574,000	511,000
Crop		8,772,000	10,461,000	8,680,000

RIO EXCHANGE.—8 5/32d, previous day, 8 7/32d.

HAVRE, *July* 20.—Santos good average July opened quiet at 32½f. and closed quiet at 32½f., September opened at 32¾f. and closed at 32¾f.

HAMBURG, *July* 20.—Good average Santos July opened quiet at 27¼pf. and closed quiet at 27pf., September opened at 27½pf. and closed at 27¼pf.

NEW YORK, *July* 12.—Closing prices of No. 7 Rio were as follow:—

	July.	Aug.	Sept.	Oct.	Nov.
July 19 ...	4·35	4·35	4·45	4·50	4·55
July 18 ...	4·55	4·50	4·60	4·65	4·70

Prices realized at auctions for some of the principal marks of East India:—

NEILGHERRY.

	A	B	C	PB	T
N P & Co. Rookery	48-0 bid	38-6 bid	33-0	45-0 bid	26-0
Kengary	no bid	no bid	35-0	no bid	28-0
Leighwood	no bid	no bid	no bid	no bid	24-6
Glenburnie	58-0 bid	42-0	35-0 bid	45-0 bid	31-0
Pomanoo	no bid	40-0 bid	35-0 bid	42-0 bid	28-0
Tuttapollium	48-0 bid	35-0 bid	34-6	42-0 bid	...
T H S Riverdale	45-0 bid	40-0	...	40-0 bid	...
Westbury	no bid	37-6	30-6 bid	no bid	...
Madanaad Nilgiris	47-0 bid	40-0	37-0	no bid	29-6
Glencairnie, Nilgiris (Cases)	71-0	48-0	41-6	54-0	31-6

COORG.

	A	B	C	PB	T
Bellarimotte Coorg	no bid	no bid	40-0 bid	68-0 bid	30-0 bid
Mangles Hallery	42-0 bid	38-0	32-0	39-0 bid	25-6

NAIDOOBATUM.

	A	AA	B	C	P
W B Balmadies Naidoobatum ...	89-0 bid	75-0 bid	no bid	no bid	no bid
Guynd W P C	45-0	45-0	37-6 37-0	31-0	47-0

	A	C	P	T
Mamally W P C (cherry)	38-0 bid	32-6 bid	41-6	24-0 25-6

MYSORE.

	0	1	2	PB	T
Maynard's Mysore Hitlow Δ	42-6 bid	36-6	33-6	41-0 bid	...
Macdougalls Mysore △ P M & Co ...	42-0 bid	36-6	30-0 bid	40-0 bid	29-0
Merthi Cannally Mysore	43-6 bid	38-0	33-6	44-0	...

WYNAAD.

	A	B	C	PB	
Wynaad P & Co	45-0 bid	38-0	32-6 bid	48-0	2
Do. do. (cherry)	41-0 43-0	...	...	40-0	

Landed last week 1,000 *tons.* ... *Deliveries* 1,036 *tons* ... *Stock* 25,705 *tons*
Do. last year 932 ,, ,, ,, 881 ,, ,, ,, 19,545 ,,

TEA.

CHINA.—Common Congous are rather dearer, but other thin show little change. During the week 3,063 packages have be offered at auction and mostly sold as follows:—Moning 5½d to 7 Kintuck 6¼d to 9d, Oolong 4¼d to 9d, Congou 5d to 5⅞d, and scent Caper 9¼d per lb.

INDIAN.—Only 5,600 packages (mostly this year's growth), fr first hands were offered, of which all except 600 packages were C cutta purchases, and compare with 5,800 packages (chiefly N Season's) and 11,500 packages (8,800 New Season's during the sa period of the preceding years respectively. There were also 7,6 packages, principally from dealers' stocks. Although there is settlement yet of the dispute, the above teas were sold with t 1-lb. draft as hitherto, but with a very limited enquiry the sa went off flatly at easier rates, and a large quantity was withdra owing to the low bids.

CEYLON.—Public auctions comprised 10,600 packages, about h of which were on garden account, also 5,000 packages from seco hands, all being under the old sale conditions. In the two previ years 26,000 packages and 21,000 packages were brought forwa at this time. Considering the dull state of trade generally th was a fair demand, and prices on the whole were maintained in t case of the few best liquoring invoices. Where quality, howev was less attractive, a somewhat lower range was established.

The average is barely 7¼d per lb. On the 29th ultimo (the l date quoted) it was 7¼d per lb., and on the 20th July, 1898, it w 7⅜d per lb.

JAVA.—Rather over 1,900 packages, mainly of direct impo passed the hammer on Monday and Tuesday, and were disposed without material alteration, the 1-lb. draft being allowed. For n week 800 packages are declared.

Deliveries.—The clearances of all Tea (on which duty has be paid) from the London warehouses, as per official returns, were

	Lbs.
From 1st to 18th July, 1899	8,846,2
Do. do. 1898	9,746,3

During the week the following have been printed for sale public auction:—

	Sold. Pkgs.	Withdrawn. Pkgs.	Total offer Pkgs.
India	3,610	2,011	5,621
Ceylon ...	9,302	1,266	10,568
Java	1,608	298	1,906
Total ...	14,520	3,575	18,095

Also 12,645 packages from second hands.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java T Report, dated July 21st, 1899, says:—

QUANTITY BROUGHT TO AUCTION IN LONDON FROM 1ST JUNE TO DAT

	Indian. Pkgs.	Ceylon. Pkgs.	J P
1899-1900	68,565	123,313	6,
1898-1899	64,242	177,757	5,

13,220 *pkgs.* INDIAN
15,951 ,, CEYLON
2,125 ,, JAVA
} Total 31,296 packages were offered in public auct this week.

The disagreement between producers and buyers referred to in last Circular, dated 7th instant., led to a complete deadlock in the tra no public auctions of Indian, Ceylon or Java Tea being held, a practically no Tea being sold last week, with the exception of a f parcels for shipment.

All the public auctions held this week were on the old conditi of sale, allowing the one pound draft to buyers. The second-hand T

was printed "without reserve" and consequently was knocked down in the auction room. Particulars of the offerings were as follows:—

Garden account ..	586	Indian.	6,628	Ceylon.	1,906	Java.
Importers' account ..	3,137	13,220	3,992	15,951	...	2,125
Second-hand	9,497		5,331		219	

For next-Monday catalogues are at present issued for 1,836 packages of Indian Tea on Growers account without the allowance of one pound draft, and with the following further alteration in Clause 3 of Public Sale Conditions, viz.:—

"Every person who shall be declared the highest bidder shall pay to the selling broker a deposit of 20 per cent., *ad valorem*, with a maximum of £1 per chest."

3,762 packages Indian, 6,456 packages Ceylon and 793 Java, on Growers or Importers account, in addition to 2,039 packages second-hand Tea are also advertised for next week on the old conditions.

INDIAN.—The small sale held on Monday passed at somewhat easier rates for all except Teas for price, which were the only kinds remaining firm. The official wire gives exports to U. K. for the first half of July as 6,600,000 lbs., against same quantity last year, making the total from 1st April to 15th instant, 25,232,000 lbs., against 18,097,000 lbs., same period last year.

CEYLON.—Tuesday's sale was well competed for, but prices were slightly lower for medium and better class Tea. The lower grades showed little change from rates ruling a fortnight ago. The official telegram from Colombo gives shipments to U. K. for first half of month as 4,500,000 lbs., against 6,200,000 lbs. same period last year, and estimates the quantity available for the month at 8,000,000 lbs., against 10,500,000 lbs. last year. Average for week 7·13d., against 7·29d. in 1898.

JAVA.—The market for this growth was weaker than a fortnight ago; the Teas, however, were mostly disposed of at auction, importers being willing to make a sufficient concession in price to enable the Teas to be knocked down in the room. Catalogues are at present issued for 793 packages. 7,380 packages were offered in Amsterdam on the 20th instant.

Bank rate 3½ per cent. Exchange on London three months' sight. Calcutta 1/4 5/32. Colombo 1/4 5/32.

COCOA.

A change for the better has taken place in the movement of values, which for some time past have been on the down grade On Tuesday 4,746 bags were offered at auction, of which 2,050 bags sold in the room at occasionally higher prices. Of 1,401 bags Trinidad catalogued, 1,180 bags sold at fully valuations—70s to 72s for very fine red, and 64s 6d to 69s for good to fine. 304 bags Grenada nearly all sold at 59s to 63s for good to fine and 56s 6d for common, or rather in sellers' favor. Of 249 bags Jamaica, 80 bags sold at full values—superior 67s 6d, good red 61s, and common 53s to 54s 6d. Of 14 bags Dominica, 4 bags sold at 57s 6d. Of 175 bags Surinam, 50 bags sold at 60s to 64s for good to fine. 96 bags Demerara and 24 bags St. Lucia retired unsold. 55 bags fine African sold at 61s to 62s, being dearer. Of 1,064 bags Guayaquil, 250 bags sold without alteration, at 69s for Arriba and 67s 6d to 69s for Caraquez. Ceylon quiet, but steady; 1,362 bags offered and 180 bags sold, good medium and bold red 69s to 70s, ordinary to middling 61s 6d to 65s per cwt. Privately a good business done, including 400 bags Trinidad at 67s 6d to 70s, 450 bags Grenada at 61s to 63s, 50 bags Dominica at 59s, and 500 bags Guayaquil—fine Arriba at 72s to 74s; also 150 bags Bahia at 60s, and 120 bags N. Ceylon at 64s.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

	1899.	1898.	1897.	1896.
	Bags.	Bags.	Bags.	Bags
Imports, B P. ...	97,001	103,653	90,941	99,926
Foreign ...	41,799	69,953	42,453	42,823
Home Con., B.P ...	50,107	64,496	49,358	43,598
Foreign ...	30,528	34,854	35,186	33,722
Exports, B.P. ...	27,690	22,022	26,895	23,806
Foreign ...	16,336	17,656	24,444	16,167
Stock, B P. ...	65,002	77,174	92,564	98,376
Foreign ...	47,509	51,043	43,042	69,299

PEPPER.

BLACK.—For arrival the market is dull on large shipments, and value of Singapore is 1/16d lower, with sales of about 100 tons, including parcels near at hand at 5¼d and August-October shipment at 5 7/16d and sellers. On the spot only a small business is reported, including fair Singapore at 5¼d.

The shipments of Black Pepper for the first half of July compare as follows:—

	1899. Tons.		1898. Tons.	
U. K.—Singapore	240	290	120	250
„ Penang	50		130	
Continent	240		120	
United States	*nil*		*nil*	
Total ...	530		370	

At auction on Wednesday 24 bags Ceylon sold—fine heavy bold brown 5⅝d, good greyish 5⅛d. Of 82 bags Tellicherry, only 16 bags damages sold at 4¾d to 5d per lb.

WHITE is also lower, with sales of about 50 tons Singapore, *viz.*, June shipment at 8 5/16d, July-September and August-October at 8⅜d, and September-November at 8 7/16d; of Penang there are sellers of August-October shipment at 8 3/16d. On the spot small sales of fair Penang at 8d.

The shipments of White Pepper for the first half of July compare as follows:—

	1899. Tons.		1898. Tons.	
U. K.—Singapore	90	200	160	170
„ Penang	110		10	
Continent	30		*nil*	
Total ...	230		170	

At public sale on the 19th instant 5 cases 44 bags Singapore were bought in at 9d to 11d, also 45 bags Penang at 8d per lb.

GINGER.

COCHIN.—Offerings, consisting of 120 cases 686 bags, comprised a fair assortment, but with an extremely poor inquiry only 14 cases sold, including bold, with some medium, cut and scraped limed 75s, bold branchy plump brown washed partly scraped 71s per cwt.

JAMAICA.—Demand has fallen away materially, only 245 barrels selling, out of 520 barrels offered—fair to good bright washed realised 66s to 69s, ordinary to middling 53s to 60s, and good common 48s to 51s 6d per cwt., which shewed an easier trend for all grades except common, which were about steady.

CARDAMOMS.

Supplies were on a more moderate scale to-day, and consisted mostly of medium qualities imported in June, together with a few second-hand lots. There was a fair demand at a decline of about 2d. to 3d. per lb. on the medium qualities. The following rates were paid:—Ceylon-Mysore: Good bold pale round bleached were limited at 3s. 8d. per lb., 3s. 4d refused; fair bold long pale sold at 3s. to 3s. 1d.; medium to bold dull long, 2s. 10d. to 3s.; ditto, partly open, 2s. 6d. to 2s. 7d.; medium lean long, 2s. 3d. to 2s. 5d.; very small lean, 1s. 9d. to 1s. 10d.; and medium lean brown, 1s. 8d. Mixed splits, 1s. 7d. to 1s. 9d.; brown splits and pickings, 1s. 6d. to 1s. 8d. Ceylon-Malabar: Good brown lean, 2s.; small to medium lean, 1s. 4d. to 1s. 6d.; thin small brown, 1s. 3d., subject; and very shelly small, 1s. 1d. to 1s. 3d. The best qualities of Malabar were bought in at 2s. 3d. per lb. Mangalore, fair bold pale to medium round, 2s. 6d. to 2s. 7d.; split and brown specky, 1s. 8d. Seeds, light brown, 1s. 8d. to 1s. 10d.; good, 2s., subject; dark, 2s. 3d.

The Ceylon exports for the week ending June 27 were 971 lbs. and from January 1 to June 27 they were:—

	1899.	1898.	1897.	1896.
Lbs. ...	254,144	236,263	278,783	184,595

QUININE.

SULPHATE OF QUININE is 1d per oz. lower, with sales of HB and/or B & S, August delivery, down to 1s 2⅛d, and October at 1s 2¾d per oz., at which business has been done.

OFFICIAL QUOTATIONS.

Sulphate of Quinine—	*In tins.*	*In 1 oz. vials.*
Howards & Sons	1s 8d @ 0s 0d	1s 9d @ 1s 10d (or 1,000 ozs.)
Thomas Whiffen ...	1s 6½d „ 0s 0d	1s 8½d @ 0s 0d
Brunswick	1s 6d „ 0s 0d	nominal
Mannheim	1s 6d „ 0s 0d	nominal
Auerbach	1s 6d „ 0s 0d	nominal
Zimmer	1s 6d „ 0s 0d	nominal
Milan	0s 0d „ 0s 0d	0s 0d „ 0s 0d
Taillandier	1s 3d „ 0s 0d	
Amsterdam	1s 6d „ 0s 0d	nominal
Pelletier's	0s 0d „ 0s 0d	1s 9d „ 0s 0d

CINCHONA.

At the London auctions on Tuesday, only a small quantity was offered, the seven catalogues embracing

	Packages offered.		
East Indian cinchona	869,	of which 650	were sold.
Ceylon cinchona	127	„ 98	„
Calisaya cinchona	115	„ 78	„
Java cinchona	129	„ 70	„
African cinchona	56	„ 56	„
Cartagena cinchona...	20	„ ...	„
Maracaibo cinchona...	8	„ ...	„
	1,324	952	

One broker withdrew his offerings (89 bales Bolivian-Calisaya, imported this month) previous to the sale. The demand was steady but quiet, and, as will be seen from the above table, the bulk was disposed of. The average unit selling-price was slightly better than that of the Amsterdam auctions last week, working out at 1½d. per lb., which is a slight decline on the 1⅝d. obtained at the previous London sale.

The following were the approximate quantities of bark purchased by the principal buyers:—

	Lbs.
American and Italian factories	75,648
Brunswick factory	53,878
Frankfort-on-Maine and Stuttgart factories	29,946
Messrs. Howards and Sons	8,243
Paris factory	1,040
Druggists, &c.	37,720
Total quantity sold ...	206,475
Bought in or withdrawn ...	66,822
Total quantity offered ...	273,297

The following were the prices obtained:—

JAVA.—Fair Ledgeriana stem chips, 6d. to 6¾d.; ditto root, 5¼d. per lb.

AFRICAN.—Good broken quill and chips, 6⅞d. per lb.

SOUTH AMERICAN.—Bolivian cultivated Calisaya, good quill, 8½d. to 9⅞d. Cartagena and Maracaibo was all bought in.

CEYLON.—Good succirubra stem chips and shavings, 4⅛d to 4½d.; officinalis ditto, 5d. to 5¼d. per lb.

EAST INDIAN.—Fair red chips and shavings, 4d. to 6½d.; ordinary, 2¾d. to 3¼d.; ordinary renewed, 2¾d. to 3d. Officinalis, fair chips, 4⅛d to 5½d.; ordinary to dark, 1⅞d to 3¼d.; good rich Ledgeriana chips, 5¼d. to 6⅜d. per lb.

As reported by telegram last week the bulk of the offerings a the Amsterdam auctions was disposed of at an average unit o 8·60c., or a decline of about 8 per cent. Only 1,380 kilos. quinin sulphate were bought in out of 27,828 kilos. offered. The riches parcel of bark contained 11·03 per cent. of sulphate of quinine, an sold for 85c. per half-kilo. It was Ledgeriana stem. The highes price paid was for 3 cases of Succirubra stem, long quill, whic realised 78c. The following table shows the unit value of the si auctions held this year as compared with previous years:—

—	1899.	1898.	1897.	1896.	1895.
1	4·70c.	6·90c.	2·12c.	3·00c.	2·70c.
2	6·70c.	5·50c.	2·90c.	2·82c.	2·50c.
3	10·90c.	4·25c.	3·90c.	2·80c.	2·85c.
4	8·50c.	5·20c.	4·10c.	2·85c.	2·92c.
5	8·25c.	4·10c.	4·20c.	2·90c.	2·87c.
6	7·60c.	4·20c.	4·30c.	2·85c.	2·72c.

The shipments from Ceylon for the week ending June 27 we 3,500 lbs., and from January 1 to June 27 they were:—

	1899.	1898.	1897.	1896
Lbs. ...	414,873	395,716	364,502	570,3

The exports from Maracaibo in 1898 were 12,047 kilos. (270 pac ages), against 24,460 kilos. (546 packages) in 1897.

A bale of thin brown Guayaquil, slightly damaged by smoke, so at 4d. per lb.; and a parcel of 36 bales flat Calisaya, realised 8½ per lb. for sound, and from 6d. to 8d. for damages.

The Monthly Public sales.—Catalogues at Tuesday's auctio presented 1,412 bales, which met a very good demand, and near the whole sold at 1½d, ⅛d per lb. advance on the unit pri realised at the Amsterdam sales, or barely up to the prices pa here a month ago.

Of 232 bales *South American* catalogued 62 bales sold—Bolivi cultivated Calisaya quill 8½d to 9⅞d per lb.

127 bales *Ceylon Cinchona* half sold—Officinalis chips and shavin 5d to 5¼d, Succirubra chips and shavings 4⅛d to 4½d per lb.

Of 868 bales *East India Cinchona* offered 650 bales sold—Offi nalis, chips and shavings 1⅞d to 5⅜d, ditto renewed 4⅛d; Red, chi and shavings 4d to 6¼d, chips 2¾d to 3¼d, renewed ditto 2¾d to 3 Ledgeriana, chips 5⅜d to 6⅝d per lb.

129 bales, &c., *Java Cinchona* brought forward and 70 bales sold Ledgeriana. chips 6d to 8d, root 5¼d per lb.

56 bales *African Cinchona* sold at 6⅞d per lb for Succirubra brok quill and chips.

Agents for LEA & PERRINS' WORCESTERSHIRE SAUCE.

CROSSE & BLACKWELL'S, LTD.

By Special Warrant Purveyors to

The Queen AND Empress of India.

CELEBRATED OILMAN'S STORES.

[w. 1-10-98—t.f.o.]

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

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DOMESTIC OCCURRENCE.—The fee for inserting a domestic occurrence will be *One Rupee* for each insertion, payable in advance.

N.B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 25th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, *16th August.*—*Weather.*—Rain every day, with the exception of 14th; but amounts small, ranging between ·05 and ·65 inches. Good thing for supplies. Weather looked promising yester-afternoon for more rain. *Plant-diseases.*—Coffee generally looking extremely fine; but leaf-disease in patches. Borer nearly all finished. Prices of grains keeping moderately high. *Labour.*—Plentiful. *Health.*—Good.

Kotagiri.

16th August 1899.—Much-needed rain closed a very dry July. Unfortunately the fall was not general. Many places lying out to the eastward have been practically without rain for eleven weeks. The drought in that direction is quite unparalleled, and is very trying all over this district. Since May last dust and drought have reigned supreme. All grain cultivation is parched and coffee, which has been droopy for weeks past, is dying-out in patches in the vicinity of rocky ground. In most cases the wind is tempered to the shorn lamb inasmuch as the April floods have wiped-out the crop and there is none to suffer; but, where there is any on, it is wicked to see it thirsting for rain. The oldest inhabitant this side cannot recall such a ghastly year. Natives are gathering in their parched grain crops, as high and as yellow as a duck's-foot, and apparently playing with marbles, digging-up miserable potatoes. Labor has been reduced everywhere, both in number and wages, and supply is abundant. In Kotagiri station itself, rainfall is ahead of average due to end of July; but there have been long spells of dry weather accentuated by a tearing high wind, the

fall of rain being shockingly badly distributed as evidenced by the following figures:

Average rainfall due—		*Rainfall 1899—*	
January	0·47	January	0·00
Feburary	2·26	Feburary	1·75
March	2·47	March	0·00
April	4·07	April	13·37
May	5·23	May	1·54
June	3·53	June	5·67
July	4·13	July	2·76

THE U. P. A. S. I.

We do not propose to comment, at any great length, this week, upon the proceedings of the U. P. A. S. I. at its Annual Meeting, held during the week. A considerable portion of our present issue, which is an exceptionally large one, is devoted to a report of these proceedings, and no remarks of ours could give additional interest to this report. Still, it is impossible to allow an event of such importance as this meeting to pass unnoticed, particularly when the Association makes, what may almost be termed, a fresh start as an incorporated Society. From the work done in former years and again at the meeting, from the personnel of the executive for the coming year, and from the "programme" laid down, we judge that work will be carried on with unabated energy. The Paris Exhibition will need a considerable amount of preparation on the part of planters, District Associations, and the U. P. A., if the success that the last aims at is to be attained. Then inquiry into the comparative merits of South American, Central American, and Indian Coffees bids fair to be followed by efforts to improve the last description; and the attempt to push Indian Coffees in the Indian as well as in Foreign markets will occupy both time and labour. We trust it may be fruitful, and that with imported lady-birds to check scale-pests, improved manuring under the skilled guidance of Dr. Lehmann's careful study of preparation, &c., and perhaps some little of the "advertisement" that figured on the Agenda paper, we may hear no more of "deterioration" of Coffee, but only of steady improvement. One hopeful delegate leads us to expect that "the good time coming" will have sent a cheerful shadow in advance by the time the next Annual Meeting is held, and planters will indeed rejoice should this be the case. Mr. Gompertz pointed out that the Brazilian Government was following the example of the Government of India in trying to raise Exchange, and that if its plans succeeded India would be 2*d.* (or, say, 12½%) better off than Brazil, instead of at a disadvantage of 8*d.* (or, say, 50%) as at the present time. This is something solid to look forward to, and we trust that Mr. Gompertz's utterances may prove prophetic. Like him, we wish Brazilian coffee-planters no ill, but in the struggle for existence someone must always go to the wall. Indian coffee-planters are a bit too near that structure at present, and if circumstances should cause their Brazilian rivals to exchange places with them, there would, as Mr. Gompertz hinted, be no very bitter tears shed by his fellow-planters in India and himself.

Tea is in a more hopeful position. South India has declared in favour of an advertising policy, at the expense of a voluntary-compulsory tea-cess, *i.e.*, a tax made compulsory by Government at the expressed desire of planters themselves. It remains to be seen if the little industry of the South can induce its big brother in the North to adopt this policy. We doubt it, but our thoughts are partly guided by our wishes, for to us the tea-cess, when the money is to be "pooled" with the funds of Ceylon and Northern India seems to us very undesirable. We are, however, in full accord with the view taken of the Government's proposed extension of its Cinchona plantations. The explanations offered by the Hon. Mr. Hodgson threw a flood of light upon this scheme, and we feel sure that, after reading them, no planter will condemn the Madras Government's policy. Indeed, that Government has displayed so much sympathy with planters in regard to other matters, has given them such valuable assistance, and has so steadily manifested a desire to advance their interests, that it is impossible to believe it would embark upon any project with the idea of entering into rivalry with the community. It is to be asked to assist again in the matter of the Paris Exhibition, which is being taken up with energy at a rather late hour. In other ways it has rendered, and is still giving material aid to planters, and we are glad to note that the feeling of the community towards Government is now one of almost implicit confidence. There can be no question that this welcome state of affairs has been largely brought about by the tactful endeavours of the present Planting Member, Mr. Hodgson, and his predecessor, Mr. Romilly.

It will be seen that an effort was made to retain Mr. Romilly as Chairman for a third year, but both that gentleman and the Hon. Mr. Hodgson decided in favor of withdrawing from the arduous duties of their respective posts. In Mr. Acworth the Association has selected a councillor whose readiness of speech and shrewdness of intellect should assure his success. If the *suaviter in modo* be not accompanied by the *fortiter in re*, it will be a surprise to us, and we augur well for such of the interests of the U. P. A. as may depend upon Mr. Acworth's advocacy in Council and in the capacity of a sort of demi-official "communicator" between the Government and the Association. In Mr. Sprott it has a tried Chairman, in Mr. Hockin, a Vice-Chairman who may be trusted to do his duty whenever his services may be required. This year, as on previous occasions, it may be said the Annual Meeting afforded evidence that the Association has at its command sound reasoning and ready debating powers, oratorical excellence of a high order, and an organization that is slowly solidifying the Association and putting it in the position to prove itself a very capable and even a powerful representative of a community that is but small when compared—or, shall we say, contrasted?—with the Tea-planting communities of Assam and Ceylon. It is not a very strong Association financially, but as it is working well within its means, that is a point that need not be dwelt upon. We feel sure that all planters who have watched its progress will concur with us in the belief that it has done admirable work in the few years of its existence, and that it is likely to continue such work with increasing success in the years to come.

TEA AT SHANGHAI.

The Britsh Consul says, in his 1898 report, that the season for Black tea opened on May 18; but business was restricted till the second week in July, when a fair business was done in second-crop Keemuns: and these have been the only settlements that have given satisfaction. In common teas, business was very dragging throughout

he year, although prices were 15 per cent. over those of ast year. In volume, it was the smallest for the last twenty ears, the settlements being 37,000 half-chests against 8,000 half-chests the previous season. The green tea arket was subject to unusual depression in consequence f a duty of 10 gold c. being imposed in the United States; tocks already in the States were exempted from this duty, nd, as large stocks of old tea were held, duty-paid teas ad no chance till the existing supplies were exhausted. he Ping-suey teas were the purest and best that have een brought to market for thirty years, and yet they met ith a poor reception in America. This is partly attributed the absence of colouring matter, which caused the leaf be unattractive to the eye. Seeing that the tea is only anted for making an infusion, and not for putting on the able in the shape of leaf, it is strange that consumers do ot prefer to have the pure uncoloured leaf as it is used by ie Chinese themselves. Colouring enables the tea-curers hide defects which would otherwise be exposed. The op was 80,000 half-chests against 112,000 half-chests st season. In country teas (Tienkais, Moyunes, and ychows), transactions were not profitable. Most of these as lost in America, and realized barely first cost in England. he crop is reckoned at 177,000 half-chests against 192,000 lf-chests in the previous season. In Hysons the competion to secure the choicest teas for the Central Asian arkets *via* Batoum forced prices up to an unprecedented gh point, 60 to 65 taels being paid for teas which usually tch 35 to 45 taels. The Central Asian markets promise become important consumers of all kinds of green teas. Much dissatisfaction was caused by the arbitrary rejecon on the part of the United States Customs inspectors teas which were perfectly pure and unadulterated, but hich failed to come up to the requirements of the Governent standard.

COFFEE IN PUERTO RICO.

Mr. William Dinwiddie writes that men with money to vest will find in Puerto Rico abundant opportunity in gar, coffee, and tobacco plantations. Fruit-growing is undeveloped industry. The island needs transportation cilities, electric plants, and ice plants. Cattle-raising s a bright future, the island affording plenty of food the ar around, flowing water, and free from conditions which eate blizzards and drouth. One drawback is the high ice of land, the average cost being $100 per acre. Dairy rming is another opening. Lumbering offers no inducents for capital. But he throws out the warning that ere are few opportunities for poor men—"a good country the impecunious to keep out of, however ambitious they y be." The cost of living is high—not less than $50 per nth, Spanish currency. Food is of high cost, except some domestic products. Writing specially with respect Coffee, he states that coffee-raising ranks first as an lustry. Good coffee land ranges in price from $20 to 00 an acre, the latter asked for five-year-old plantations r the great military highways, and within easy hauling tance of the coast. No one section is favoured, as all the untain districts are equally fertile, but facilities for ving the crop are better in some sections than others. imates are given for buying and cultivating a plantn of 100 acres, and the probable return, which, however, based on receiving 15 cents a pound for coffee—a very improbable average price under present conditions, when good Cucuta brings 8 cents in New York. A plantation should be in bearing five years, after which it should yield 500 to 1,000 pounds of coffee per acre. About 55,000,000 pounds marks the average annual production. The Puerto Rico coffee is in favour in France, Germany, Italy, Austria, and Spain. France is the largest buyer of high-grade coffee; Spain of the low-grades. Cuba has been a heavy purchaser for years. Higher prices have been obtained for this coffee than for other growths.

It may be noted that a special "blueing" process is resorted to, in order to give the tint so prized in French markets.

TEA FROM SEED TO CUP IN SOUTHERN INDIA.

(By Thomas Brown, Glendale, Coonoor.)

IX.

Grafting of the Branches—is very common and must be prevented by judicious thinning-out of the branches from the second to the seventh year, but needs after that also to be guarded against most carefully. Care must be taken that branches are not split by the chopping done by the large 6-inch blade knives, sold for the purpose, as rot sets in and continues far down into the tree, lasting for years. Many advise the use of tar upon the cut ends, the prevention of chopping, etc., but upon large areas these things are not possible, except at prohibitive cost. Colonel Money truly says:—

"There have been many theories about pruning Tea "bushes, but none, I think, worth much *practically*, for "the simple reason that it is impossible to prune 250,000 "plants (the number in a 100-acre garden, at 2,500 to "the acre) with the care and system a gardener prunes a "favourite fruit tree. The operation must be a coarse one, "done by ignorant men, in large numbers at one time." We fully endorse every word of that. The cost of pruning varies from Rs.2 to Rs.7-8 per thousand; but the most expensive pruning, when done, leaves the bush so as not to need touching for two years at least, thus reducing the average cost considerably. This fact is often lost sight of in the preparation of estimates for working a garden. When tea bushes look worn-out, and will not flush at all well, a low prune down to the stem becomes necessary. Dr. Watts advises a still lower prune in extreme cases, *viz.*, below the surface of the ground, or, what he calls, a low collar prune. We have not ourselves tried the latter, but feel sure that the results will be very satisfactory, and the percentage of loss from death of the bushes very small.

New Mode of Pruning.—We have found that cutting-out all strong leading shoots is a good system of light pruning. A cooly can do 500 trees a day. The flush is not checked for more than a few days, and the side and weak branches get a chance of strengthening.

Topping—of old tea is decidedly bad. The leaf is usually all banjy, there is a rush of leaf for a flush or two, and then an almost complete stop, the bush running, in the case of Hybrids and Chinas, to seed.

Saws for Pruning.—We have found the best kind is one that cuts with a draw, and is used the same way as a knife. All other kinds take far too much labour; the cuts in the hands of the common cooly are never clean, and usually leave a split down the branch from forcing back of the end of it while sawing.

Pruning of old China.—Where the bush is one mass of suckers, resembling grass, the best plan is to thin-out a number every year until stout wood is formed, and, at the end of three or five years, prune down to straight wood as with Hybrids and Assams. After several prunes of the latter kind, a low prune down to the ground will be necessary, and the bush formed-up as before.

Plucking after Pruning.—In the case of Assams and Hybrids, three months or more will elapse after a low prune before the bush is full enough to pluck. The leading shoots may be plucked from all bushes where the bare wood has been covered, and the young wood broken back (tipped) to a height of 18 to 24 inches, depending on the height to which the pruning has been done. In most cases, it is best to tip back to 24 inches, thus securing a greater length of red-wood to prune on to hereafter. China bushes will be ready to pluck in eight weeks and need to be constantly teazed to cause them to flush, or they soon get banjy and cease to flush.

Coarse Leaves—manufactured into tea give a saponaceous tasting liquor. It never pays to take them. The produce per acre from regular plucking of three tender leaves, never older than fourteen days at the outside, is superior to the produce where coarse leaves are plucked. The bush must have something to carry on its economy with, hence these leaves are best left on the tree.

Flushing.—The number of flushes per year is from 24 to 30. In the Spring time of the year, the fields can be gone over once in ten days, and, at other times, once in fourteen.

Spongy Tea—is the result of an over-grown flush when the weather is showery and hot. The tea has no weight or gloss about it, the liquor is poor and colouring dark. This matter will be again dealt with under the heading of manufacture, but it is as well here to give the best reason for going over the fields regularly and often.

Removal of Blossom—in young Hybrids is advisable; the cost is not excessive. In older tea, it is very expensive and difficult, and by heavy prunes in the Autumn (June to August), when tea usually flowers, the tendency to blossom can be checked. Hybrids run very much to seed when young, but change, when they are older, particularly if the soil be rich.

POTASH AND ITS FUNCTIONS IN AGRICULTURE.

The following is a brief summary of an exhaustive paper on the above subject by the Chief of the Division of Chemistry in the United States Department of Agriculture:—

1. The potash used in fertilisers and found in the soil has been derived from the decay of minerals containing it as an ingredient, and chiefly from feldspars.

2. During the progress of weathering a portion of the potash in original rocks becomes soluble and is lost by lixiviation. As a rule, about 25 per cent. of the potash finds its way by this means into the streams and seas.

3. There is usually a less percentage of potash in the finer particles of soil than in the coarser particles, and this is due to the fact that the solvent action of water is more strongly exerted upon the finer particles.

4. The potash is quite evenly distributed both in the soil and subsoil, there being only a slightly greater proportion in the deeper layers, doubtless owing to the fact that th have not been so thoroughly leached.

5. The solubility of potash in the soil is very differ for different solvents, the least for the weak organic a and greatest for the strong mineral acids. Hot hyd chloric acid extracts from the soil about 20 per cent its total potash content, which is about thirty-two ti as much as is removed by a 1 per cent. citric acid solu

6. A fertile virgin soil contains about 2 per cent. of p potash, or about 70,000 lbs. per acre taken to the depth 1 foot. A crop removing 50 lbs. of potash a year could grown consecutively for about 1,400 years on such a before exhausting all the potash which it contains.

7. The soil retains a certain quantity of fertilising ma rial with such tenacity as to render it practically impossi for plants to withdraw the whole of it, thus protecting future against the rapacity of the present.

8. The quantity of potash removed by various crops annum varies greatly. The largest quantities are remo by beets, and the smallest quantities by cereals and cott Beets may remove as much as 100 lbs. per acre, cer about 30 lbs., and cotton about 23 lbs. for the average cr as produced in this country. In Germany, beets grown forage remove often over 200 lbs. of potash per acre f the soil, clover hay about 74 lbs., and tobacco the s quantity.

9. Tobacco contains a larger proportion of potash t any other common crop, *viz.*, about 40 parts per 1,000 of dry leaves. Forage beets contain 35, potatoes 20, su beets 18, clover hay 19, beans 13, and cereals 5 p per 1,000.

10. There is about four times as much potash in straw of cereals as in the grains, while in peas and be the proportion is about as two to one.

11. A soil which yields about 0·01 per cent. of potas 1 per cent. citric acid solution, and contains about 0·30 cent. soluble in hydrochloric acid does not usually nee potash fertiliser.

12. The potash salts which supply the commercial po fertilisers of the world have been deposited as the re of the evaporation of saline lakes charged with pota materials.

13. The commercial potash in the world is derived al exclusively from the neighbourhood of Stassfurt, in many. The quantity of crude salts annually mined is a 750,000 tons, worth nearly 3,000,000 dollars.

14. The high-grade commercial salts used for fertili purposes are manufactured from the crude salts, and a be preferred when shipments are made to great dista and at high rates of freight.

15. The principal crude potash salts used for fertili purposes are kainit containing 12·5 per cent. of po and carnallite containing 9·9 per cent.

16. Tobacco waste, cotton-seed hulls, and wood a also furnish important quantities of potash for fertil purposes.

17. Recovered marsh or swamp lands and lands con ing large quantities of sand, need almost universally, po fertiliser. The percentage of potash in soils, usually with their content of clay.

18. The maximum effect from fertilisation with potash is secured only when other plant-food are supplied in such a way as to make a well-balanced ration, and where proper methods of culture are employed.

19. Lime is an important adjunct to potash fertilisation, and, as a rule, should be added to a soil, in large quantities wherever potash is applied.

20. The best kind of potash fertiliser is determined by local conditions, freights, and the nature of the soil and the crop. Fertilisers containing considerable quantities of chloride should never be applied to vineyards and tobacco fields.

21. In intensive pot or garden cultivation, where highly-concentrated plant-foods are required, and where the cost of the fertiliser is unduly great, potash may be applied in the form of potash salts or nitrate.

22. In some soils potash salts, in common with other saline bodies, produce injurious effects by reason of their hygroscopic nature, attracting moisture, and, on drying, producing a cementation of the soil, which renders it impervious to water and impenetrable by the rootlets of plants.

23. Crude potash salts can be applied with benefit in the preservation of stall manure, but their value for this purpose is perhaps over-estimated.

24. Potash fertilisers should, as a rule, be applied in the autumn, or at least from two to four weeks before planting, and should be thoroughly worked into the deeper part of the soil in order to come into contact with the rootlets of the plant.

25. The germination of seeds, especially if they have a low vitality, is retarded by bringing them into direct contact with potash salts.

26. The application of crude potash salts to a soil which is not easily cemented may be useful during a dry season by reason of their power of attracting and holding moisture.

27. Potash salts favour the decomposition of mineral particles in the soil, and thus tend to add to the stores of plant-food therein.

28. The application of crude potash salts to the soil tends to protect the crops from frosts by preventing the too rapid evaporation of moisture, and by producing a more luxuriant foliage.

29. The too abundant application of potash to the soil may become injurious by reason of the retardation of the process of nitrification which it produces.

30. Crude potash salts, especially kainit, when added abundantly to a soil, are said to act, to a certain extent, as an insecticide or a preventive of disease, and when mixed with stable manure act as a preservative by checking the activity of the denitrifying ferments.

31. It is impracticable to give formulas for the preparation of fertilisers containing potash, since both the quantity of potash to be used and the form in which it should be applied are determined by local conditions, which cannot be taken into account in the preparation of directions for the use of fertilisers.

PEPPER AND VANILLA IN NORTH QUEENSLAND.

(By "Diogenes.")

II.

Having commented on the indigenous peppers of North Queensland, I will now, if you will permit me, traverse a few of the remarks lately made by your correspondents on the curing of Black Pepper, and the manufacture of white from black and the better curing of Vanilla.

Curing Pepper and Vanilla.—It will be noted that in Messrs. Brooks and Green's "special hints" on the preparation of Vanilla, in your issue of February 18th, that great stress is laid upon the necessity for the proper curing of that article, and it is only too obvious, to those who study the market reports, that the same attention is required with other articles of commerce. Pepper being now under discussion, it will be necessary to arrive at a definite knowledge as to what the market requires with regard to (1) shape, (2) colour, (3) size, (4) pungency. In Black Pepper the first-class samples are thus defined:—

No. I.—Fine round, crinkly, shotty, black;
No. II.—Medium, crinkly, shotty, black;
No. III.—Fair brownish to black, &c., &c.,

and so on, according to varying shape or colour. This, and this only, together with pungency and flavour regulates its price.

To gain this end a little thinking will often do more than simply following the practice of others, especially if the present result leaves room for improvement, and that improvement will affect the price (without extra expense) to a fraction of a farthing.

I long ago found that the ordinary sun-drying of Black Pepper did not come up to the ideal of the London market requirements either in colour or in crinkles, however ripe the berries were plucked, and I have not yet heard of any better method than the following:

When the pickers are expected in with their baskets of fruit, have ready boiling a large caldron of water, and dip each basket in it for a few seconds, let them drain, and then throw on to sheeting or matting or *perfectly clean* drying ground in the sun. In an hour the whole quantity will be blacker than with three days of the hottest sun. The crinkles will thus be more even, the stalks will come away in the after process of drying quite readily, and it will only require a sieve to separate them, at the same time give you two, three or four grades if you like.

"White Pepper" is nothing more than the seed or inside germ of the black, without its husk, or dried pulp, as most people now thoroughly understand; but the system advocated in your reprint from the *Straits Times* of January 7th, I do not like at all. The throwing in heaps to ferment is not only bad in after results, but a loss of time, and the "drying over a slow fire," is both risky and dirty, when the sun will have better results; but with a properly made drying house, even the sun can be dispensed with altogether. (I will, however, describe the drying house under the heading of Vanilla.) Instead of fermenting, it is better to have, or make, a machine with plain rubber rollers (an ordinary wringing machine will do) or a small scale with hopper fitted on top. This will at once pulp the berries, and the pulp will float and can be separated the same as with coffee.

The next process is bleaching. Few growers trouble themselves about this, but it is just as necessary for White

Pepper to be white, and not a dirty yellow, as for Black Pepper to be black, and not brown. To do this I have heard of lime being used in the Straits, but a thorough washing in clear cold water, when thoroughly dried, and then bleached in the sun, gives a very pretty sample.

Vanilla.—After the concise, at the same time thoroughly practical, description given by Messrs. Brookes and Green on curing and preparing the pods for the market, I am loath to in any way suggest an alteration; but I do not like the look of any kiln-dried samples of products that I have seen. They are always more or less affected by smoke, and the least carelessness causes burning. Besides in all countries the sun cannot be depended upon, and then your crop is either spoilt or badly damaged, to say nothing of the anxiety and loss of time in bringing it to perfection. If we turn to the current prices of Vanilla, *Planting Opinion*, February 18th, we see the vast difference in prices per lb. given for—

	s.	*s.*
I.—Very fine bold beans mostly frosted, 8″ × 9″	26/-	28/-
II.—Fair to good black part frosted, 8″ × 8½″	24/-	26/-
III.—Brownish beans in good condition well frosted, 5½″ × 7″	14/-	20/-

Here we find a difference of from 12 to 14*s.* per lb. for curing and length of bean; the one either caused by carelessness or want of knowledge, and the other want of proper fertilising. This frosting is simply the crystallising of the saccharine matter in the bean upon the surface of the pod. Now the loss, or non-formation of these crystals, is greatly due to too frequent handling. This naturally means greater expense in curing and a certain loss of from 2 to 4 per lb in the price. The continual "humping" of the beans backwards and forwards from the store to the sun, and the sun to the store, retards the formation of crystals, and is also a cause of loss of colour; *ergo*, frosting and colour makes the price.

With a hot-air drying shed properly constructed, we can do away with the "Baker's oven" business, and dispense with the sun, except for bleaching purposes, in that process (where required) the sun is necessary.

With this contrivance, curing of any crop proceeds both night and day, and is therefore quicker. You can cure every tropical product and obtain any temperature with pure, dry, smokeless, heat.

It will be found useful in the following different ways:—

I.—It will crystallise orange lemon and citron peal.
II.—It will dry grapes into rasins.
III.—It will incubate eggs (by the ton if you like).
IV.—It will act as a ready-made Turkish bath whenever you go into it.

In fact, it will dry-up everything but a Queensland labour leader, or turn a labour leader into a legislator.

It must be remembered, however, that the sweating process is best done in a wooden-box placed at the hottest end of the shed, the Vanilla beans being wrapped in banana leaves in not more than 5-lb. bundles, but the box may contain 20, 30, or 50 bundles, the temperature at that end of the shed being at least 110 degrees. This can be gradually reduced to 105 degrees either by slowing down the fans or by moving the "sweating box" towards the cooler end of the chamber. This sweating process ensures the black colour in Vanilla, by the steam from the leaves and the moisture from the beans, in the same way as t scalding process does for Black Pepper.

Fertilising.—Before describing how to build the dryi house, I wish to say a word on this necessary process. think it will be found that many of the shorter beans o their dwarfing more to *rough handling* by the coolies, wh inoculating by the aid of the camel's-hair brush than an thing else. It requires a very light hand, but it is necess that it should be done, and done thoroughly, and I on know of one insect that is small enough and strong enou to lift the *reticulum*, and he is well worth cultivating. allude to the native honey-bee. It is a very small stingl variety, and is a native of Mysore as well as Queenslan If a few hives are kept in the Vanilla garden, I am co vinced the result will be very gratifying.

How to make a Hot-air Drying House.—There are many ways of doing this that I think I had better simp describe the way mine has been built in other cou tries, and leave others to improve upon the idea accor ing to the cheapest material and cost of transit their district. It is first necessary that the principle up which the heat is to be obtained and regulated should understood. It is well known that hot air rises, and on falls again to a lower level upon cooling; consequent the hot air must be allowed to enter by a flue, as near t roof or ceiling of the shed or house as convenient, an so that only the coolest air may be exhausted. The poi furthest away from this, and consequently the lowest, shou be the place from which to exhaust the air by means fans. The building of course may be of any size, b should be greater in length than in breadth, and should b as near as possible, hermetically sealed.

In the first place, a framework of sawn hardwood timb is erected to the height of, say, 10 to 12 feet, with floori joists set on blocks 3″ or 4″ above the level of the groun but not boarded (open battens being the floor, which afterwards covered with coir or other matting). Up the roof is also placed flooring joists for the ceiling, and s on the wall plates as if for a two-storey building. bricks are a cheaper material than galvanised iron, t whole building may be made of brick, but I have foun iron both cheaper and more portable. I prefer the fl galvanised iron to the "corrugated," as it does not requi skilled labour to turn, rivet and solder the edges. T *inside* only of this building is next covered with iron sid ends, and ceiling. At the angle of the ceiling it is best turn the edges, rivet, and solder, before nailing up. A other joints can be stuffed, or calked with hemp or cotto even pasted over with brown paper is good.

The roof can either be left flat, or an ordinary shed-ro of corrugated iron. It may even be raised into a secon storey, or loft, to be used as a finishing room above the h air chamber.

A brick furnace is now built at one end of the sh with smoke stack either of brick or iron. The furnac should be built about 2 feet away from the end of the sh to allow of the hot-air flue (2 feet inside measurement) connect the furnace with the shed which will emana about 6″ from the ceiling of the chamber and in the centr In building the furnace a double row of 4″ gas pipes a laid, one set of ends set in fire clay but entering the flu and the other set of ends, open to the air on the oth

side of the furnace. Great care must be taken that neither fire nor smoke is allowed to enter the flue direct from the furnace, and the pipes, or tubes should never be allowed to get red-hot, or they are liable to burn, or crack. Now, at the other end of the shed, a trench should be dug in the ground, below the flooring of the same size as the draught capacity of the flue, and emanating below the wall for a few feet. Over this draught trench, either one or two exhaust fans are built, and these are in my case worked by water power, so that I could regulate their pace to one degree of temperature night or day.

It will be understood that, as the air is exhausted from the chamber, it must necessarily pass through the heated pipes to replace the air withdrawn, and that, that heated air is drawn through the matting on the battened floor, and, consequently, through the crop that is spread upon it, thus only the coolest and dampest air is withdrawn.

NOTES.

Calcutta Tea Sales. The average price realised at the last sales was As 6. About 20,000 packages were to be offered on the 11th instant.

Rain enough. The *Planter* says:—"A garden at the Behali end of Bishnath had registered 100 inches of rain by the 5th instant. Can any one go better?" Might our contemporary not have added —or *worse*.

The Indian Tea Association. Sir Henry Seymour King, K.C.I.E., M.P., has been elected successor to General Henry Hopkinson, resigned, as Chairman of this Association.

Lipton's Scales not used. The weight of a tea sample, which is admitted free of duty in America and which can be imported by mail into the United States, is the actual weight of the tea, and not the combined weight of the tea and covering.

The Tea Trade. The Secretary of the Federated Grocers' Association alludes to the Tea Trade as one "which ought to be the back-bone of the retail business and the prosperity of the wholesale."

Gray Blight in Tea. We publish to-day an interesting extract on this subject. As it is understood that a similar blight is affecting Tea in Travancore, it would be well if planters there would study reports from Ceylon and jot down notes to enable comparisons of "experiences" to be instituted.

The U. P. A. S. I. Mr. W. H. Sprott has been elected Chairman, and Mr. J. W. Hockin, Vice-Chairman for the coming year. Mr. G. L. Acworth has been elected for nomination by Government as the Planting Member of the Legislative Council of Fort St. George.

American Tea. In the opinion of the *Ceylon Observer*, "South Carolina Tea indicates the high-water work of Secretary Wilson's national scheme." We have heard of "high tea," and even of the influence of Tea on politics—the American War of Independence offers an instance, by the way;—but high-water tea does not sound nice.

London Tea Market. On 10th instant, Reuter reported a good demand for Ceylon Tea at fully previous rates; 16,000 packages sold out of 17,000 offered; average of the week unquotable, fair Pekoe Souchong 6⅛d. Of Indian Tea, only 1,000 packages were offered, and all were sold; average unquotable. As regular sales should have been resumed by now, reports should soon be more interesting.

The Paris Exhibition. The area allotted to the Indian Tea Association is as follows:—Kitchens and tea rooms, 816 square feet; tea verandahs, 1,144 square feet. It is desired to make a thoroughly effective representation of Indian tea, and with that view a scheme has been drawn-up involving an expenditure of a considerable amount, towards which the Government of India has been asked for help.

Calcutta Tea Sales. About 23,000 packages were sold at the sales on 11th instant. There was a steady demand throughout; and prices were well maintained except for the poorest liquoring kinds, which tended easier. Teas suitable for America and Bombay fetched full rates. A large quantity was purchased for these markets. The quality is still generally below the average, due to recent excessive rain. Future prospects are better.

Tea-packet Policies of Insurance. A system has sprung-up in many parts of England, rural districts as well as towns, of offering to grant pensions, annuities, or bonuses to such of their customers as become widows after having purchased from them a stipulated number of pounds of tea. As this style of procedure appears to be in direct contravention of the Life Assurance Companies Act of 1870 and the Stamp Act of 1891, it is likely to be brought to an end very soon.

Colombo Tea Sales. On 9th instant about 9,545 pkgs. =751,470 lbs. were offered, of which about 7,644 pkgs. =589,311 lbs. were sold. Prices at the auction were very firm for all grades, and competition throughout the sale was well maintained. Among the best teas in the sale were, says *The Times of Ceylon*:—Agra Ouvah, Glasgow, Mocha, Nahavilla, Middleton, High Forest, and Annandale. Good invoices were also offered from Pallegodde, Polatagama, Tonacombe, and Castlereagh.

Better than Tea Planting. "To anyone prepared to invest a certain amount of capital," says Mr. Consul-General Hay-Newton, in his Report on the trade of Algeria for 1897-98, "vine culture in Algeria is well worthy of most serious consideration, the profits comparing most favourably as against tea or coffee planting in Ceylon or India." He adds, by way of reminder, that Algeria has the additional advantage of being within fifty-four hours' journey of London.

Tea, Coffee, &c., in Austria-Hungary. The statistics of imports of Coffee, Tea and Cocoa into Austria-Hungary show a falling-off in all these commodities in 1898 as compared with 1897. The percent-

age of falling-off in Coffee is very heavy. The figures are :—

	1897.	1898.
	£	£
Coffee..	2,188,813	1,918,400
Tea	189,415	185,773
Cocoa..	69,133	65,690

It may thus be said that the decline in Coffee was approximately 12%, Tea 2%, Cocoa 5%. Imports of other "provisions," including cereals, almost all *increased* during the above period, with the exception of fruit and vegetables. Imports of China tea *viâ* Great Britain decreased by £28,400, so there must have been a large increase in direct trade with the producing countries, but Indian figures are only :—Tea £5,891 for 1897 and £4,867 for 1898 ; Coffee £222,891 for 1897, £189,624 for 1898.

Export Duty on Japan Tea.

The *Canadian Grocer* remarks :—The cable announcement to the effect that the Japanese Government will remove the export duty on tea has naturally created a good deal of interest, although the report, up to the time of writing, has not been confirmed. Should this export duty be removed, it would possibly make a difference of half a cent per lb. in the price of Japan tea. In the meantime, therefore, importers are disinclined to place orders.

Tea in Java.

In the opinion of experts, tea cultivation in Java is said to be now flourishing and steadily extending. The prices the leaf fetches in Europe, we are told, fully reward planters for all their trouble and outlay to secure as good an article as possible. Several cinchona planters have given up that line of cultivation and have turned their estates into tea plantations. The Javanese have also taken to growing tea, and suggestions have been made for devising measures to increase the demand for Java tea in Russia.

Advertising Tea

There is in England a firm of tea-dealers who "are determined before the millennium arrives to open a million more new accounts, and to make certain of accomplishing this in the time stated they will give every purchaser of a caddie of their black Ivory blend a free ride on the new Canadian water-shute," and to other purchasers of their marvellous teas gifts in proportion to their purchases and their credulity. What is a little draft of 1-lb. per chest or ½ chest compared with this fare, free ride on a shute, &c., per caddie ?

China Tea.

An analyst records that there are over sixty substances used by the Chinese in colouring and weighting much of the tea that finds its way to England. These substances include subacetate of copper, indigo, and turmeric, mixed together to make a bright vegetable green ; sulphate of lime or gypsum to give the tea a greyish, smooth, glossy appearance ; glucose of gum arabic water to make the gypsum adhere to the tea ; Prussian blue, Dutch pink, soapstone, graphite, rice, and starch. No wonder that the sales have fallen-off so woefully !

Science and Agriculture.

Some remarks, quoted elsewhere, of a Ceylon contemporary will interest those of our readers who agree with the U. P. A. S. I. that the Governments of India and Madras bestow too litt attention upon this important subject. We may note al that in the West Indies science is being vigorously brough to the aid of agriculture. For instance, a few years ago, i the whole of the British West Indies, there were only tw botanical institutions (Jamaica and Trinidad). Now ther are twelve. *When* will India cease to lag behind the re of the world ?

No Bounty.

Commenting on a recent resolu tion of the Nilgiri Planters' Asso ciation, the *Times of Ceylon* remarks :—"We think it was mistake to talk about bounties on the cultivation of te and coffee, for such a suggestion would never be listene to by the English Government, which has had quite enoug bother over the Sugar Bounties Bill to make it reluctan to raise another storm of a similar kind. A request for th abolition of the duties on tea and coffee would be mor reasonable ; and, were it not for the heavy calls at th present time on the British Treasury in so many direction particularly for armaments, there would be some chance o it being taken up in Parliament." But the Nilgiri folk onl talk of the removal of the duties on *British-grown* tea an coffee.

A Genuine Bid.

From a literary point of view story is no better and no worse fo being true, but we can, at any rate, vouch for the truth o the following. An auctioneer at the mart recently afte having dilated upon the quality of the soil of an estate, it adaptability for fruit culture and corn growing, and othe advantages of the property to a somewhat sceptica audience, "put the lot in" at £3,000. "Is that a genuin bid ?" asked some one. "No, sir," replied the auctioneer emphatically, and everyone in the room seemed surprise at this unusual admission. "Then you are the first auc tioneer I have ever heard tell the truth," said the ques tioner, and the compliment (?) evoked a roar of laughter

Oil Engines in Tea Factories.

A Ceylon planter gives the follow ing table showing expenses of work ing for a period of six months :—

Time of running 1,039 hours or 83 cts. of a gallon per hour—	
Oil consumed 864 gallons at 67 cts. per gallon ..	R555·67
Less rebate at 25 cts. per gallon	R216·00
	R369·67
Transport of oil 8 miles by coolies	24·40
	R394·07

Tea made during that time 31,979 lbs.
Cost of oil per lb. of tea ·113 of a cent.

Why do not South Indian planters afford matter for com parison of notes of this kind ?

A Bounty on Tea.

Thus the *Ceylon Observer* :—No every one in India is pleased with the settlement of Indian Currency. Nilgiri planters—see the report of their meeting which we give elsewhere—have resolved to request the home Government for a bounty on tea and coffee, in view of the injury done to their industry by fixing exchange at 1s. 4d. This injury they calculate at 40 or 50 per cent. ! The idea is almost original, and, while sympathising with the suffering planters in the matter of their grievance, which has affected Ceylon men also

(though it will, we believe, eventually turn to their own good),—we cannot but express our surprise that they should have so lost touch with the old country as to imagine she will ever budge (except where sugar is concerned !) from her time-honoured principles of free-trade.

Cinchona.

The Cinchona Crop in Bengal in 1898-99 amounted to 236,098 lbs. of dry bark, all of which was obtained from the trees uprooted in the Government plantations in Sikkim. Besides the bark obtained from cropping, 131,615 lbs. of bark were purchased from private plantations in Sikkim and Southern India. The *Madras Mail* says:—The Superintendents of Cinchona Cultivation, Bengal and Madras, met at a Conference to consider the question of the relationship of the Bengal and Madras factories, respectively, towards the bark market in Southern India, and a definite understanding was come to regarding future purchases of bark in that locality. The outturn of the Bengal factory was 10,335 lbs. of sulphate of quinine, and 3,921 lbs. of cinchona febrifuge. The net profit to Government was Rs. 10,879, which Government considers satisfactory.

Tea Pests in Ceylon.

It is believed that the pest on Silvakande has been got under. The statement recently made that cocoons, from which the moths had already escaped, had been sent for study and identification was, the *Times of Ceylon* is told, based entirely on a misapprehension. The supposed empty cocoon was the shell of the grub. No moths or cocoons have yet been found. The product of the grub has not been traced; and it is still a mystery how it propagates. Those on the spot have been watching for this stage day after day; and the grub has been seen to break out of its shell, grow rapidly as it began to feed, and eventually curl-up and die. These shells have been found principally round the stem at the ground, and at the forks of the bushes; but that is all that can be said, and the Superintendent is inclined to believe that the caterpillar has not yet been rightly classified.

Java Quinine.

A meeting convened by the directors of the Bandong quinine works was held on June 15. About twenty planters attended and submitted their grievances, which were acknowledged by the managers of the works, who assured the planters that steps had been taken to prevent their recurrence in the future. It was decided in principle to establish a quinine market in Batavia at the end of January, 1900, when 10 tons of sulphate from the Bandong works will be offered for public auction. Samples of this quinine will be sent before October 31 to China, Japan, the Philippine Islands, and the German, French, and Australasian colonies. The feeling at the meeting showed that unity existed between the planters and the Bandong works. They have appointed a committee of five to elaborate the scheme, and the planters are going to supply the bark for the particular lot of quinine in question.

Return of Ceylon Tea-makers from China. Chinese Methods of Tea-making.

The two native tea-makers, who proceeded to Hankow in February last on a six months' agreement with Messrs. Molchanoff Peetralnoff & Co., of Hankow, have returned to Colombo. They took twenty-four days over the journey to Hankow, and were able to commence work at once. At Hankow they supervised the erection of some tea machinery, but the greater portion of their time was spent in the villages, purchasing tea and green leaf on behalf of their employers. As to the making of tea in China, one of the gentlemen, Mr. Celestine, remarked to a representative of the *Times of Ceylon* that the Chinese have quite a different way from the Ceylon method of manufacturing tea. They dried the leaf in the sun and rolled it under their feet—in the absence of machinery—about half a dozen times before the leaf is fired and sifted, bamboo chulas being used for the former purpose. The season for tea in China commences in March and continues up to the end of August.

The Coffee Crop in Coorg.

The following is the official report *in extenso*:—A forecast of the coffee crop in Coorg for 1899 has been received from the local Administration, and the figures are appended, together with those of the estimate of 1898, for comparison:—

	1898. Tons.	1899 Tons.
Estimated yield (2 cwt. an acre for Europeans in 1898 and 1½ cwt. in 1899)	2,730	2,089
Estimated yield (½ cwt. an acre for natives in 1898 and ¼ cwt. in 1899)	1,470	683
Total ...	4,200	2,772
Estimated average yield per acre of ordinarily well cultivated coffee in full bearing ...	Cwt. 3	Cwt. 2
Export of coffee taken from the toll gate returns.	Tons.	Tons.
Average annual export of coffee in the ten preceding years	2,462 3,189	4,134 3,326

Taking the average annual crop at about 5,200 tons, the forecast of 2,772 tons for the coming season represents 53·3 per cent., against 79·2 per cent. in 1898.

The Settlement of the Pound-Draft Question.

In reference to this event and its possible results, the following remarks from one of the most experienced members of the planting community are, the *Ceylon Observer* considers, of special interest. In a letter of yesterday's date he says:—"With regard to the 1-lb. draft dispute, we must wait till we have more information before us. That meagre telegram does not give us enough to go on, to form an opinion as to whether the question is to be re-opened or not. To my mind the result is very disappointing, but further information will doubtless give the reasons why the Joint Committee accepted a compromise, which cedes us so little gain—notwithstanding the strong position they held, which should have enabled them to carry the full pound-draft. There are many difficulties in connection with direct supply, though I have no doubt more of it will be done each year; but it will require enterprise and intelligence on the part of the grocers in selecting teas which will suit different classes and different *waters;* and those who have studied 'blends,' make them to suit the particular locality."

Gray Blight on Tea in Ceylon.

Certain Ceylon planters are advocating special legislation to stamp out this pest, holding that it is waste of both time and money for one planter to attempt to eradicate this pest when his neighbour is utterly indifferent in the matter, and makes not the slightest effort to prevent the spread of the same. One man says:—I venture to say that hundreds of tea estates are similarly situated as in my

case, *i.e.*, surrounded by small native gardens, averaging from ¼ acre to 2 acres. Does anyone suppose that the owners of these patches of tea (whose only idea is to *scalp* the bushes) would care in the least whether their gardens were nurseries of pests for spreading disease over the length and breadth of the island? Would these people sharpen their pruning knives to be in readiness, pending only the passing of a P. A. resolution that all infected areas should be cut down and burnt, and be amongst those who would be prepared to sacrifice a few months' yield for the sake of the tea industry? I rather fancy not. There is only one course, and that is—special legislation.

Vanilla. Mr. A. Cooke, of Ranchi, Chota Nagpur, writes:—I have got two vanilla pods growing now. Only two out of twelve plants flowered, and there were only two bunches of flowers. I neglected the plants somewhat, but will try again now that I have succeeded in getting two to "set." A planter in Dibrugarh wrote me that he has given up all hopes of making vanilla profitable, but he finds no difficulty in getting the beans to "set" and gets enough to flavour his cheroots with. For Sylhet I think that vanilla could be grown with "pan." The "pan" would pay its own expenses and give an excellent house in which the vanilla would grow well, and be within reach and under constant supervision. The villagers make "pan" one of their most profitable products, but the Europeans would not be able to do more than make it pay expenses, but the crop of vanilla really ought to pay handsomely. The vanilla would require hard wood posts which would last several years, and these posts would secure the *pan-bari* from destruction by high winds. Vanilla grows tightly on to the hardest sawn timber and does not require bark to cling to.

The War that failed. Commenting on the historic Tea fight, Messrs. Tarraut, Henderson & Co., of Colombo, say in their July circular:—The general opinion of the trade here is that the position taken up by the Importers was *not only ill-advised, but one that showed extremely bad generalship*, and that the matter could have been easily settled amicably and the trade been met in the spirit that this question deserved. The Ceylon Association in London is responsible for having taken the step which brought about the crisis, so far as this Island is concerned, and it is thought that the independent position taken up by this Association for some time past is detrimental to our best interests, and is likely to lead to further trouble. In this case, had the Association consulted more fully with their friends at this end, this unfortunate position, so far as Ceylon is concerned, would probably never have been occupied. The latest development is that the fight over the 1-lb. draft has been abandoned and that the Customs' system of weighing is to be revised—a very necessary and useful reform—and this is the point that undoubtedly should have been discussed before the 1-lb. draft was so ill-advisedly fought. If Importers now will assist the trade by regulating offerings on the London market, that struggle, now happily over, will not have been without further benefit to all concerned.

Lipton's or not Lipton's? Thus the *Times of Ceylon* anent the late Mr. Tom Gray's estates:—"'We learn that the Maskeliya estates, Bunyan and Avoca, belonging to the late Mr. Tom Gray and which w reported to have been sold to Sir T. Lipton, have become the property of the Knight. One of the heirs not satisfied with the price offered, and has refused to s the transfer, holding that these fine properties were be thrown away and were worth at least 20 per cent. m than Sir T. Lipton was prepared to give. Mr. L. Kershaw, who has so long and so well managed the pla will remain on; and the appointment of Mr. Barclay been cancelled.' [The above is from our evening c temporary. It may be correct, but the statement that negotiations have fallen through is not confirmed either Messrs. Mackwood, the agents for the late Mr. Tom Gra estates, or by the local representatives of Sir Thor Lipton, as they both state that they have heard noth about the matter. When the sale, we learn, was effec two months ago, Mr. S. P. Jeffery had instructions to ta the estates over for Sir T. Lipton. Up to the present has heard nothing to the contrary.'"] The *Observer* wr on 10th instant:—We learn to-day that Messrs. Mackwo & Co., the Colombo agents for the late Mr. Tom Gra estates, have received no information respecting the fail of the transfer to Sir Thomas Lipton, nor were the lo agency of the purchasers aware that the transaction h fallen through. We made the announcement on very go authority, and have no reason to doubt that it will eve tually be confirmed.

A Beneficent Insect. *Indian Gardening* says:—Und this heading we called attenti in May last to a variety of the lady-bird insect, whi was found in Australia to be living on red spider, a suggested its importation into India. We drew the atte tion of the Indian Tea Association to the subject, a some enquiries were set on foot, the result of which embodied in the proceedings of the meeting of the Assoc tion held on the 1st instant, as follows:—"In connecti with the suggested importation from Queensland, Austral of a species of Australian lady-bird, which was believed feed on the red spider, the Committee's attention had be called to the insect early in June, and they had referr the matter to Dr. Geo. Watt, Reporter on Econom Products to the Government of India, the Assam Bran of the Association, and the Agricultural and Horticultu Society of India. From the correspondence there appear to be considerable doubt as to whether, from the eviden adduced, the insect could be said to be a feeder on the r spider. It was quite clear that its chief food was the sca insect, and Dr. Watt pointed out that, so far as he kne it was rather an exceptional circumstance for a species lady-bird to feed on both the red spider and the sca insect. Generally speaking, the latter family of insec alone had been successfully dealt with by lady-bird beetl The Committee of the Assam Branch agreed with Dr. Wa and, in the circumstances, the General Committee decid to take no action in the direction of importing the inse from Australia." With due deference to Dr. Watt, seems to us that it is scarcely business-like to pronoun against anything without a practical test.

The Tea Duty and Direct Supply. Mr. Tho. Christy writes to t *Ceylon Observer*:—In regard to th question of the sale of tea in th

country, the demand of the one pound on each package is a remnant of an old regulation which ought to be done away with. It is what is called in China a "squeeze." I have no doubt you will have one of Messrs. W. J. and H. Thompson's circulars, and under the head of "Ceylon" you will see that, although there was not much sold in the room, still the sales went on, and I am convinced that if independent sales were made of tea at 14 days, the same as other produce, the planters would find it greatly to their advantage. The old regulations of giving long credit, added to the loss in the docks, and the sweepings, all go to reduce the return to the planters. It is well-known that it answers remarkably well the purpose of houses here who nurse their tea along, to effect private sales. The Customs arrangements favour the liberal free trade in tea, and anyone who purchases tea in Ceylon or in India can have it through the Customs, and as soon as the weights are known and agreed, there is no necessity for re-packing or bulking, and you take delivery without any loss whatever. There is a very strong feeling in England at present that the Government will have to yield on the question of duties, and if they do not take off the 4*d.* at any rate that 2*d.* will be knocked out in the next budget to be followed in a latter budget by another 2*d.* The public are getting enlightened on the subject of tea, and they see in the Press that such a large proportion of tea is sold at 6*d.* to 8*d.* per lb. in bond and they are well able to calculate that 4*d.* duty means 50 per cent., which is considered not only a frightful tax upon the consumer, but that it militates very much against the producer in India and Ceylon. There is no doubt but that the large firms here who are getting their own warehouses will reap enormous profits when tea is free.

GENERAL ARTICLES.

THE CHINA TEA SEASON.

A Shanghai Report, dated July 22nd says:—

Congous.—Latest advices from Hankow reach to the 17th instant, and report continued demand for common Congou and an advance, during the interval of five mace, quality considered. It was estimated that second crop Hankow teas would be 20,000 half-chests short of last year: No trustworthy information was forthcoming respecting the third crop, but it was thought it would be less than last year. At present it looks as if the entire yield for the season would be about the same as last year. Total arrivals to date 340,000 half-chests against 800,000 half-chests at corresponding point. There is little doing here, and the enquiry has been mainly for second crop Ningchows, prices for which are fully one tael over up-river rates.

Country Teas.—Fine weather in the early part of the season, and improved transport, consequent on the opening up of inland waters, have resulted in bringing teas quicker to market, and all descriptions have made their appearance earlier than usual. Fychows, as hitherto, have been the first to arrive; quality is better than last year, while prices are Tls. 1 to 2 lower. We quote ordinary chops Tls. 18 to 20, and better descriptions of Teenkai style Tls. 20½ to 21¾ per picul. Only one chop of true *Teenkai* has been settled, and it realised Tls. 26½ against Tls. 28½ for the same parcel last year, quality and proportion being much alike. About six chops of Moyunes have just been placed on the market, and these are also nice teas, but they arrived too late to enable us to examine them closely.

AFTER THE BATTLE.

Capital remarks:—

We are glad to see that a settlement has been come to of the dispute regarding the draft pound in the tea trade, each party meeting the other half way. The draft pound allowance will be continued, but the customs will weigh tare to half a pound.

In our last issue we drew attention to the enormous London warehouse charges upon tea, which we are told amount to about ⅝ of a penny per pound. These charges, the *Indian Daily News* states, come up to about £250,000, or almost as much as the freight on the tea from Calcutta to London. We understand that the reason why these charges have not been seriously tackled is that a number of tea agents at home have an interest in the warehouses; and we think the sooner the matter is taken up the better. Of course those tea gardens that sell their produce on the market here are not so directly concerned in the question of warehouse charges in London; but all the same they are indirectly affected, because these charges come off the price obtained for the tea in London, and consequently a bidder at the Calcutta auctions takes them into account in the price. We have no doubt that, if capitalists at home were approached on the subject some arrangement might be made for reducing those enormous charges, and leaving Butler's and other wharves in the cold.

Mr. A. J. Giles writes in the *Grocer*:—

The London Congress of the Grocer's Federation is over. The delegates have returned to their various engagements, and when the July "dog days" are at an end the members of associations will meet to solemnly discuss anew those trade questions which are of so much importance to us all. There will arise the question, What had been the practical good of this great gathering? How has the trade benefited by the junketings, receptions, and "hops" which were so much enjoyed by those who took part in them? Questions like these will be doubtless asked, and properly so. There is, however, one result likely to accrue which will be worth all the effort of last week—the one-pound draft on tea. It is surprising how little attention is paid to such a very practical issue. Speeches galore may be heard on "points of order," "reconstitution," "reform"; but the pound draft, which we are told would mean if abolished about 3,000,000*l.* sterling to planters, did not seem to be such a "burning question." Nevertheless there can be little doubt that the unanimity shown by both dealers and retailers on Tuesday week had its due weight last Tuesday, when the pound draft was continued, and will have still further weight if the unity is loyally maintained. If the London Congress accomplished nothing more, the proceedings on the Tuesday in connection with the one pound draft, and the success which has followed, place the retail tea trade under a lasting debt of obligation to the dealers and the Grocers' Federation.

At the same time the battle is not yet over. The committee, which meets daily, have yet much to do, and very great watchfulness will be absolutely necessary. It is most satisfactory to find that the undertaking not to buy has been very loyally maintained; with perhaps but a single exception there has been a most steadfast abstention; and this determined attitude, coupled with the hearty support of the retail trade, has no doubt led to the temporary suspension by the importers of their resolution to abolish the draft. There are, however, not wanting evidences that the stirring-up of the question will result in other matters being brought to light of a not too favourable character. The historic phrase "let sleeping dogs lie" is likely to be very forcibly realised. The threat which was made that importers might try and do without the wholesale dealer or the retail grocer has not been forgotten, and inquiries which have been made into the means by which that threat was likely to be realised show a very curious condition of affairs, about which we shall no doubt hear more within the next fortnight. Certainly the firms who have tried this "direct" business do not seem to show their shareholders any good results, and perhaps the latter may be desirous of learning who is to pay the cost of the battle into which some directors entered so lightly.

According to the *Ceylon Observer*, the tea dispute had really been arranged nearly three weeks before news of settlement was sent to India and Ceylon. P appear to have been ready for a compromise, saying that what they wanted was to secure the t

they paid for, and the importers that they desired to pay for just the weight they sold!

The *Daily Telegraph* recently stated:—

The dealers do not attach very much value to the alteration in Clause 3 of the Conditions of Sale (by which the amount of deposit is to be reduced from £1 per package to 20 per cent. of the value *ad valorem*) so far as it may be regarded as a tactical move on the part of the growers to induce the retailer to go behind the dealer and treat direct with the producer or importer. It is pointed out that the big dealers have special staffs of samplers, whose duty it is to test the many dozens of parcels of different teas catalogued in any one series of sales, so that, once in the auction room, the buyer's business is greatly simplified. The retailer who would buy on his own account is handicapped in this respect, and it is the view of the dealers that he will probably find it more advantageous to trust to the experience of those with whom he has been in the habit of doing business than rely on his own more or less untrained judgment.

TEA, &c., COMPANIES.

The Bogawantalawa Districts Tea Co, Ld.—At the Annual General Meeting, held at the offices in London, the Chairman (Mr. Henry Bois) said that they might fairly congratulate the shareholders upon a satisfactory general result. Considering the somewhat high capitalisation of the company (the estates having been bought upon a process of about eleven years' purchase), and also taking into account that exchange had ruled high during the year, and that the weather had been very unfavourable for the tea districts of Ceylon generally, it was not unsatisfactory to find that they were in a position to declare a dividend of 7½ per cent. on the ordinary shares, to pass 1500*l.* to the reserve fund, and to carry forward a substantial balance to next year's profit and loss account. When, however, the working of several estates was considered in detail, the result, although very good in the aggregate, was hardly so satisfactory, for although the three estates—Kirkoswald, Bogawant, and Bridewell—had done exceeding well the former yielding a crop of 414,540 lbs., or 39,540 lbs. over the estimate, and the two latter also producing equally good results, Elbedde, on the other hand, had proved a great disappointment. The crop produced was only 229,888 lbs., or 40,199 lbs. below the estimate.

The Upper Assam Tea Co., (Ld.).—At the thirty-seventh annual general meeting, held at their offices in London, Mr. F. R. Bullock, who presided, said that on the whole the result of the past year's working was very satisfactory. Not only did the crop produced show a considerable increase, being 1,485,338 lbs., against 1,431,934 lbs. for the previous season, but the price also showed an improvement, being 10·22 per lb., against 9·74 per lb. for 1897. Then again, the cost of production had been reduced, being 9·17 per lb., against 9·85 for the previous season's working, and this reduction would have been still more marked if it had not been for the freights ruling higher and the further increase in the exchange. The result as shown by the crop account was a profit of 6023*l.* The estimated crop for the current season was 1,537,200 lbs., which was expected to realise 8·78 per lb., and he did not doubt that with favourable weather, and no further increase in the rate of exchange, these estimates would easily be attained. All that was needed was favourable weather for manufacture and good markets for tea to ensure increased profits of a very substantial character.

Endogram Tea Co.—Average price 6¾d., revenue shows £105 at credit.

Jetinga Valley Tea Co.—Outturn 684,202 lbs; loss £1,885.

Jetinga Valley Tea Co., Ld.—The second Annual General Meeting was held in London on 19th ultimo and the Company had not escaped the common fate. The outturn of 684,202 lbs. was 7,162 lbs. in excess of the previous year, but the yield of seed was only 12,760 lbs., as against the estimated 62,400 lbs., the deficiency being attributable to the very severe drought. The expenditure showed a saving of 1,112*l.*, but the combined crops realised 8,326*l.* less than in 1897, no less than 6,223*l.* of this being represented by the tea seed. The net difference, as compared with the previous year, was thus 7,214*l.*, resulting in a loss of 1,885*l.* on the season's working. From the balance of 2,396*l.* brought forward from 1897, the dividend on the 5½ per cent. cumulative preference shares had been duly paid on June 30, 1898, and after absorbing the surplus a net balance of 1,200*l.* remained at the debit of profit and loss account. In view of the unfortunate result of the season's work the directors had decided to forego their fees.

Endogram Tea Co., Ld.—The adjourned twentieth Ordinary General Meeting was held in London on 17th ultimo, Mr. Edward Dr mond presiding. The whole crop had fetched an average pric slightly over 6¾d. per lb., as compared with 5¾d. per lb. in 1 The cost of tea, including all expenditure chargeable to the y was 6¾d. per lb. The Revenue account for the year showed a bala at credit of 105*l.*, less 11*l.* income-tax. The debit balance brou forward from the previous year was 191*l.*, which had now b reduced to 97*l.*, and this balance was carried forward to next sea

The Chargola Tea Association—have paid the final six mon dividend on the preference shares at the rate of 7 per cent. annum on account of the year 1897-1898.

Singlo Tea Co., Ld.—The report of the directors of the Singlo Company (Limited) states that the company, in common with Indian tea interest generally, suffered by rise in exchange, hig freights, and a low market in 1898, as compared with the previ year. The rise in exchange cost the company about 2,000*l.*, and higher freights about 800*l.* The results of the year 1898 are n disappointing. The balance of profit and loss account amount 7,286*l.*, including 416*l.* brought forward from last year. This admit of the payment of the preference dividend, the balance 461*l.* being carried forward to next year. No dividend.

The Yataderia Tea Co.—An extraordinary general meeting held at Colombo on the 12th instant. The Chairman announ that, after a careful scrutiny of the figures and accounts, directors had decided to recommend an *ad interim* dividend of per cent. Upon an estimated statement of profit and loss in wh the nett value of the teas not sold is taken at 32 cents. per (the teas sold having realised an average of 36·11 cents. per lb.), profit for the half-year comes out at 25 per cent., in addition which the balances brought into the account from last ye working represent over 5 per cent. at credit., crop 309,852 l average value (part estimated) 34·71 cents., about 5 cents per better that last year's average.

THE DRAFT ALLOWANCE AGITATION.

The *Grocer* of July 22nd, 1899, says:—

The wholesale dealers having announced their intention on 4th instant, "to buy no Indian or Ceylon tea in sale or otherw until after July 17, and after that date only on existing sale con tions," business last week was more or less suspended, but a p tial resumption was made this week, when brokers offered public sale on Monday some 13,500 packages Indian tea with one-pound draft as usual. Teas ex Calcutta sales comprised 5,(packages, and the rest was made-up of second-hand parcels. though there was an absence of good and useful qualities, yet demand was unmistakably slow, which goes a long way to pro that the "famine" spoken about by certain parties was regarc by buyers more as a joke than otherwise. On Tuesday 15,(packages were offered with the one-pound draft, and the dema certainly improved, and as certain importers have severed the selves from the general body of merchants, there was a better sel tion to purchase from than on the preceding day.

Some Indian tea catalogues have been issued for sale n Monday, whereby Clause 3 of the Conditions of Sale has bo altered. The original clause read as follows:—"Every person w shall be declared the highest bidder shall pay to the selling brol a deposit of 1*l.* per chest at the time of sale, if demanded, or on t Saturday following the day of sale, or on the delivery of the weig notes; the remainder of the purchase money to be paid on before . . . Interest at the rate of 5*l.* per cent. per annum w be allowed on payment of the deposit, and on the remainder fr the day of payment to the prompt day. The tea is to be taken the buyers at the Customs' weight, and to be delivered in bo with Customs' tare. Draft as usual." According to the wordi of the new clause it is required that "the highest bidder shall p to the selling broker a deposit of 20 per cent., *ad valorem*, wit minimum of 1*l.* per chest, at the time of sale." The words, "dr as usual," have been omitted This action on the part of the i porters has called forth plenty of criticism from buyers, who h already decided not to bid for those teas next Monday that a printed with the objected alteration A curious feature in conn tion with several invoices of Indian tea that are thus propos to be sold is that importers are offering them without reser

which is an unusual course for merchants to pursue, and it is possible that the teas are so offered with a view of forcing the hands of buyers. It has since been reported that the catalogues with the obnoxious clause printed for sale next week are to be withdrawn. We are also given to understand that overtures have been made, and a conference is to be held, when a satisfactory settlement of the whole question will possibly be arranged.

Meanwhile the tea trade generally in London and the country is in a state more or less approaching stagnation. Arrivals are rapidly accumulating, already over 14,000,000 lbs. having reached here this month from India and Ceylon. The export of Ceylon last month from Colombo was 14,000,000 lbs., and that for July is estimated at 8,000,000 lbs. The rapid deterioration of Ceylon tea is too well known to need more than repeating, whilst the shipments of new crop Indians are 7,000,000 lbs., ahead of those at this time last year, when the crop was smaller, but merchants this year have shipped freely to obtain advantage of the rise in values. Importers have also to take into account that in the present crisis the charges of warehousing and insurance have to be reckoned with, and as the weeks slip by stocks will ultimately become unwieldy and very difficult to handle. When business is resumed, lower prices are almost bound to be the rule, and to many the latter state of affairs will be worse than the first. These are facts well worth weighing over by importers. Symptoms of restlessness have already been apparent amongst Ceylon merchants, and should this movement grow (which is not unlikely) the firmness that has been so prominent with Indian importers will speedily disappear, and the whole movement collapse. There has seldom been such complete unanimity amongst buyers. On the draft question they are acting as one body, and it is probable that had merchants been aware of this at the onset, the present unfortunate dispute might never have occurred. There are certain cases, such as cheesy teas, &c., where buyers often have to put up with annoyance and losses, chances of redress being difficult to obtain, but on this one-pound draft there is great determination to resist merchants to the end.

GRAY BLIGHT AND ITS RAVAGES.

In addition to the few remarks we published recently on this subject, with some valuable notes contributed by a Kelani Valley planter, we are sorry to state that further inquiries we have made on the subject go to show that the ravages of gray blight in the planting districts, both up-country and in the low-country, are even worse than we imagined. We knew that it was bad in the Kelani Valley, and to a lesser extent in the Kalutara district, but we are now informed that in Dimbula it is also very prevalent, and that its evil effect on the tea is undoubted. It not only attacks old tea, and tea which has not had the benefit of high cultivation, but it is to be found equally on young teas scarcely in bearing, and on virgin soil, as well as on tea which has been well manured; while, on one estate in the low-country, we are assured that it is very prevalent in the nurseries. We may make up our minds, therefore, that it has passed the stage where it can be ignored as of little consequence, or as a temporary evil which will pass away with a cessation of the abnormal weather. The peculiar seasons we have been having of late—prolonged drought when there should have been rain, and heavy rain where we should have expected fair weather, were at first believed to be the cause of this new pest—but most experienced planters have dropped this theory, and a well-known visiting Agent assures us that the blight existed in a serious form long before the present abnormal seasons were remarked, and that it has continued its ravages steadily whatever the weather may have been. In this place we quote the opinion given us by a well-known Dimbula planter which is of considerable interest and value. He writes:—

I have seen signs of gray blight in the Morowakorale, but not half so bad there as we have it up here. There is no use shutting our eyes to the fact that it has got a hold on all our tea up about this part at least—on young clearings as well as old tea; these not so badly affected as the old tea, but it is plainly noticeable on young tea three years old, not yet being plucked. The older tea fields are full of it, the further from pruning the more signs of the blight; hardly a leaf is free, except, of course, the young flush. Many men are blaming the season for the shortness of the crop this year. Although we have had more rain this year to the end of July than for the last four years, I do not think it is the cause of the falling-off of crop. The following are figures since 1895 to 1899 for rainfall and crop. This year I ought to be ahead, as I have 30 acres of fine young tea in plucking more than previously:—

	Rainfall.	Yield to July. lbs.
1895 ..	60·62"	231,278
1896 ..	64·53"	235,905
1897 ..	54·83"	238,203
1898 ..	40·92"	253,388
1899 ..	73·74"	225,250

In 1896 we harvested our biggest crop. 1898, which promised so well to end of July, began steadily to fall off from August, and from that month till date this year I have been behind in yield every month comparing with each previous monthly out-turn. The fields have always been under the same treatment, plucking and pruning the same acreages and dates. In general appearance the fields look well, but, when the bushes are examined closely, you at once notice the large percentage of leaves spotted both gray and brown with clusters of dead leaves in the heart of the bush. The good sign, however, I notice, at least in this place, is that the growth and quality of the wood, made from pruning is still well grown and in good heart, especially on fields manured. The signs of the blight are as marked on manured as on unmanured fields. When manuring, I bury all my prunings and sprinkle a little quicklime over the leaves before filling in. I don't think we need now be afraid of over-production. I am afraid the gray blight will see to that. I am sure a lot of our "old hands" funk it, although they will not own up to it.

The long and the short of it is, therefore, that planters in every district affected must look at the matter seriously, admit the evil and take combined and drastic steps to combat it. As has already been urged more than once in our columns, it is no good individual planters going to the trouble and expense of effectively stamping out the pest from their estate if on neighbouring estates it is allowed to spread unchecked, and thus return to the tea from which it had been driven. Such a state of things is enough to discourage any planter from grappling with the evil in the only way that it can be done. We do not think, however, that compulsory legislation is needed, at all events yet awhile, if District Associations will only take the matter up and use their influence and power of combination to get planters to work together against the common evil. Agents of Tea Companies and estates must also help by allowing the necessary expenditure of planters to cut down all infected tea and burn it thoroughly and promptly; and, if this is done universally, and continued for a short time, we believe it possible that the pest may be got under; but not otherwise. The question whether the evil was imported from India with tea seed, as has been suggested, and as is quite possible, is a secondary consideration. The first thing is to get rid of the pest. Of course, if the evil is the outcome of our methods of cultivation, then enquiry must be made into this by experts, so as to prevent a return of the blight; that this is also a matter for Associations to take up, for individual planters cannot possibly do much in this direction. What we have got to do is to recognise that the blight is with us to a serious extent, and that, unless we grapple with the difficulty at once, and intelligently, it has come to stay.—*Times of Ceylon.*

SCIENCE FOR AGRICULTURE.

The *Ceylon Observer* says:—

We have often noted the backwardness of British Colonial Governments, in recognising the importance of providing scientific help for the furtherance of agriculture, as compared with continental Governments. In the case of German and Dutch Colonies, a staff of scientists is always attached to public institutions, so that their services might be available to planters and others; and specially is this the case in Java. We need not go far back to recall the official refusal at first to enlist the services of Mr. E. E. Green for the benefit of the Island, and his subsequent appointment as Honorary Entomologist; and then the confession, or rather pretence of inability to find a cryptogamist to inquire into the cacao disease, which led to the engagement by private proprietors of Mr. Carruthers, whom the Government afterwards consented to subsidise. The lesson taught the nation in industrial and commercial matters, in which Great Britain is paying the penalty of a narrow conservatism which has enabled Americ and German goods to oust British goods even in Britis ought to be laid to heart, and applied to matters there is to be progression, rather than stagnation sion. We refer to the subject just now, in view of th to secure Mr. Carruthers' return to the Island as a

servant, and of certain correspondence which has come under our notice between the Government of Bengal and Dr. Watt, the Reporter on Economic Products with the Government of India. Dr. Watt, in a letter bearing date the 17th May, from Calcutta, in replying to inquiries in connection with grants of R5,000 a year sanctioned by the Lieut.-Governor of Bengal, and R2,500 a year for three years by the Chief Commissioner of Assam, towards the cost of employing an expert to study and report upon the cultivation and manufacture of Tea in Assam and Cachar, writes to Sir Patrick Playfair in very explicit terms which have some application here. He draws a distinction between the cultivation and the manufacture of Tea; and while admitting that the problems on which he had been previously consulted, touching blights and pests, are connected with cultivation, he points out that it would be vain to expect the officer proposed to be employed to deal with those problems, to be able to advise as an expert on all questions relating to Teas. Even in respect of pests and fungal blights, Entomology and Mycology are two widely different studies; and it is almost impossible that a Biologist could be an expert in both branches, though he may conduct useful investigations in both. But Dr. Watt regards it as contrary to all experience that a Biologist could be an expert chemist at the same time, and he proceeds to refer to our own proceedings in the following terms :—

Some few years ago the Association brought to India a chemist (Mr. Bamber), and he furnished a report which no doubt most of the members of the Association have read. Its practical value is, therefore, a point I need not deal with. At the present moment the Ceylon planters have engaged Mr. Bamber as chemist, but they have secured also the services of Mr. E E. Green, an entomologist of the very highest European repute; Mr. Green is himself a tea planter of many years' experience, but has consented to become Government Entomologist mainly with the view to devote his entire energies to the investigation of the pests of the tea plant. With a chemist and entomologist at work, Ceylon may reasonably hope to make some progress, but I do not look with much favour to a scheme that would secure one officer, in the hope that he would be an expert on every scientific problem of tea planting. I should, therefore, recommend the Association to carefully consider whether they want a chemist or biologist as the first and most important consideration.

The action of the Government there having been inspired by the local Association, Dr. Watt approves of its action, subject to the foregoing qualifications; and while appreciating the desire of those engaged in the Tea Industry to discover remedies for pests and blights, to cultivate the bush to the best advantage, and to perfect the methods of manufacture, he declares that he knows "no industry of a similar magnitude where empiricism is allowed to have such limitless sway." These are strong words; but do they go beyond the truth? It is easy to blame the Government here for inaction; but it was not so long ago that our "preachings," on the need of calling science to the aid of cultivation and manufacture—to decide on the choice of manures and to study the chemical changes which the leaf underwent from the plucking to packing—were regarded as mere vapouring. And Dr. Watt justifies his language by reference to a former Report, in which he gave instances of the diametrically opposite views held by "well-informed and successful planters on almost every aspect of the industry." It is only "the immense capabilites and vast powers of endurance of the plant" which have been the safeguard of planters, as their conflicting opinions might both be wide of the mark and profits obtained be far short of what they should be. Holding, as he does, that the limit to the blindfold trusting in Providence and to the endurance of the plant, is not very remote, he declares that there is scope, "not for one scientific expert for a few years, but for half a dozen for a life time" These are words the truth of which our Government should recognise not only in connection with the immediate demands of the planting community, but also in connection with the project of a Department of Agriculture, or a Board, which is under inquiry by a Commission Dr. Watt's advice is that, if funds will not permit of the whole question being dealt with, the Association should decide whether it wants (*a*) a Biologist to inquire into pests, (*b*) an Agriculturist to inquire into cultivation, or (*c*) a Chemist to suggest improvements in manufacture. These are precisely the departments in which knowledge and help are needed here; and it behoves the Government to consider the question, not merely by the light of the immediate present, but as one intimately connected with the maintenance and extension of an industry on which the progress in prosperity of the Island so largely depends.

THE UNITED PLANTERS' ASSOCIATION O SOUTHERN INDIA (Incorporated).

ANNUAL MEETING.

[Chiefly quoted from the *Madras Mail.*]

FIRST DAY, AUGUST 14.

The Annual Meeting of the United Planters' Association South India opened at 2 P.M. to-day at the Cubbon Roo under the Chairmanship of Mr. George Romilly. The fo noon was devoted to a Committee Meeting, at which all t delegates were present, for the discussion, informally, of t Agenda.

THE ANNUAL REPORT.

The Secretary, Mr. Ormerod, read his Annual Report, whic with the accounts, was adopted by the Meeting and passe The Report is as follows :—

The chief matter to be chronicled in this report is the regist tion of the Association under the Indian Companies' Act as "T United Planters' Association of Southern India (Incorporated The necessary license having been obtained from Governme incorporation was effected on the 3rd ultimo. Copies of t Memorandum and Articles of Association were sent to all D trict Planting Associations. As arranged at the Annual Meeti last year, the Incorporated Association has taken up the threads the work of the old Association, and there has been no breach continuity.

One small alteration was made in the Articles adopted last ye in order to avoid delay in registration.

Reverting now to the ordinary business of the year, referen will first be made to such subjects as were, so to speak, "carri forward" from the Annual Meeting of 1898.

Planters' Enquiry Committee.—After long delay, the Governme of India reported upon this matter, authorising the Madras Gover ment to draft an amendment to Act V. of 1866. The Associati promptly requested to be consulted before any such amendme was passed into law.

Roads and Communications.—Railway extension has been maki progress during the year and something has also been done in t matter of railway freights on artificial manures. Progress is r tarded by the absence of information as to the present comparati cost of transit of coffee, manure, &c., by road and rail between esta and seaport If each District Association would kindly furnish t U. P. A. with a typical statement of the expenses (or an estimate the average charges "out and home,") the position would be cleare and any representations that it might be desirable to make to ra way companies could be made with greater force than is possible the absence of definite figures.

Chemical Manures.—In consequence of the representations of t Association, nitrate of soda, muriate of potash, sulphate of ammoni sulphate of potash, and kainit salts, were declared exempt fro Import Duty. An effort is now being made to have Basic Sla included in the free list.

Classification of Coffee.—Several circulars on this subject hav been issued during the year. It seems clear that the coffees of a districts cannot be accurately classified by means of one standa mesh.

British Tea-duty.—The resolution passed last year was commun cated to the London representatives of the Association, who do n lead us to expect any early change in the present rate of dut The matter is not one in regard to which the Association can us fully take independent action.

Agricultural Matters.—The proposed visit of Mr. John Camero F. L. S., to Coorg, for the purpose of studying coffee cultivati with a view to the improvement of plants and the extermination leaf-disease, was duly made, and the report thereon was sent to a District Associations.

Lady-birds.—Certain information has been obtained during t year, and Mr. Graham Anderson kindly sent specimens of Lad birds indigenous to Mysore. No one has yet been found to ide

tify these. At the request of the Lower Pulneys P. A., the subject of the importation of lady-birds is again entered on the Agenda paper, and will come up for discussion during the present meeting. Correspondence on the subject during the year has been voluminous, and expressions of opinion have been elicited from experts in England, America, South Africa and Ceylon. Inquiries have also been made as to the possibility and the probable cost of collecting and identifying indigenous lady-birds, a point that will doubtless be touched upon during the proceedings of the meeting.

Scientific Investigation.—Dr. Lehmann, the Agricultural Chemist engaged by the Government of Mysore, has commenced work. The Government of India (with reference to Coorg) and the Governments of Madras, Travancore and Cochin still decline to appoint agricultural experts.

Encashment of Currency Notes at Treasuries.—The Government of India has endorsed the decision of the Government of Madras.

Shipments of Tea per SS. "Nurani."—The resolution passed last year was duly communicated to the chief agents in India of the Asiatic Steamship Co., but after receipt of their reply and study of the form of B/Lading in use the matter was dropped, as the steamer's Agents at Bombay had obviously not exceeded their legal rights.

Tea-crop Estimates.—A few figures have been forthcoming, but the amount of information furnished is still so meagre as to be practically worthless.

Of the new subjects that have cropped up during the year the chief is that of the exhibition of South Indian teas and coffees at the

Paris Exhibition.—The Government of India has kindly promised to place a portion of the Indian Imperial Court at the disposal of tea and coffee planters, free of charge, and this Association has decided to avail itself of the opportunity afforded. A definite plan of action should be formulated at the present meeting. So far it has been merely resolved that the Association shall co-operate generally in this matter with the I. T A. and that a coffee-room as well as a tea room shall, if possible, be opened at the Exhibition.

Exports of South Indian Tea.—The Indian Tea Association having asked for statistics, a reference was made to the various District Planting Associations. Messrs. Burnett & Son have kindly undertaken to furnish monthly returns of shipments from Beypore and Calicut, and it is hoped that other firms will follow suit in regard to other ports.

Audited Accounts for the year are placed before you. Owing to the incorporation of the Association and the necessity that thus arises for the filing of an annual balance sheet with the Registrar of Joint Stock Companies, it became expedient to prepare separate statements of account and balance-sheets for the old and new Associations. This has been done; but to facilitate comparison with income and expenditure accounts of former years a statement is also submitted showing (*pro formâ*) the *joint* income and expenditure of the two Associations for August 1898—July 1899.

Reserve Fund.—This now stands at **Rs.7,924-12-0,** of which **Rs. 6,000** is invested (Fixed Deposit bearing 5% interest per annum).

Correspondence has increased largely during the year, and the Secretary has had to communicate frequently with the Honorary Secretaries of the respective District Associations. Instead of resenting the flood of circulars and letters submitted, these gentlemen have responded most courteously and willingly to all calls made upon them; and for this the Secretary desires to tender them his best thanks.

CONFIRMATION OF PROCEEDINGS.

The printed proceedings of the meeting held in 1898 were formally confirmed.

INCORPORATION.

This subject was completed at the last Meeting; all that was necessary at the present Meeting was to put the Resolutions then arrived at from the chair and have them formally adopted. This was accordingly done. The Meeting then resolved into Committee to consider what steps should be taken in the matter of designing a common seal for the Incorporated Association. It was decided to refer the matter to a Sub-Committee consisting of Messrs. Romilly, Hodgson and Acworth.

On the motion of the Hon'ble Mr. Hodgson another Committee, composed of Messrs. Acworth, Scot-Skirving and Sprott, was appointed to frame Bye-laws from the Rules of the late Association. Certain Rules of the old Association had not, he said, been embodied in the Articles of Association. It was necessary now that they should be transferred as Rules or Bye-laws of the Incorporated Association.

THE CHAIRMAN'S ADDRESS.

The Chairman, (Mr. George Romilly) delivered his Address. He said:—

Gentlemen—The Secretary has told you in his Report, clearly and concisely, about all the work that the Association has carried out during the past year, but naturally does not touch on those subjects in which, although they affect our interests, we have not been actively engaged. I will in consequence confine my opening remarks to these matters and in the forefront stands out the great question of exchange.

THE CURRENCY QUESTION.

A strong and impartial Committee has given its verdict in favour of an attempt at a gold currency and 1*s.* 4*d.* rupee, and this notwithstanding that our plea for re-opened Mints was backed up not only by all other *bonâ fide* producers, but also by the leading exporting and importing merchants, and a vast amount of evidence was given in favour of this view. It seems to have been a fight between conflicting interests, the trade and people of the country on one side and the Government and their supporters on the other. The evidence of the experts was pretty equally divided. Unfortunately for us, Government has won and we must accept the verdict. I don't want to dispute it, but I want to call attention to one or two points that seem to me worthy of study. The whole trend of the evidence, from Lord Northbrook on the Government side to the most ardent of our own supporters, seemed to be that the prosperity of the country depended on its exports, and that nothing must be done in the way of export duty to check exports. This seems to be a generally received axiom and the logical conclusion would be that some recommendations would be made, whereby exports might be stimulated. But instead, they are left to do the best they can for themselves under a crushing but indirect tax. Another argument, which seems to me anomalous, is that exports must be encouraged but only moderately, for if there is an excess of encouragement, over-production ensues. Now I will give you an illustration of these two theories in one of our own trades. Our coffees have been competing with the produce of a country where production has been stimulated by abnormally low exchange and where, in consequence, over-production has ensued —I speak of course of Brazil. Now, who in this case are the real sufferers? Profits in this country among coffee planters have, in recent years with high exchange ruling been small and now, except in especial cases, are non-existent—in fact many of us will have to face a loss in the coming year. Things will right themselves no doubt, but in the interval the unfortunate Indian planter has but little saved wherewith to tide over the bad days. Against this, take the case of the Brazilian. Even supposing that he can no longer harvest and ship at a profit, let alone his cultivation expenses, he has been steadily making for years past abnormal profits owing to a falling exchange, and if he has been a sensible man and foreseen the undoubted fall in prices that must follow on over-production, he has saved his profit and now has capital to turn into other channels. If this logic is right, poor India, you will admit, is the greater suffer. I don't for one instant deny that unnatural profits, owing to a falling exchange or indeed owing to any other cause, will bring capital rushing into the enterprise and lead to eventual over-production, but in the mean time the producer is laying up for himself the wherewithal to face the catastrophe, and profits and capital in the country are

accumulating. Another argument that has been brought up before the Committee is that a fixed exchange will attract capital, and I suppose from their recommendations that they have accepted this as correct. It may be so, but I cannot myself understand why the mere fact of being able to withdraw your capital at a fixed exchange should attract it for long investment when profits have been reduced to a minimum. I have always regretted that native public opinion was not more forcibly expressed over this currency question in India, as it was in Ceylon. As you may have read in the second book of evidence, Mr. Meerwanjee Rustomjee, when asked about native opinion in India, said that in Bombay it was decidedly in favour of re-opening the Mints, and that he thought it was in the rest of India, but couldn't speak with certainty, and Mr. Romesh Dutt also said that throughout India it was decidedly in favour of open Mints, and he named many native gentlemen who would be willing to come forward to give evidence to that effect. But there ought to have been no doubt or hesitation about the matter. Meetings ought to have been held all over India, and the feeling of the people expressed with no uncertain sound. Fancy the farmers and agriculturists of England sitting quiet while their own Government handicapped their produce in favour of other nations. I read in the *Madras Mail* some months ago a very enlightened speech by Mr. Ranga Charriar where he talked of the mission of England to educate India politically, "not only teaching Princes to rule but training subjects to become intelligent citizens with a proper knowledge of their responsibilities, duties and rights," and it seems to me that in this official-ridden country this object would be best attained by semi-political Societies like our own, where the interest of the Englishman is identical with that of the native. Nothing strengthens a good Government more than honest criticism from outside, and I am sorry that in this country they do not get enough of it. If they did, possibly we should not see Presidencies starved of funds by the Provincial contract; roads, built originally at an enormous outlay, allowed to go to rack and ruin for want of up-keep, while the wealth of the country is squandered in interminable frontier expeditions. When one sees the waste of public funds that is constantly going on close around us, one is forced to imagine that it prevails over the length and breadth of India, and one begins to wonder if, with due retrenchment and reform, this Currency question need ever have assumed the importance that it has done. I myself believe that with due economy Government would have been able to meet its liabilities itself without throwing the burden of them on the producer, and there would have been no excuse for trying to saddle the country with a gold currency which it does not want and cannot afford. However, "what is gone and past help, should be past grief" and instead of vain regrets I will turn to more practical subjects.

THE FIGHT IN THE TEA TRADE.

First as regards the fight in the Tea trade that has recently been going on. We were not consulted by the Indian Tea Association, as of course our interests in the Tea trade are too small to influence the position, so I do not know how negotiations were carried on before the deadlock, but judging from what one can read in the papers it does not seem to me to have been good generalship. Of course our sympathies must be with the Indian Tea Association in their demand, as doubtless the distributors and grocers can very much better afford to lose the 1-lb. draft than the unfortunate producers can; but yet, if that was all that was in dispute, it seems to me a pity that the compromise now effected was not arrived at by a little more negotiation, instead of plunging into so bitter a contest with our best customers.

COFFEE PRICES.

The fall in coffee prices during the past year has been, I think, quite unprecedented and I fear that many a one among us, who at this time last year counted on a good profit, has barely pa his expenses. The extraordinary variation in prices, too, something new to us and shows, I think, how little can be do on the lines suggested by Mr. G. Anderson in his speech la year on the classification of coffees. The fact is that when market is glutted with a produce, the buyers get fanciful, a fashion rules the price. In former years, and even until qui recently, the demand was for peaberry and coloury coffees, b this year it seems to have been entirely for size, and coffees the same mark have varied quite £40 a ton between the pric paid for their A and C sizes. However, any one who has rea "Planter's" cogently reasoned letters to the *Madras Mail* wi agree with him that the crisis has been reached and that w shall very shortly begin to recover.

CINCHONA.

The same improvement in prospects may also be predicted, think, for the small band of cinchona planters. As you a doubtless aware, Mr. Hodgson, to whom our thanks are du was instrumental in getting the Madras Government to sen their director of cinchona gardens, Mr. Standen, to Java t report on the cinchona trade of the island. Mr. Standen ha now come back full of valuable information which you wi doubtless find in his Report. It seems to me that the ball i now at the foot of the Java planters. If only they will com bine now and restrict their output, instead of rushing it for ward, as they have been doing during the last 12 months, the can rule the price in the European markets. An eventual ris is a certainty and the longer it is deferred by these abnorm harvests, the greater must be the re-action. I believe it is in tended at this Meeting to attack Government for their polic of extending their cinchona cultivation. But if it is, as I be lieve, the policy of Government to grow cinchona in order t supply quinine at a cost little above the cost of production t the people of India, irrespective of the ruling price of quinine I for one, though I am largely interested in cinchona growing would not oppose it. The boon conferred on the country is ou of all proportion to the loss inflicted on a very small community But I admit that, although the acreage in private hands ha become infinitesimal, it probably will increase again, and I d think that we should ask for a promise from Government tha it will enter on increased cultivation entirely on humanitaria grounds, and will not seek for profits by competing with legiti mate trade.

THE ASSOCIATION'S RESERVE FUND.

Gentlemen, before we set to work I should like to utter word of warning against being too rash in allotting funds fro our Reserve without due consideration. I think the sudde possession of wealth is always a bit dangerous and for thi reason alone I am almost glad that Mr. Acworth's origina scheme for the sudden creation of a big Reserve Fund did no succeed. On two occasions now have we voted money from th Reserve for very desirable objects no doubt, but on both occasions, in my humble opinion, the money was wasted owing to our not having acquired sufficient information to commence with. From the voluminous correspondence that we have published this year about lady-birds, it seems to me clear tha instead of sending Mr. Newport to Queensland to collect ther for us at a very heavy cost, we might have had an equal chance of success by getting the lady-birds sent to us through the post. Again last year we voted Rs.500, to get Mr. Cameron t visit Coorg and to report on the different coffees that he saw there. Now I am quite certain that if the members for Coorg had visited Wynaad and we, Wynaad men, had visited Coorg we should have mutually agreed that Mr. Cameron's services would have been far better employed in Wynaad. I had the pleasure of visiting Coorg myself last autumn after our Meeting and it at once struck me that we were sending the physician to visit the strong and healthy, while the sick man was lying at

his door. In Coorg I saw miles and miles of magnificent Arabian coffee and here and there some Liberian, but no hybrids that I was aware of. The reason is not far to seek. I don't wonder at planters who own such magnificent fields of Arabian coffee not wishing to change it for any unknown substitute. Now in Wynaad it is different. Arabian coffee has died out altogether in many places, and though it still flourishes on a few isolated estates it has caused planters such anxiety that they have done some real work in trying to save themselves by propagating new hybrid varieties. We have acres and acres of hybrids of the second generation grown from a few magnificent original hybrid trees. We have naturally not yet established a species. The second generation vary one from the other in the shape and colour of their leaves, they have flowers varying from the 5 petals of the Arabian to the 8 or 9 of the Liberian, and fruit again where the calyx is covered or still showing as is the case with the Liberian. Now I feel sure that it would have been very much more interesting to Mr. Cameron, and of much greater profit to the community at large, to have got his Report on these fields. Therefore I urge caution on you before again voting away your Reserve Funds. Before I conclude, gentlemen, I must congratulate Mr. Ormerod, our energetic Secretary, on having this year provided us with a most excellent and useful planting paper. I admit that I do not always agree with the views laid down in his leading articles, though I generally do, but I always find a weekly lesson in all planting matters from scientific cultivation to the statistics of a trade, and every gentleman who wishes to go in successfully for hybridisation, should study the treatise reproduced in the issue of the 5th instant. Although I am to preside at this Meeting, I will now, before you proceed to the election of office-bearers for the coming year, thank you for the consideration which you have always shown me in the past, and lay my resignation in your hands. (Cheers.)

ELECTION OF OFFICE-BEARERS.

The Meeting then proceeded to elect office-bearers for the ensuing year. A ballot was also held to select a gentleman to be nominated by the Government of Madras to the Legislative Council in the room of the Hon'ble Mr. P. Hodgson, whose tenure of the appointment has expired.

Before proceeding to vote, the Chairman announced that he did not intend to stand for election to the Chairmanship again, and Mr. Hodgson did not desire to be re-elected a Member of Council.

The result of the ballot was as follows:—.

Chairman—Mr. Romilly, 167 votes, Mr. Sprott, 100 votes.

Vice-Chairman—Mr. Hockin.

Member of Council—Mr. G. L. Acworth.

Secretary—Mr. Ormerod.

The Chairman said he was much obliged for the honour that had been done him, but he was afraid delegates did not understand that he really meant what he said when he declared his intention of not standing for election again. It was not because he wanted to shirk the work but, on principle, he thought the management of the Association ought not to be allowed to get into a groove. He would, under these circumstances, be very glad to do anything in his power to assist Mr. Sprott as Chairman.

Mr. Sprott, however, declined to accept the office unless there was a re-ballot, because it might be that delegates who had voted for Mr. Romilly might wish to vote for some other gentleman now that Mr Romilly had retired.

After some discussion a second ballot was held, when Mr. Sprott was unanimously elected Chairman.

In acknowledging the compliment, Mr. Sprott thanked the delegates for the honour they had done him, and said he would do his best to carry out the duties of the office.

Mr. Acworth also thanked the Meeting for having elected him the Member of Council. He only hoped they would bear with him if he did not come up to their expectations as Mr. Hodgson had done. Mr. Hodgson, however, was a very difficult man to follow.

The Meeting then proceeded to consider the Draft Labour Law in Committee, the matter, at the request of the Government of Madras, being confidential. A preliminary discussion was held and a fuller discussion in Committee will be held on Thursday.

The Meeting adjourned at 5-15 P.M.

SECOND DAY, AUGUST 15.

The delegates met to-day at 11 A.M. when Dr. Lehmann, Agricultural Chemist to the Mysore Government, and Mr. J. Cameron, Curator of the Mysore Government Gardens, were present by invitation. The sitting was accordingly devoted to discussing agricultural questions. Proceedings commenced by a number of subjects being added to the Agenda paper, after which the Chairman welcomed Dr. Lehmann and Mr. Cameron in the following speech :—

Gentlemen,—We will now take up the question of agricultural subjects, and I am glad in your name to welcome Dr. Lehmann and Mr. Cameron, who have kindly accepted our invitation to be present. I am sorry that the British Government has not seen its way to follow the up-to-date policy of the Mysore State in appointing an agricultural chemist (though the Madras Government has secured the services of a State botanist), and the Government of India has decided to appoint an entomologist. However, I congratulate Mysore and trust that you, gentlemen, will reap to the full the benefit of Dr. Lehmann's presence in the province. We have to thank you, Mr. Cameron, for the assistance which, as usual, you are always ready to give. We have all read your Report on your visit to Coorg with great interest, and I am only sorry that you did not see enough hybrid coffee. As I said in my opening address yesterday, the Arabian coffee in Coorg is too good for them to strive much after hybridisation. But in my unfortunate district it is different, and I hope you may be able to visit us some day, as I am sure the visit would be interesting to you, and of great material advantage to us. We will now proceed with the Agenda paper.

COFFEE—MR. CAMERON'S REPORT.

Mr. Graham Anderson opened the discussion on this subject by reading the following paper:—

Nothing can possibly be more useful or interesting to the planting community generally than occasional reports like that prepared by Mr. Cameron of what he saw and studied during his tour through Coorg. He deals with each special point of cultivation in a most practical manner, and affords advice which is all the more welcome, knowing, as we do, that it embodies the convictions of an expert in horticulture, who has matured his views during many years of most useful work in India. The report reminds us of the pleasure afforded by "Wyvern's Scraps from the Long Arm-Chair," which gave a clear, concise and most interesting record of personal experiences in England judged from an Anglo-Indian point of view. These communications enabled us at once to grasp the situation in each case, and, although we might have seen the same things ourselves, still we had, in many cases, been wanting in that faculty of discernment, which made all that General Kenny Herbert wrote so instructive and valuable. Although we well know that immense benefits have been derived from hybridisation, grafting, inarching and other resources of the art of the scientific horticulturist, still, what planters will appreciate most are Mr. Cameron's remarks connected with the general environment of coffee as it now exists in the plantations.

"To Claude Bernard the whole problem of evolution was

very much a question of variations in nutrition" (Chambers), and, although we must steadily continue experimental work with loftier scientific conceptions, still, for many years to come, we must not be too ambitious, but content ourselves by bestowing persistent study on selection and the subtle physical and chemical influences of environment. Horticulture is, most assuredly, greatly dependent on such considerations and owes many of its fascinations to the wealth of possibilities, which it holds out as encouragement to persevering effort. In Mysore we have a grand example of what selection can accomplish, *viz.*, the results which have followed the introduction of the prolific Nak Nad variety of coffee and the consequent eradication of the lethargic "Chick." The susceptibility of organisms to outside influences has been copiously illustrated by the effects of good and pernicious shade trees and improvements in routine culture. The use of appropriate fertilisers has also given us all lasting encouragement to study and attend to the requirements of the plants which afford us our livelihood. In Coorg and Mysore it may be most truthfully stated that the careful selection of suitable shade trees is a matter of vital and paramount importance. It has taken many years of patient study to arrive at reliable conclusions, but we have our reward in the knowledge that we have mastered the subject most perfectly and in a manner which has completely revolutionised the cultivation of coffee in localities which are subject to lengthy periods of drought.

Mr. Cameron's remarks about having too many trees in a given area and the danger of their robbing the coffee of moisture and nutriment are most acceptable to many, but everything must be done gradually and in strict accordance with the dictates of local experience. The ideal of shading is to have a variety of trees, sparsely intermixed with large representatives of the original forest which, towering over the others, cast long shadows over the field, and to have the smaller trees so regulated and arranged as to obtain a maximum amount of shade and shelter from a minimum number. This can only be very gradually done by judicious trimming and cutting out, with the memory of the borer and the effect of storms always uppermost in the mind. We need not hesitate to take unto ourselves every possible credit for what has already been done, so far as general principles are concerned, as, even in England, with all the scientific assistance which is available, this important subject generally is only now receiving intelligent consideration, and it is not unusual to see a horse chestnut tree which has taken complete possession of what formerly was a pretty little flower garden, but where now nothing but a few straggling bushes can exist. Mr. Cameron will not find many of the planting community who will endorse his condemnation of renovation pits without some reservation. Doubtless it is quite possible to have too much of a good thing, and many planters have found that there are temporary disadvantages from over-renovating, particularly in some soils, where, as the old Scotch ploughman remarked in regard to deep ploughing, there is the danger of "burying a gentleman and bringing up a black-guard." But regarded as an operation of culture, which requires modifications to suit each separate locality, renovation pitting has many advocates, who have obtained from the system the most excellent results. The careful selection of seed from the healthiest and most approved varieties of coffee; persistent attention to the selection and regulation of good shade trees the judicious removal of all trees which exert a pernicious influence on the coffee; the timely application of suitable manures; intelligently conducted routine culture performed at the proper seasons of the year, and the maintenance of the requisite physical condition of the soil, are all points of supreme importance and may be confidently trusted to keep our industry in a state of the highest possible efficiency, provided always we are blessed with propitious seasons and are cordially supported by the advice and assistance of scientists in all cases of difficulty.

FERTILISERS.

The Chairman then asked Dr. Lehmann to address the meeting in conection with his experiences in regard to coffee.

Dr. Lehmann said that he had no experience in regard to coffee, except the little he had acquired during his tours. If the meeting, however, wished him to say anything, he would prefer to speak on the subject of fertilisers.

The meeting having notified its desire to hear what Dr. Lehmann had to say on this most important subject, he accordingly said:—

Mr. CHAIRMAN,—I have first of all to thank you most cordially and sincerely for your kind invitation, asking me to be present at this meeting to-day. I am but a novice among you, as I have had but little experience in coffee, but I shall try to study the subject as much as I possibly can. I do not want to lay any remarks before you that are not based on experience or experiment, and I do not want to give any assurance or opinion that is not based on knowledge. I hope, therefore, you will excuse me if I do not touch upon coffee questions, such as leaf-disease, black-rot, &c, because, although I have seen something of them, I have formed vague ideas as to how we are to set about discovering a remedy, and I have as yet been unable to try them, and before I have tried them, I should not like to say anything on the subject. I have not been long enough in the country to establish a library or a laboratory, and without these a chemist is almost as much at sea as a captain of an ocean vessel is without his compass and chart. You will understand how diffident I am in addressing you just now on the subject. The climate of Germany is totally different from that of this place, and the crops too are very different, and I require time to study the subject carefully before pronouncing an opinion. A subject, however, that will interest you very much is that of soil analyses. It has almost been looked upon as a panacea for all ills that crops are heir to. Unfortunately, I can't quite agree with that. Soil analysis is very valuable, indeed it is absolutely necessary for making experiments, but it won't tell you everything. Soil analysis is not advanced enough for us to tell you what constituents of the soil are really directly available by the plant. Chemists are striving to attain that end, but they have not attained it yet. There are a large number of experiments being tried, and each chemist may think that he has overcome the methods that can be employed; but unfortunately all other chemists think the same. The great difficulty in studying the soil at all depends on the mechanical conditions taking place in it, as well as its chemical constituents. Mechanical conditions have a great deal to do with it, but some of the matter is such that we can't easily ascertain its physical attributes, as for instance, the distribution of the plant and the fineness of the soil. The fineness with which the plant-food is distributed is an essential factor, as I shall point out when I am talking of fertilisers. Then another matter which affects the growth of a plant is the nature of the plant itself. All plants have not the same ability to absorb plant-food. Some plants may be peculiarly adapted to particular forms of plant-food. The Leguminosæ always appear to be absorbing potash, although they contain a large amount of nitrogen; still, virtually what they require is more potash than nitrogen. In the same way with the Gramineæ; they contain but little nitrogen, and yet they are peculiarly benefited by a nitrogen fertiliser. What is the particular fertiliser that is beneficial to coffee? What particular plant-food coffee has a tendency to absorb from the soil is a question that will have to be solved and presents very considerable difficulty. Again, climate affects the productiveness of the soil to a large extent. The climate here is different to that of countries in which agricultural chemistry has made the most rapid advances and in which it has been reduced more to a science than it has elsewhere, so we can't apply what has been discovered there directly to our conditions here. So we are

laced in peculiarly trying circumstances. We are beginning fresh to find out what can be used. What has been used is a uide, but it is not an infallible guide, and we must go carefully and cautiously. In regard to fertilisers there is some eculiar idea—some want of accuracy if I may say so—in egard to the relative values of soluble and insoluble fertilisers. As regards the value of superphosphates and fine ground bones, may say that the chief value of superphosphates over ground ones is that superphosphate is soluble and percolates through he soil with the rain and soil water. The advantage of a soluble fertiliser is not that the plant can absorb it in a soluble orm, but that in that form it spreads and mixes more intimately with the soil and the plant roots can get at it better. I might llustrate this by an example. If we take a piece of sugarandy and put it in water, it dissolves very much more slowly. f, however, we grind the sugarcandy to a powder and put it nto water, it will dissolve very much more quickly. The same rguments hold good with regard to soluble manures, the rain nd soil water dissolve them more rapidly and mix them more ntimately with the soil. I wish to bring this point before you n a practical way in regard to the fertilising of your fields. have seen in my tours in some instances, say, basic slag used. little browpit is made near the coffee and the fertiliser is umped in and covered-up. Now for all practical purposes that s like what the natives of this country do with their gold. hey bury it instead of putting it into a Bank. The plant may ake use of that fertiliser, but only in a long course of time. ut if, on the other hand, it is spread finely over the surface roadcast and then dug into the earth, the plant would be in a etter position to get at it than if it was covered and hoarded-p. Of course there is no rule without an exception. There ay be steep lands on which you are using a comparatively easily oluble manure, where it might be necessary to make a browpit nd bury the fertiliser, but whenever it can be done, by all means lways broadcast your fertiliser; then when you dig it in the lants get at it more easily than when it is heaped together in pit. A matter which also is of great interest to you is the se of saltpetre. Saltpetre is a fertiliser which is beneficial no oubt, and you are fortunately located in being able to get comparatively cheaply; but great care should be taken in its pplication. You should not apply it just before heavy rain or n the rainy season. Saltpetre, as you know, contains two of he three most important constituents of plant-food, nitrogen nd potash. Nitrogen, in the form of nitrate, washes into the oil readily, and if there is vigorous vegetation going on these itrates will be absorbed by the plant and it is this nitrate which ves the flush of wood with the large deep green leaf. I am ware that my remarks are rather rambling, but before sitting own I would like to refer to the action of lime. Lime in the oil has a two-fold action. It serves the purpose first of a plant-od, and, secondly, it aids in decomposition, not exactly in a hemical way, but by combination with certain bacteria in the il. Lime in the soil is almost absolutely necessary, as it helps ry much in the process of nitrefaction—the nitrefaction of the mparatively inert nitrogen in organic matter in the humus to nitric acid which is absorbed by the plant. If heavy rain mes, it has a tendency to wash the lime out of the soil; but it ways remains in the soil, provided you have a sufficient amount moisture and a sufficient amount of heat, of which there can no doubt in this country. (Cheers).

The Chairman said:—It only remains for me to thank r. Lehmann very much for the most interesting little lecture has given us. I am sure it has given us a great deal of formation, and is the precursor of a great many more. The ysore Province is bound to benefit very much by his resi-nce in it.

Mr. Scot-Skirving proposed, and Mr. Hodgson seconded, That the U. P. A. S. I. send a cordial vote of thanks to the Mysore Government for appointing an Agricultural Chemist of such ability as Dr. Lehmann and thereby rendering a great service to the planting community of South India."

The Resolution was carried with acclamation.

Mr. Lehmann then made some further remarks on the proper method of conducting experiments with festilisers and answered several questions put him by the Chairman and delegates.

THE CLASSIFICATION OF COFFEE.

On this subject Mr. Playfair said:—

I feel sure that the evident improvements in telegraphic quotations which have been most obligingly arranged for since attention has been drawn to the subject are very highly appreciated and adequately meet all our requirements. The authorities consulted were unable to recommend any modification in the classification of coffee in the London market, but that was a consideration which grew out of the original representation which was primarily intended solely to affect the classification in telegrahphic advices.

The matter was then dropped.

THE ADULTERATION OF COFFEE.

Mr. Graham Anderson opened the discussion on this subject with the following remarks:—

I most certainly do not desire to propose that anything should be done for the planters' benefit only; neither do I wish for any unreasonable concession which would be opposed to public opinion on the principles of Free Trade on which the enormous commerce of the British Empire has been so successfully built-up and maintained. What I venture to suggest is that, in consultation with our commercial friends, we should make an united effort to obtain legislative protection against a recognised evil which affects the interests of the public and has existed for many years past, and which, if permitted to continue, will have a most serious effect not only on our industry, but on the prosperity of hundreds of thousands of the labouring peasantry in India and other parts of the British Empire, who are dependent on it. I have carefully studied an elaborate paper in Chambers' Encyclopædia by J. Falconer King, Esq., F.C.S., and as his authoritative statements will carry more weight than mine, relative to what he rightly describes as "a pernicious system of fraud," I append some extracts to my remarks.

Our contention is that coffee has a right to its own special name, and that every purchaser has a right to obtain the pure article when he asks for it and that if he buys a packet or a tin marked "mixture," the wrapper should have printed on it precise information relative to the proportion of the pure article it contains; on the other hand, if the purchaser desires to obtain a special article of food the package or wrapper should bear the word "pure." Such a system, whether voluntarily or compulsorily adopted, would, it is suggested, soon have a most beneficial effect on the interests of all concerned. Our Mysore Association, many years ago, was among the first to suggest this arrangement, but a reply was received to the effect that nothing of the nature indicated could be done without interfering with the principles of Free Trade, and yet subsequently a modification was embodied in the Act which renders it necessary for the label to intimate that the contents of the packet are a mixture of coffee and chicory, but leaves the purchaser in utter ignorance of the proportion of coffee at 1s. 8d. per lb. and of chicory at 4 pence per lb. he has become the owner of by the transaction. I have been told that it is a bad policy to agitate for legislative protection against adulteration as the majority of the retail dealers are not only scrupulously honest and are doing their best to increase the sale of the pure article, but that public taste requires an admixture of chicory. I would not for a moment believe that respectable tradesmen are anything but the best friends which our industry has, but I cannot imagine how a legislative enactment framed so as to assist and protect them as well as the producers

could in any way be distasteful to them. The object of such legislation is simply to foster and encourage justice as between man and man, and to discourage unscrupulous individuals who have only their own selfish aims in view. Far from the dealers as a body being averse to any reasonable amendment in the law, I venture to rely on the British traditional love of fair play to assuredly make them as eager for the change as the producers are, more especially as immense quantities of so-called French coffee, which frequently contains 80 to 90 per cent. of foreign admixture, are annually sold in the United Kingdom in tins, to the utter discomfiture of all honest tradesmen, who are, of course, utterly unable to offer the pure article at such a low price. This cheap "tin coffee" is simply ruining the reputation of coffee as a wholesome and nutritious beverage. I feel sure that the sole desire that planters have is to allow pure coffee to stand on its own merits and it is manifest that its many good qualities cannot be appreciated by the use of the adulterated article. In the Mulnad of Mysore many natives have derived great benefit from the use of coffee when suffering from the annoying and ill-defined sensation which accompany malarious cachexia and affections of the spleen. Coffee has a most sterngthening and sustaining effect if taken with milk in the early morning before any severe exertion. In many cases it permits persons to use milk with whom it would otherwise disagree. In one of the recent Solar Expeditions one-half of the men were given coffee and the recorded result was that they enjoyed better health and went through greater physical exertion than the remainder of the men who had rum served out to them. It is well known to literary men that coffee gives great clearness of perception and affords support during sustained mental study. I therefore beg to propose "That this Association, in consultation with its representatives in London, do take such action in the matter of adulteration as it may consider desirable or necessary in view of the matter being pressed on the attention of Government as energetically as possible."

Mr. W. L. Edmiston seconded the motion. He said the instruction given him and his colleague by his Association was to press this matter as energetically as possible.

Mr. H. P. Hodgson supported the Resolution.

Messrs. Sprott and Hocken spoke in favour of the Resolution which was put and carried.

The following further Resolution was proposed by Mr. W. L. Edmiston, and seconded by Mr. F. G. Barton:—"That this Association ask the London Chamber of Commerce to favour it with its view as to its reason for not taking further action in pressing for an amendment of the Food and Drugs' Act and further press the London Chamber of Commerce to invite other coffee-producing countries to unite in supporting the endeavour to prevent the unproclaimed adulteration of coffee." The Resolution was carried.

The discussion of the Resolution was in Committee, the Resolution being afterwards confirmed in open meeting.

LEAF-DISEASE, ETC.

Mr. J. Cameron, Curator of the Mysore Government Gardens, made the following remarks on this subject:—

Mr. CHAIRMAN AND GENTLEMEN,—This is the third occasion on which I have been honoured in being invited as a visitor to this meeting. Needless to say, I am proud of the honour for which I thank you very much. I have embodied my view on coffee planting so recently in the form of a Report that there is very little more to be said to-day. There are one or two things, however, which I omitted to put fully before you in the Report, and for which I have been called to book more or less severely. One of these is that I took no notice whatever of the ripening and colouring of the berry, and also the colouring of the bean, which I understand is an important matter. I have repeatedly, during the last season's harvesting, seen that a great deal of green coffee has found its way into the market for which low prices were paid. Now, what was the reason for this gr coffee being so abundant? It might be one of various reas It might be due to being planted on high levels and a very season late in the year; it might be overcrowding or overshad and one or two other causes. Now, gentlemen, these are thi I would like you to take up practically. See if you can ripen your coffee more fully by giving it a lighter shade. course you can't alter the rainfall or the seasons, but by giv a lighter shade in the colder parts of the country where coffee is not likely to ripen well, you will be helping yoursel In the same way you can help by draining the ground prope Probably it is due to a want of drainage that you have so bushes which do not fully ripen. This question has to do only with the ripening of the bean itself, but also with ripening of the wood. There is a time of the year w you like to have your bushes more fully exposed than any other time, and the wood at that time may be parti ripened or it may be fully ripened. It is important tha should be fully ripened if you wish to have not only a crop, but also ripened fruit, which produces good prices the market—fruit with a high colour and well formed. I now mention another thing which I don't think I touc on sufficiently in the Report, namely, what practical st should be taken in the matter of leaf-disease. In travell through Coorg last November, I found the bushes were healt looking and that they had an abundance of young heal leaves and also an abundance of old leaves underneath piled over the other and in some parts these were diseased and others were showing signs of disease. Now, I believe, if the and partially-decayed leaves, which formed underneath in lay were carefully removed and burnt and the ground sw and the debris burnt, you would do much to suppress disease. To enable you to do this thoroughly in a Dist like Coorg, you should have burning grounds, open spa here and there in the marshes, where the leaves could collected and burnt. If this could not be done, the next b thing to do is to collect the leaves in convenient-sized pits cover the whole thing over with caustic lime. If this done it would prevent the spores of the disease being carr over the whole of your estate or your neighbour's. I don't th it would hurt the shrub to remove half the leaves, as it produ at that time new leaves very quickly. I don't think I have more to say to-day, but before sitting down I would tha Mr. Graham Anderson for the kind way in which he has spo about my Report. I may tell you that I spent an enjoya and instructive time in Coorg and should you wish me to v any other District hereafter I shall be glad to do so with permission of my Government. (Cheers.)

Mr. Sprott moved a hearty vote of thanks to Mr. Came for his interesting and instructive Report on his tour in Coo and also for the instructive remarks he had just made.

The vote was carried with acclamation.

Mr. Cameron then gave a short account of some succes cross-fertilisation experiments he had succeeded in making; dwelt upon the importance of hybridisation, quoting from remarks of the President at a Horticultural Conference wh was recently held in England.

THE DETERIORATION OF COFFEE.

The Honorable Mr. H. P. Hodgson opened this subject w the following speech:—

Mr. CHAIRMAN AND GENTLEMEN,—I have been asked to o this subject, and as it is one of paramount importance to coffee-planters in South India, I hope I may be allowed to t up a little time in doing so. By deterioration of coffee, for purposes of the present discussion, we are referring not to plant, but to the sample of this coffee bean, and I am not a sure that we are using the proper word, for I take it that really the falling away in price of our coffees as compared w

South American kinds which has been the cause of this subject being brought up. Hitherto East India coffee has held practically the pride of place in the markets of the world for superiority, partly due no doubt to its fine flavour, but perhaps even more to the care and skill with which it has been prepared and cured, and this has been evidenced by the high price it has obtained among a certain class of consumers, as compared with American coffees, which were less carefully cured, and therefore put upon the market in a less attractive form. It is a sad fact, but there can be little doubt that it is a fact, that for the past few years our coffees have been losing this desirable position, while American coffees, chiefly Costa Rica, and Central American kinds, have been gradually creeping into the range of top prices, and it behoves us to look to our laurels, and our pockets, to see that we are not ousted from our position as producers of the finest coffees in the world. In doing this we must turn to the causes which are likely to produce this effect, and I think that some three heads will cover them :—1st. The effect of bad seasons on the sample. 2nd. The methods of curing and preparing the coffee for markets on the estate and at the works. 3rd. The improvement in American methods of curing. Clearly over two of these causes we have no control, *viz.*, the seasons, and the improvement in the American methods of preparation; but the other cause is in our power to investigate, and it is to this therefore we must turn our attention. No doubt, certain seasons turn out, apart from the influence of the producer, finer or poorer samples of coffee, and the season just passed has been classed as one of poor quality, and this, I think, may be admitted as correct in the main. It does not, however, in my opinion, account entirely for the very many falls in the average value of East Indian coffee, which I attribute to the fact that American coffees from certain Districts are surpassing ours in the way they are cured and turned out for the market. I think a study of the past season's London sale reports will partly support this contention. You must constantly have seen remarks by brokers to the effect that East India coffee was "difficult of sale" and often without bidders, while the better sorts of American coffee where in "steady demand," and a reference to the range of prices for the two sorts of coffee will have shown you that we no longer hold the lead. I am quite aware that it will be argued by some that the extreme prices realised by certain coffees during the past season showed that a good sample of East India still holds the lead of prices, and that, had the quality been generally good, it would have been proved that we have lost some of our leading position; but I do not agree with this view. I believe that these exceptional prices are given, and will continue to be given, for certain favourite marks by persons who have been in the habit of buying them, and that if we had a record of sales of all the American estates in detail, as we have our own, we should find that the same thing happens there with certain favourite marks also, and that therefore we must take the average prices obtained by both kinds of coffee as the only true gauge of comparision. When I was in Europe last year I spent some time with friends living near Havre, and I gave a good deal of time to making enquiries about the relative values of the different kinds of coffee at Havre and obtained what was to me a somewhat surprising and unwelcome discovery, *viz.*, that America can, and does put on the market coffees which, in size, appearance, colour and general attractiveness are equal, and by many thought superior, to our own, and I was told the unwelcome news that "these are the coffees which are competing with and displacing yours, because they are better prepared for the market and are more attractive in appearance." I saw dozens of samples of coffee from all parts of the world, including every District in South India, and was reluctantly compelled to admit the truth of the assertion. I brought out with me some samples of the best Costa Rica, and in a weak moment allowed them to pass out of my hands, and have never been able to get them back, but they surprised every one who saw them out here. Now all this leads me to the point of the whole question, which is, can we improve our coffees in the curing, and I believe, gentlemen, that we can. We have been so certain of our position of superiority that we have been caught napping, I fear, and while the methods of curing which were in vogue twenty-five years ago, are still good enough for us, they have not been good enough for America, where new methods and new machinery have been introduced with such marked success. After all this you will naturally say "What do you propose we should do ?" and my answer is, let us wake-up and investigate the matter carefully for ourselves, for it is one of the very gravest importance to us. Let us invite our curing agents to co-operate with us in trying experiments and comparing notes with a view to turning out a better article, and I would suggest attention in the following directions :— First, drying on the estate.—This is done in America chiefly by artificial heat. Now may this not be a means of retaining that much-desired quality, "colour" ? The bleaching effect of the sun's rays are well known, and also their effect in extracting scent and therefore flavour. If you were to take a sample of carefully-manufactured tea, and leave it in the sun for a few hours, you would find flavour and colour destroyed. I would therefore advise experiments in the direction of artificial drying. Some experiments, which I have lately heard of, and some I have tried myself, go to prove that a strong sun, and *even a strong light*, without sun, rapidly extracts colour from a good sample of coffee. It should therefore, in my opinion, be spread thickly on the tables and dried slowly. I know this has been tried before, and I have heard it said it is "all bosh;" but it isn't, and the experiments must be carried through to the end before this can be said. For instance, coffee may leave the estate with fine colour, and at the mills may be spread out thinly in a scorching sun, and the colour will be extracted very quickly, and, when the planter receives his slow dried coffee minus the colour, he says "bosh." Careful drying at the mills, therefore, is equally important as on the estate, and here particularly I should advise the experiment of drying with artificial heat. Then comes polishing. This also has been tried, and I am told by some agents, without any good result, as to enhanced prices. This might have been so when we had not the competition of the good American minds to contend with, but now might be different. I should also like to know the effect of polishing the bean on fixing the colour, a result which might follow easily. Packing.—Here again is a subject for investigation. When I began coffee-planting all our coffees, except the triage, perhaps, was packed in cases, but for some years past the double bags have been substituted. Is it not possible this may be another cause of loss of colour ? But I think I have said enough to prove my point that investigation and experiment are desirable, and I should propose that the curing firms be asked to join us in making both as thorough and complete as possible. Gentlemen, have been asked by the Secretary to bring samples of coffees, and he hoped to have samples of certain American coffees, and if there are any of these in the room, I hope they will be produced.

Mr. Sprott said :—With reference to Mr. Hodgson's remarks with reference to the fall in prices of our coffee, more especially as compared with Central American coffee, there is no doubt that we are not holding our own with them, and that East Indian coffee does not now occupy the position in the market that it used to do. I heard from one of my partners lately that he had been shown a sample of Costa Rica coffee by a London broker and that it was much superior in colour and quality to ours. From what Mr. Hodgson states, there seems no doubt that, in Central America, the coffee is prepared in a more attractive form for the market than ours. Our Coast curers take great pains in curing our coffee, but it is evident that, from the use of up-to-date machinery, or some other cause,

we are being left behind, and we should urge them to try, if possible, to find out the reason for this and supply the wants. There is no doubt that our coffee this year has not been up to the usual standard either as regards size or colour, but we have had an abnormal season, and I think that you will all agree with me that this is due to the season and the season alone, and that we hope next year that our coffee will be up to the usual standard; still, I am sure that a great deal can be done by ourselves by more careful preparation on our estates, and that we should try different methods of fermenting and drying. I sent home samples some years ago of parchment dried at once after pulping; that is, unfermented in the vats: 12 hours fermented, 24 hours fermented, 36 hours and 48 hours. The report from home was that there was a marked difference in the samples, 12 to 24 hours being the best unfermented and 36 hours next. This I quote to show that we can make a great difference with our estate curing, and I am also of opinion that something can be done by our coast curers as well, and that we should urge them to try to see what they can do.

Mr. J. W. Hockin said he thought that the title of the subject chosen by Mr. Hodgson for discussion was unfortunate. He would have preferred to have called it "the improvement of coffee;" because he could not see any signs of the deterioration of East Indian coffee as prices went. From a Market Report of April last, he saw that the lowest prices for East Indians were for the lowest class of Travancores, from 32 to 35 shillings per cwt., the highest were for the highest class of Mysores from 92 to 126 shillings. The lowest Costa Ricas were from 28·6 shillings to 48·6 shillings per cwt., or lower than the price of Travancore. The highest Costa Rica were from 92 shillings to 103 which was again below the price of Mysore. He quite agreed with Mr. Hodgson, however, that there was now far more competition than there had been before. Central America had largely increased their output, and they ought to see if they could not improve their samples and still keep ahead of Central America. The fall in prices was entirely due to the enormous stocks of low-priced coffees. In an article he had written in the *Madras Mail* he had shown that for 25 years the total amount of fine coffee had not increased. True, Central America, had increased; but, on the other hand, Japan, Ceylon, and other countries had gone back. He thought that the tremendous fall in prices was due to the over-production of Brazil. Still there was no reason why they should not improve their samples. He had with him a catalogue which contained illustrations of all the machinery which is now being used in Central America. The principal machine was a drying machine which in its cheapest form cost about £62 f. o. b. London. He thought they might ask their curers to invest in one of these and try the experiment of improving their samples. With regard to polishing he had been told by a curing agent that the firms had taken a great deal of trouble in this direction. One firm last year got a polisher and tried the experiment of polishing by altering the pressure, and the conclusion come to was that polishing Coorg coffee did no good in improving the samples. Polishing Wynaad and Nilgiri coffee did improve it, chiefly because it had more silver skin, and polishing removed that.

Mr. G. L. Acworth said that he was not a coffee-planter himself, but he had taken some trouble, in the interests of the Association, when at Home, to make some enquiries. Among others he enquired from Mr Sanderson, than whom no man in the City had a greater reputation as a good coffee-expert, and he (Mr. Sanderson) assured the speaker that East Indian coffees were depreciating year by year and the samples were not so good as they used to be. It was true that for a heavy crop the samples could not be as good as for a light crop, but taking one year with another, it was apparent that E. I. Coffee was going backward. Mr. Sanderson said a great deal was due to bad curing. He mentioned this for what it is worth; because a coffee-broker does not know much about curing, just as a tea-broker knows nothing about manufacturing, and his suggestio on that head are not of much use. If they referred to the pr lists for the last 10 or 15 years they would see that, althou from time to time they had had high prices, still Central Ame can coffee had been slowly creeping-up and getting even wi East Indian coffee. The danger was that it would creep p in time. He therefore thought Mr. Hodgson's suggestion valuable one, and the coffee-planters should themselves get one or two of the new machines and try what could be do The expense after all was not prohibitive, it was not to be co pared with the prices that had to be paid for some of t machinery in a tea factory, and the time had been reached wh it was incumbent on them to lay out money in endeavouring improve their samples.

The meeting adjourned at this stage.

THIRD DAY, AUGUST 15.

The members met again to-day when the discussion on t deterioration of coffee was proceeded with.

Mr. Graham Anderson opened the proceedings by readi the following paper:—

It affords me much pleasure to join in the discussion of th important subject, as I am one of those who believe that ev incorrect conclusions frequently do good by opening-up t field for inquiry or investigation. Within the last few yea there has been a great deal written and spoken about the s called deterioration of the Coffee plant and its produce, a various fanciful reasons have been given as the cause of the fa ing-off in yield and quality. We planters well know the effe of abnormal seasons. We are in close communion with Natu and cultivate a most sensitive plant which for its welfa requires a very peculiar distribution of rainfall and the prop maintenance of the equilibrium of heat, light and moistu It is only natural that success cannot always be attain unless the seasons are propitious. The soils' relation to wat is one of the most interesting subjects for study in co nection with plant-life generally, and too much moisture dryness at certain critical stages of growth cannot fail cause functional disturbance, which but rarely can be co pensated for by operations of culture. Although I do n for a moment pretend that I know more about preparati of coffee than my brother-planters, many of whom general have better success in the matter of obtaining good pric than I do, still I venture to think that, as it is undoubted influenced by climatic and other conditions, the investig tion of the subject under discussion may conveniently commen from the time when the ripe fruit is picked and be continu up to the point at which its contents become a merchantab product. My object is to gain information myself and also demonstrate that all the care in the world will not bring succe in an abnormal season, and that the best of seasons will n compensate for faulty preparation. This last season increas attention has been drawn to the disappointing appearance o large quantity of South Indian coffee. In these days of ke competition it is, of course, essentially necessary to closely stu the requirements of the principal markets and to do everythi that is possible to meet them. I am aware that there are ma systems of preparation in the various Districts in which coff is grown, and that each locality has its special requiremen owing to climatic conditions, which, in their turn, demand spec methods of cultivation. Any opinions, therefore, which m be offered cannot accurately apply to all Districts. As coffee grown under shade in Mysore, it has peculiarities of its own, s as some years ago, I had the pleasure to write a letter to t *Madras Mail* on the subject of certain difficulties experienced some of my brother-planters in other districts, I will embo the substance of that communication in the following rema

If a perfectly ripe coffee cherry is carefully examined, it will be found to consist of—1st, a tough outer skin of a deep crimson colour; 2nd, a thin layer of sweet, succulent fruity matter of a lighter or fleshy red color; 3rd, a net-work which appears to be composed of slender filaments, but which, under the microscope, resembles the tangled growth among the branches of old forest trees in autumn; 4th, a gummy substance which, after fermentation, resembles mucilage, but which rapidly assumes a flocculent form and remains in suspension in water; 5th, the parchment or cartilaginous membrane enveloping each seed; 6th, a pellicle, styled the silver skin, which also covers each seed; 7th, one elliptic or two semi-elliptic seeds composed of hard, horny albumen which surrounds the embryo or rudimentary plant. "The quality of fruits depends largely on the proportion of sugar, gum and pectin to free acid; largely also upon the proportion of soluble to insoluble matter; cultivation and selection operate strongly on all three factors." (Chambers:) "As the pericarp ripens, saccharine matter is formed and the quantity of free acids diminishes, partly from their conversion into other matters and partly from their combination with alkalies. In order that these changes may be properly effected, it is necessary that the fruit be exposed to the sun and air, for, if grown in the dark, it will continue acid; and will be, moreover, much less sweet when developed in diffused daylight, than when freely exposed to the sun." (Bentley:) "On one plant in particular, *viz.*, beetroot, I have varied my experiments *ad infinitum* in the endeavour to increase its saccharine richness and have three times out of five obtained richer roots with potassic chloride associated with ammonic sulphate than with potassic nitrate." (Ville.) From these extracts it will be seen that the quality and saccharine richness of fruit are influenced by cultivation, selection, manure and light. Now, as in order to prepare coffee after pulping a certain amount of fermentation is required before the gummy matter surrounding the seeds can be washed-off, it is manifest that this very delicate process will entirely depend on the amount of sugar which is present. Too much fermentation will most certainly injure the coffee and too little will render the operation of washing extremely difficult, if not absolutely impossible. It is also self-evident that, if the sample of fruit is not evenly ripe, the fermentation will be uneven, and the result will not be uniform in character and appearance. The process may be said to be quite as delicate an operation as that which yields such varying results in wine-making. "The quantity of sugar in grape-juice varies extremely. In the juice of very ripe grapes it may reach 40 per cent. According to Fontenelle, the juice produced in the South of France contains from 18 to 30 per cent.; while in the neighbourhood of Stuttgart, Reuss, determines it at from 13 to 25 per cent. In the low and variable temperature of Holland, the juice of the best grapes yields only 10 or 12 per cent. of sugar." "The grapes of each country, ripened under different degrees of summer warmth and very unequally rich in constituents, require very different temperatures during fermentation, and different temperatures are also required for grapes which are the product of a warmer or colder summer." "All we know is that a high temperature during autumn promotes fermentation and a low one is detrimental to it and that *inequality* of temperature during fermentation is extremely injurious and not unfrequently spoils the wine altogether." (John Angell, F.C.S., F.I.C.) Practical experience in coffee preparation proves that coffee grown on a southern slope becomes ready for washing far sooner than that produced on a field facing the north. The produce of very young trees will not ferment nearly as quickly as that from mature trees. Coffee from densely-shaded or unmanured fields always gives trouble when being washed. If the pulping arrangements are situated below a northern slope, fermentation takes place in the cisterns very slowly. Although the addition of extra sugar to pulped coffee in very cold weather will hasten fermentations, it is very rarely used, as extreme care is necessary in manipulation. Similarly, the addition of some of the mucilage from the previous day's operations will set up fermentation very rapidly, but can only be tried under the most careful supervision. When any difficulty occurs in regard to the removal of the gum, it is sometimes advisable to mix the cherry with a certain proportion of fruit from very old trees or from a field with a southern exposure. Wooden vats are considered to be more favourable to fermentation than stone or cement cisterns, owing to their power of retaining the germs by which the process is caused. Even a very small quantity of quicklime will check a whole day's operation and seriously injure the colour of the coffee, so that a cistern, which requires repair, should on no account be plastered immediately before crop time. The water used for washing has its effect, spring or river water being preferable to that which has been collected for some considerable time in a tank. The temperature of the water used is also a matter of importance. It will therefore be observed that each individual planter has to exercise considerable discretionary powers, which local experience can alone confer upon him. The principal points which always demand attention are as follow:—1. To carefully maintain a system of regular picking so as to obtain evenly ripened fruit; 2. To keep the fruit dry and cool by having free ventilation; 3. To have it pulped as soon as possible and so as to arrange for the careful supervision of the process of fermentation; 4. If the pulper lets in a large quantity of skins or half-pulped cherry, to have as much as possible sifted or washed out and prepared separately; 5. To drain-off all the water and have the parchment heaped, covered and carefully watched during fermentation; 6. To commence washing as soon as the gum can be properly removed by water; 7. To change the water several times and wash until the parchment is perfectly clean. By careful attention to the processes of fermenting, washing and drying, the most satisfactory results may be obtained, but it will be well to illustrate how accidents may occur at the very commencement of preparing operations. I will merely refer to one which frequently occurs and results in what is styled "foxy" coffee. This term denotes a reddy-brown appearance of the seed, caused by the adhesion of the silver skin into which the colouring matter contained in the outer skin and fruity portion of the cherry has infiltrated. This appearance is undoubted evidence of the fruit having been picked when it was quite ripe and nearly all really good cherry-dried coffee, which is so highly esteemed in France, is thus indelibly marked. The quality of the coffee is in no way injured, the stain being superficial and confined to the silver skin, which can easily be scraped-off with a penknife. If roasted carefully, the aroma will be found excellent, which is another proof of maturity. If a quantity of ripe coffee fruit is heaped or kept in a cistern for a few hours, fermentation will take place and the red colouring of the skin and fruity portions will sink into the gummy substance surrounding the parchment, precisely in the same way that aniline ink penetrates the gelatine slab used for copying letters. If prompt measures are not adopted, not only will the parchment be permanently discoloured, but the silver skin below will be stained and firmly gummed on to the seed. If observed in time, the remedy consists of getting the fruit pulped as soon as possible; in closely watching the subsequent fermentation and having the parchment thoroughly washed as soon as the gum has changed into a state in which it can be acted upon by water. In warm, rainy weather similar changes occur in very ripe cherry before it is picked from the trees. Some pulpers do not work satisfactorily and allow a large quantity of skins and half-pulped cherry to pass into the cistern along with the parchment. If these are not properly separated before fermentation takes place, the seeds they contain will be more or less foxy. The ripest, richest and most succulent fruit is always the first to

suffer in this way or from any delay occurring in picking, pulping or preparation. Immediately the washing operation has been completed, the parchment is placed on bamboo mat tables to allow all water to drain-off. The greatest possible care is necessary, in cloudy weather especially, to prevent acetic fermentation taking place, and this is best arranged by keeping the parchment frequently stirred. If the parchment is too thinly spread on the tables with a view to get it quickly dried, the covering will crack and the seeds will shrink and become curved. If cracked parchment is left uncovered at night, the dew will injuriously affect the coffee, which will be, in fact, subjected to a bleaching process. After the parchment has been thoroughly strained, it is removed from the tables and spread on coir-matting on the drying ground, each day's coffee being separate so as to secure even drying. Unevenly dried parchment is one of the greatest misfortunes, as a uniform condition can never be obtained after bulking has been carried out, and consequently before milling can take place some of the coffee will be greatly overdried so as to prevent a proportion of the lot being crushed or rendered pale by the weight of the roller. The colour of coffee consists of a diffusible pigment which is very gradually developed from about the fifth day of drying. This period requires extreme attention, as if the parchment is spread too thinly, too thickly or unevenly, very different effects will be produced. If the parchment is not frequently stirred, the colour will not be uniformly distributed and a mottled appearance will ensue. If the parchment is too thinly spread, it wil cause the coffee to be of a pale, shrivelled appearance, and if it is too thickly spread, an undesirably dark colour will be the result. Too much drying is unquestionably bad and the storing of imperfectly dried coffee is worse, as not only is the colour injuriously affected, but the sample may get an unpleasant musty smell. These facts are deserving of attention from start to finish of preparing operations. The practice of making large quantities of parchment into heaps during preparation is to be as earnestly deprecated as that of leaving them spread-out during dewy nights. Coffee once properly dried should never be allowed to become damp again, either by rain, dew or being stored or heaped on an imperfectly drained site, and too much care cannot possibly be bestowed upon it on boardship, where want of ventilation or proximity to sugar or other damaging substances must be efficiently guarded against. When parchment reaches the preparing establishments on the coast or elsewhere, it is peeled, sized, garbled and bagged. Although it is necessary to bestow every possible attention and care on these operations, still it is quite evident that the planter himself has the greatest share in the responsibilities connected with preparation. Garbling is a most important operation and demands the closet possible supervision. In regard to sizing, many opinions are entertained and it is to be hoped that during the present discussion we will arrive at some determination as to the modifications which are desirable. Precisely the same may be said in regard to polishing and the entire removal of the silver skin. So far as Mysore coffee is concerned, it has peculiarities of its own, and having been grown under shade, it is usual to find a portion of the silver skin adhering to it, in fact this is one of the characteristics of our produce which, except under definite advice from experts at Home, it would, in my opinion, be undesirable to alter. In conclusion, I would venture to suggest that as, preparation is perfectly understood by all practical planters in Southern India, we must look beyond it for the causes which made so much coffee assume an undesirable appearance this last season. I think we may naturally conclude that abnormal climatic conditions during the periods when the crop was maturing were the principal cause. An unusually heavy North-East monsoon, which was so welcome for other purposes, caused most irregular ripening which in its turn caused uneven fermentation before washing and unusual difficulties in regard to the bulking of the numero batches, each of which had their special characteristics. T crop being a late one, the first lots were very gradually dried a medium temperature, while the concluding batches we unavoidably subjected to a higher temperature and the desi cating effects of the East wind.

Mr. Gompertz spoke as follows:—Mr. Hockin has stat that East Indian coffee still takes the lead—that the high price realised for our coffees are higher than the highest pric obtained for the best American, and that the lowest pric taken for our worst coffee are still higher than the lowest th Costa Rica and other American planters have been obliged accept for their worst. This is no doubt true, but is a mo misleading argument. The prices paid for the best coffee our best estates such as "Faith" or "Cannons" are no criteri of the value of the bulk of our best coffee; and again thou some rubbish may be shipped from Costa Rica, which is wo than anything we care to send home, it by no means follo that the bulk of our 2nd and 3rd sized coffee is better th the bulk of theirs. The only way to arrive at a just notion the value of our coffee as compared with their's would be take the sum total realised by, say, 1,000 tons of our coff and 1,000 tons of American. That the value of the bulk of c coffee is much less than that of the bulk of their's is proved a quotation in the last number of *Planting Opinion*, whic lunfortunately, I have not by me now and cannot refer to, b the average price of the American Coffee was much better th ours, and I think—though in this I am open to correction—th the superiority was nearly as five to three. Even if Mr. Hocki contention were correct, and that we do really still maint the lead, it is most unwise, I think, to say that we have no ca for anxiety. If he holds that we still keep the lead, he w scarcely assert that that lead is as long as it used to be, a the fact that they are creeping up to us (from *his* point of vie I maintain that they have already passed us) must cause us t gravest anxiety and to teach otherwise is to preach pe where there is no peace. It is, however, refreshing to see th whatever Mr. Hockin may *say* about this matter, he is—as e —willing to take the lead when deeds not words are want It is to him we are indebted for the drawings of the machine which he has laid upon the table, by which the Americans h so improved their coffee. If the wealthier among us will n show the way and order a set of this machinery, it is proba that others will follow their example as soon as more prosp ous times set in, and that we may be enabled to recover t ground we have lost. I would earnestly urge you all to l not a moment in improving your coffee by every means in yo power, whether by culture or hybridisation, or by improv methods of pulping, washing, drying, and curing,—and by of these methods, as soon as you can afford them all. In t connection it matters not whether Mr. Hockin is right or w If we do retain the lead, improving our coffee will enable us increase it,—and if we do not, it will certainly assist us to m up lost ground.

Mr. Hodgson having been heard in reply, the following solution, proposed by Mr. Hodgson and seconded by Mr. W. Sprott, was then put to the vote and carried:—"That U. P. A. do communicate with the coast-curing firms w a view to collecting information as to the improved meth of curing coffee and the use of new machinery now in ve in America and other foreign producing countries, and t the Secretaries of District Associations be asked to co municate with their members with a view to urging car attention to curing on the estates, and that any information t members will give as to the result of any special system ad ed will be of great interest and utility in working out this portant problem."

NEW MARKETS FOR COFFEE.

Mr. F. J. Parton commenced the discussion on this subject. He said :—

Gentlemen.—Now that the price of the East Indian and other coffees has fallen to a point that makes its production a costly drudgery, I think we should bestir ourselves to try and find new markets for our produce in countries where our coffee has not yet been introduced, and also at Home in England, where a splendid market might be obtained by opening stores in the manufacturing towns, where good pure coffee, roasted and unroasted, could be obtained by the working classes in convenient quantities and at reasonable rates. There is, too, here in India a vast market which we ought to supply. With a population of two hundred and fifty million people, there must be surely some fifty millions who could afford the luxury of coffee if it was only brought within their reach. Reverting again to the question of finding new markets in other countries, it is said that East Indian coffee is so well known to the trade that further advertisement is unnecessary. This, I think, is a mistake. We pride ourselves on growing the finest coffee in the world, and for which, until quite recently, we have always obtained the highest prices, and so remained contented. Unlike us the Indian and Ceylon Tea Association, although they grow the finest kind of tea, and obtain the highest prices for their produce, were not satisfied to wait until matters had reached such a crisis, as our industry is now passing through, but energetically pushed their teas in America, Russia and other countries, and so gave their industry a new life. What they have done on a large scale successfully so we might do on a smaller one according to the funds at our disposal. Mindful of the warning we received yesterday regarding the hasty absorption of our Reserve Fund, I would suggest that the Secretary be asked to use every endeavour to gain information as to whether we might not obtain new markets in the U. S. A., Canada and other British colonies, and by what means we could best bring coffee to the notice of those natives of India who are in a position to afford it. I therefore beg to propose :—"That the Secretary of the U. P. A. S. I. obtain information as to the possibility of finding a market for East Indian coffee, in the U. S. A., Canada, and other British colonies, and also ascertain by what means we could best bring coffee to the notice of the natives of India who are in a position to afford it."

The Resolution was seconded by Mr. R. Gompertz.

Mr. Acworth said he did not wish to discourage coffee-planters in their efforts to find new markets. That was a very desirable and necessary thing to do; but he thought they were setting to work entirely in the wrong way. In the first place it was not work of the Secretary of the U. P. A. S. I. to do what was requested of him in the Resolution; the proper thing to do was to communicate with the Chambers of Commerce and through them to find out likely and desirable markets. Then again it was no use doing anything unless they had at their back a fund with plenty of money working on the lines of the Indian Tea Association in connection with the American Market Fund. That has cost about £20,000 a year for the past eight years and there was not the slightest doubt that instead of spending only £20,000 a year they could with advantage have spent double that sum. If they wanted to do anything they should put themselves in communication with coffee producers in the East who grew high-class coffees, unite to form a fund and then get a good man to push their coffee in new markets.

Mr. J. W. Hockin said that he thought Mr. Parton had rather overlooked the importance of pushing cheap coffee. It is the pressure of the enormous quantities of this which had brought down the prices. The total crops of all the countries other than Brazil—and these included all coffees which ranked as a mild coffee—had not increased in 25 years, and if they could get cheap coffee into extensive consumption in England they would relieve the pressure of these cheap coffees in the market. If they could get the large houses to push the sale of cheap coffee in England, America and Germany, they would tap an enormous market. He would like therefore to add to Mr. Parton's Resolution a rider to the effect that they should try and ascertain through the London Chamber of Commerce if these large houses could not be found to push the sale of pure cheap coffee in the British Islands.

The meeting at this stage went into Committee to discuss the details of the subject, when Mr. Parton's Resolution was adopted and was afterwards confirmed in open meeting.

SCALE PESTS AND LADY-BIRDS.

On this subject Mr. Hodgson said that since he had reached the room that morning a great deal of correspondence had been placed in his hands with reference to this subject which he had never seen before. He was rather at a disadvantage therefore in speaking on the subject. His District was very much interested in the question of lady-birds as it suffered severely from scale pests, and all that they had done hitherto to try and eradicate it had been futile. They believed that if they could introduce the proper sort of lady-bird, they would have a good chance of ridding themselves of this pest. He might mention that his own Association with a view to acting on its own account had written to Mr. H. O. Newport who was now in Queensland to send a consignment of lady-birds by post. Unfortunately Mr. Newport was unable to act, though he had all the desire to do so, because he was in the employ of the Government of Queensland. He suggested, however, that he should be addressed officially on the matter. He also had suggested that as there was an entomologist in the service of the same Government, he should be addressed through the Department of Agriculture on the subject. The Lower Pulneys' Association was also very much interested in the matter, and as they had not a delegate present, it gave him much pleasure to speak on its behalf too. A considerable balance remained to the credit of the Lady-bird Fund, so the difficulty of asking for money in connection with his proposal was removed. He would therefore propose "That this Association, through its Secretary, do communicate officially at once with Mr. H. O. Newport and the Department of Agriculture in Queensland with a view to obtaining consignments of lady-birds by post."

Mr. Hockin seconded the proposition, which was carried.

THE STATE OF THE COFFEE MARKET, &c.

On this subject Mr. Graham Anderson contributed the following interesting paper to the records of the meeting.

It is an incontrovertible fact that no industries in the Indian Empire are more unselfish or have contributed more to the prosperity of the peasantry and the development of the trade, and resources of vast tracts of previously almost unknown and unremunerative country than those which are represented by this Association. The advantages and benefits resulting from a close union of almost identical interests are becoming more and more appreciated both by our own brotherhood and the Governments of the various territories in which our properties are situated owing to the fact that the delegates who annually meets in Bangalore are not only able to attentively study all the details of subjects of collective importance, but are assisted towards the most reliable conclusions by the mutual exchange of opinions and advice which the deliberations of this Association favor and invite.

Last season in my paper read at the Annual Meeting and subsequently in a letter to the *Madras Mail*, I expressed my supreme confidence in coffee generally and attempted to vindicate my right to believe that systematic and persevering work is essential to success in all agricultural undertakings and that good distribution of rainfall at blossoming and also for the perfect development of good bearing shoots are of vital importance in connection with all fruit-growing industries.

I also drew attention to the well-recognized fact that the distribution of rainfall has a far greater effect on agricultural operations

than the quantity, and that conditions analogous to those which caused the recent famine in Bengal have not been wanting in their disastrous effects on more sensitive industries in other parts of India.

It is a well-known fact that for several years past the planters have not only had to contend with a series of most unfavorable seasons, but have cruelly suffered from the effects of other circumstances which were also entirely beyond their control.

In my paper on Currency, I ventured to dwell with extreme earnestness on the utter disorganization of trade on the West Coast consequent on the continuance of plague in Bombay; the fall in the price of coffee in the London market; the critical state of financial pressure throughout the country; the general discouragement of the retention of loanable capital in India; the high rate of interest prevailing, and the ruinously disadvantageous competition by other silver-using countries, which made the finance and general conduct of all agricultural enterprises matters of the gravest difficulty and concern to those engaged in them.

The state of the market which was considered so deplorable last season has gone from bad to worse and this year the lowest prices that coffee has ever been known to realize, have been the rule and not the exception.

Such a state of affairs is nothing short of an absolute calamity, the continuance of which would threaten the very existence of our industry, which Lord Dufferin was pleased to acknowledge has always contributed its fair share to the material prosperity of the country.

Humble as my remarks may be, I venture to hope, most earnestly, that they may tend in some small degree to re-assure those who regard existing circumstances as hopeless.

Although many plantations in Southern India have again this season suffered heavy loss in crop prospects owing to incessant rain during the period of blossoming, still we must not lose sight of the principal cause of the depression in our industry generally.

This principal cause is over-production in Brazil which has been favored by a succession of most propitious seasons and where there is such an immense extent of magnificent land suitable for growing coffee, that plantations are not worked highly and can be abandoned for virgin soil immediately they become unremunerative. The Brazilian planters have been enormously assisted in their operations of extension by the system of currency prevailing in that country, which however threatens to bring their Government to the verge of bankruptcy if continued in and will certainly lessen the production of the plantations if altered so as to suit the pressing requirement of the Government.

On our side of the world, there is little or no reserve of land suitable for coffee, in many districts; our estates require to be maintained in the highest possible state of cultivation and have had to contend against a series of extremely unfavourable seasons during the last few years, intensified in their effects by the most disadvantageous state of general financial stringency arising from currency difficulties, that the world has ever known.

In addition to these overwhelming troubles the coffee industry has to contend against the effects of adulteration and the absence of concessions which would accord to the consumer the full advantage of the immense fall in the wholesale prices; subjects which we confidently trust will not fail to be attentively considered by the Government, the general public and the retail traders respectively. There are consequently many considerations which will demand increasing study by the planters themselves Several suggestions have recently been made in the papers for the reduction of the expenditure on estates, foremost among which is the lessening of the wages of coolies and artizans and the commission to maistries.

I entirely agree with "Tumma Maistry" and "A Planter" in the *Madras Mail* and fail entirely to conceive how any reduction of coolies wages can be made except subject to the impracticable adoption of a general agreement by all planters in Southern India, more especially in the face of the high rates of commission which it is considered necessary to pay to maistries in some districts for collecting labor and the enormous difficulties and losses so very recently experienced throughout all planting districts, which have been the subject of investigation and report by the Planters Inquiry Commission.

Doubtless some districts are more favorably situated than others and each individual planter must be the best judge of the measures which are practicable, prudential or necessary during the temporary existence of a redundance or scarcity of laborers, artizans or ca men. In other words, close attention to the conditions of supp and demand which can alone be depended upon in regard to t maintenance of economic prosperity, can also be trusted to gui and control the arrangements of individual planters in their endeav to reduce expenditure. Let us, therefore, first of all strive to mai tain confidence in our industry generally by practically manifestin our ability to manage our affairs with caution, prudence and ta We are undoubtedly passing through a time of anxiety which t some at first sight may be regarded as calculated to lead on wide-spread ruination alike to ourselves and the hundred of tho sands of peasants whom we employ. but there is a silver lining to t gloom that is around us which should afford us and those wh may financially assist us in times of temporary embarrassme every possible encouragement.

We have had good seasons before and we may be absolute certain that we will be blessed with them again and that the ov production in Brazil will not always be an unfailing torment to t planters in the Indian Empire. The Brazilian Government mu inevitably become seriously embarrassed if it does not re-arran its currency system and immediately that process is taken practical in hand, the handicap on our industry will be gradually render more bearable.

Much vexation and loss will doubtless have to be patient suffered by us in the meantime, particularly in regard to t maintenance of young estates and properties which have not be kept in an efficient state of cultivation, but taking coffee general there is nothing in the world that can be more implicitly trust to recoup those engaged in its cultivation for the losses experienc in a few bad seasons which have resulted simply from unfavorab distribution of rainfall principally at blossoming time and not any abnormal way from any deterioration of the plantatio themselves. Owing to the small yield and good work persistent maintained, all coffee in good soil and favourable situations is, present, looking far finer than it usually does at this time of t year.

With whatever disfavor the Hindoo system of making meteorolo cal forecasts may be received by other scientists the undoubt fact remains that this "Vikari Samvatsara" or thirty-third year the Hindoo cycle of sixty, is most accurately fulfilling all t prophecies made in regard to it and is maintaining its reputati as the most unfortunate year of the cycle.

The next seasons will fall in the year "Sharvari" which is usher in a change and to be the commencement of a period prosperity and if this forecast is verified with similar exactne greatly increased confidence will be placed in the periodicity rainy and dry years which Mons. de Parville, some years a endeavored to demonstrate as dependent upon the inclination of t moon's path to the plane of the equator.

The peculiarity of the present season has been the abru alternations from excessive rain to bright hot weather. The hea rains which ruined so much blossom in April and were followed bright sunshine in May, have brought forward a magnificent sh of fine. strong shoots in all good soil, but the plants in poor, grave portions have hardly made any new growth and the alternatio from saturation to dryness in May and from excessive moisture June to hot. rainless weather in July-August have interfer with root action and caused the usual visitation of tea-pests commence earlier than customary.

These, however, are no new troubles, they are simply examp of the varying effects of season and environment on all plant-l and the dangers attending the disturbance of the delicate equ brium of heat, light and moisture at critical periods of grow which illustrate the well-known fact that climatic conditio however good are but rarely equally suitable to the requireme of all localities or descriptions of soil.

Another remarkable fact is that, for the last two years, the bloss which failed was developed in the "Ashvini" rain, which in calendar is generally timed to occur about the latter half of A and takes its name from the first of the twenty-four constellatio in the moon's path, hence considered its mansions. It is traditi ally regarded as the most unfortunate rain and no native cultiva will sow seed in his fields while it continues. Such a heavy of rain as registered in 1898 and 1899 during "Ashvini" has occurred for over thirty-five years, and I therefore fail to see w such abnormal conditions should be permitted to disturb confide

in the future of coffee, more than would be the case in regard to British horticulture if St Swithin's day was rainy for two years in succession. The only difference is that rain after St. Swithin's day injuriously affects the harvesting, while that during "Ashvini" saturates the soil at blossoming and upsets the farmer's arrangements for making the soil into a suitable condition for the reception of the seed.

The Government of Mysore, with its characteristic foresight and benevolence, has appointed an eminent scientist to render our industry and others in the Province every possible assistance in the matter of improvement of culture and the mitigation of the losses from plant-pests and other difficulties which we have hitherto always had to contend against.

The currency question has been investigated and reported upon by a committee of experts, and we rely on Government doing all that is practicable towards gradually inducing a beneficial change in financial conditions throughout the whole of India

Many of us have to acknowledge with sincere gratitude the sympathetic support of our commercial friends who have afforded monetary assistance to their constituents with no sparing hand during a period of unexampled misfortune.

The Government of India after bestowing careful study on the elaborate report of the South India Planters' Inquiry Commission has graciously seen fit to acknowledge the justice of all our representations, persistently made for thirty-three years past, relative to the necessity for improving existing legislation affecting fraudulent breaches of contract, the prevention of coffee stealing, and the much vexed subject of extradition.

The Government of Madras is at present engaged in framing and improving laws to meet the exigencies of the situation which will, it is confidently hoped, prevent the recurrence of those ruinous losses, amounting to many lakhs of rupees in each coffee district, caused by giving advances for the supply of labor, a system which in the opinion of the Inquiry Commission, it is impossible to abolish under existing circumstances so that that method of meeting the Planters' difficulties is impracticable.

Whichever way, therefore, we may look, there are the clearest indications of practical sympathy and a general change for the better in regard to all those circumstances which have caused us loss, annoyance and anxiety in the past.

The Editor of the *Madras Mail* has drawn prominent attention to the thoughtful and most excellent communications on the Future of Coffee" by "A Planter" which, as the Editor rightly remarks, "give detailed reasons for the faith that is in him and deal with the whole matter in so masterly and convincing a manner that his *confrères* cannot fail to derive much hope and instruction from what he has to say."

After carefully perusing these communications I feel there is but little for me to add and I only hope the writer is here to-day to help us in our deliberations and to accept our unqualified acknowledgments for the excellent and business-like advice he has given us and for the carefully compiled statistics which support the convincing arguments he has used at such a critical juncture.

In conclusion, I respectfully venture to specify some of the modifications and improvements in existing usages which in my humble opinion our industry stands most in need of and which in the aggregate would afford the most material assistance to us all.

1. Stability of Exchange as calculated to favor the retention of available capital in the country at a reduced rate of interest and the settlement of the whole currency question in a manner which will accord to India the full advantage of her financial connection with England.

2. Legislative protection against adulteration which would immediately cause a vast increase in the consumption of coffee.

3. Sympathetic action in the matter of legislation relative to fraudulent breaches of contract, coupled with the introduction of reciprocal facilities for extradition, so as to enable Planters to reduce advances and to have an unfailing supply of labor to carry out all routine operations of culture at the proper seasons of the year.

4. The advice and skilled assistance of Agricultural, Botanical, Entomological and Meteorological experts on all subjects connected with or affecting the interests of agricultural enterprises.

5. Assistance by the Geological authorities relative to the economic use of local mineral products as fertilizers.

6. The concession to the consumer of the full advantage of the low level prices of coffee now existing, in view of stimulating increased consumption particularly among the working classes of all European nations.

7. Assistance of local and other firms in the matter of increasing the growing appreciation of pure coffee throughout the Indian Empire by removing any difficulties hitherto experienced in obtaining it.

8. The opening up of new markets and the development of the necessary facilities for utilizing them.

9. The adoption of improvements in the preparation of coffee both on the Estates and by curing firms in strict accordance with the requirements of the principal markets.

10. The practice of such general prudential economy as may be compatible with the maintenance of efficient cultivation of plantations and all necessary improvements thereof.

11. The hearty co-operation of our friends in endeavouring to encourage the appreciation of pure coffee not only as a wholesome beverage but as an article of great dietetic value, and the generous assistance of the public in demanding that only the pure article shall be sold under its specific and rightful name.

12. The popularization of coffee as a beverage by simplifying the various methods for making it and the complicated machines at present in use.

I hope that all imperfections in the remarks which I have made may be accorded every possible indulgence. Many of my opinions may not be in accordance with the views of some of my brother planters but I rely on their being corrected during the progress of our deliberations.

Our industry most fortunately has many friends and is well-known as one which introduces and freely distributes vast sums of money to the benefit of local trade and enables the inhabitants of many extensive districts to annually increase the cultivated area of Government lands and to pay the revenue demands with the utmost regularity. We have, most undoubtedly, an extremely grave difficulty before us and are prepared to face it as practical men who have surmounted many serious troubles in the past and who have the fullest confidence in the future of coffee which, however, like every industry in India, requires for its maintenance and welfare the cordial co-operation of the commercial world and the sympathetic action of Government in devising means for mitigating the disadvantages it has had to contend against.

In submitting my humble suggestions for the consideration of this meeting, I readily acknowledge that beneficial results cannot be expected from the changes which I have alluded to without considerable delay, but I venture to hope that my humble words may at least tend to impress upon the Government that unless the present extreme financial stringency throughout India shows early improvement, our industry, in common with many others, will inevitably suffer serious misfortune.

THE GOVERNMENT CINCHONA PLANTATIONS.

Mr. H. M. Knight said that considerable attention had been paid to cinchona in North Travancore and other parts as a profitable industry, and they were naturally anxious that Government should not go into the industry as a profitable investment and thereby compete with private enterprise. In order to elicit the intentions of Government in this matter, he would move the following Resolution:—"That the Planting Member be requested to approach the Government with the object of ascertaining what actully are the intentions of Government in reference to cinchona cultivation and obtaining some definite assurance that Government do not intend to enter into competition with private enterprise."

The motion was seconded by Mr. W. L. Edmiston.

Mr. Hodgson hoped he would be able to give Mr. Knight some information on the subject. It was a matter in which he had interested himself considerably, and at one time he had succeeded in securing from Government what he considered a statement, saying that it would not extend its plantations. When he heard recently that extensions were taking place, he consulted the Association, and on the 18th July he wrote to the

Revenue Secretary to Government asking for information on the subject. The reply he received was as follows:—

Revenue Secretariat, Ootacamund,

9th Aug. 1899.

My dear Hodgson,—With reference to your letter, dated 18th July, I am directed to place the following information at your disposal. For reasons as to the extensions of the Government Cinchona plantations, I am to refer you to G. O., No 1699, dated 4th May. 1896, communicated to the Secretary, United Planters' Association, Southern India. And with advertence to your statement that you are not opposed to Government extension of moderate areas, provided that Government do not sell the bark, and that the quinine manufactured is sold to the people at a small margin of profit, I am to explain that these are principles on which this Government bases its action. The area of extension contemplated is 1,200 acres, to be opened out at the rate of 80 acres a year from 1898, and to be worked on a 15 years' coppice rotation. You will, of course, understand that this letter is not to be regarded as binding Government to any particular course of action if and when a change of policy appears desirable.

(Signed) H. Tremenheere.

With reference to that portion of the letter referring to the speaker's views on the subject, he explained that those were his personal views and not those of his Association, which, however, left him and his colleagues discretion as to whether they were to oppose the extensions or not. He took it for granted, from what he had been told and from what had happened before that Government had decided on the policy of extending its plantations with the idea of providing the people of the country with quinine as cheaply as possible. Looking at the letter of Government and considering that the extensions were to be limited he did not see what damage the extensions could do to cinchona planters. The Government's one object was to sell the quinine as cheaply as possible to the people of the country, and in doing this it employed a distributing agency of local officials, a result that planters could not achieve without considerable expense. He would admit, however, that if the consumption of quinine increased it would be an advantage to planters. He had also ascertained, not officially, but indirectly, that Government was to continue purchasing 200,000 lbs. of bark in the market for some years. That meant to say that was the amount of its requirements over and above what its present plantations could supply. Taking this as yielding about 3 per cent. of quinine, it meant that Government would have to get about 6,000 pounds of quinine from the planters. It would have to get this from somewhere, and it was just as well the money should go into the local planters' pockets as that it should be spent at Home. Of course there was the argument that the planter could supply Government with the bark at a cheaper rate than it could supply itself. That, however, held good only so long as prices were as low as at present. The moment the price of bark rose the argument would not hold good. The natural argument was quite true; Government would buy bark at the market rate as long as it was cheap, but the moment it rose above a certain rate, Government would be able to supply itself cheaper, and would not therefore go to the planter.

After some discussion in Committee, Mr. Knight withdrew his Resolution.

FOREIGN MARKETS FOR TEA.

Mr. Acworth said:—

Mr. Chairman and Gentlemen,—You are all of you doubtless aware, that, some few years ago, it was resolved by the Indian Tea Association and the Ceylon Planters' Associations to start a Fund for the purpose of pushing British-grown tea on the American Continent. This Fund was the Americ Fund, and its success has fully justified our expectatio We began work in the face of the greatest possible opp tion: it was an uphill and, what seemed at first, an alm hopeless fight. But we won. From a consumption of nothi per annum, we reached last year's consumption of 12 millions pounds of British-grown tea in the United States and Can and I have not a doubt that, if we continue our efforts, t consumption will be an annually increasing amount. B gentlemen, it is only fair to believe that the joint efforts the two Associations would have met with even grea success, had India worked on the same lines as Ceyl In India subscriptions to the Fund were voluntary: in Cey by the wishes of the planters themselves, compulsory. N there is much to be said for voluntary subscriptions, when do their duty; but the policy of the governing body of Indian Tea Associations has not met with a liberal respo from Indian Planters, some 40 per cent. holding aloof. are larger producers than Ceylon, but our funds fall short those raised in the Island by almost one-half. I am pro to say that my own Association has, since the inaugurat of the Fund, subscribed thereto its full quota, but I beli I am correct in stating that it is the only one through the length and breadth of India that has hitherto done so, several members of my Association, through disgust at the action and, pardon me the expression, the selfishness of oth seem now inclined to hold aloof. It is not a sound argume but it is a natural one. To my mind the apathy of India this matter is not merely unfortunate, it is disastrous. Mes Gow, Wilson and Stanton, writing some two years since, sta that the London market had that year, owing to the effort the two Associations, been relieved of some 10 millions of pou of British-grown tea, and that they trembled to think to w point that market would have dropped, had not this been acc plished. Again, a prominent member of the Committee of Indian Tea Association, speaking in Calcutta, in May last, s that, had the London market last season been relieved of additional 10 millions of pounds of British-grown tea, we sho never have seen the slump in prices that actually took pl That it could have been so relieved, had India done her d I have not a doubt. In any event we have now reached critical stage in our industry. Production is increasing and continue to increase for some years to come. Japan, our shre est and most popular rival, is making gigantic efforts oust us from our present position and improve her own; has already spent some £80,000 in pushing her produce an prepared to go still further. And who can tell the enorm injury that the opening-up of China and her vast Tea Distr will inflict on us? Believe me, gentlemen, the fight for suprem in the Tea markets of the world has only just begun, an depends on our own action, whether it shall prove for us of life or death. But, gentlemen, the Anglo-Saxon has ne yet been beaten, when he has clenched his teeth and f determined to win; but the time has come for him once for to make that determination. Having made it, I for one h no fear of the future. Remember, please, that, in asking y support for my resolution, I appeal to you entirely from point of view of self-interest. Take it this way: you raise a levy of 20 cents per every 100 lbs. tea (it is more conven to take the Ceylon Currency) a sum of something 3 lacs per annum. By spending this money in judicio advertising and pushing our produce, we are able to reli the London market so as to keep the average price of Indian at (say) 8½*d.* per pound in lieu of, say, 8¼ per lb. That is to the producer receives an extra ¼*d.* per pound on his crop. sum on the total output of India for the current year amou to 2½ million of rupees. Does any one mean to tell me t the game is not worth the candle, that it is not worth spen

3 lacs to-day, in order to reap 2½ millions of rupees twelve months hence? The thing is too self-evident to require argument, and the pity of it is that the Indian Tea Association did not, years ago, move on the same lines as that of Ceylon. I beg to lay the Ceylon Act in reference to the tea cess on the table, and beg to move the following resolution :—

"That the Secretary be instructed to write to the Indian Tea Association and Press upon that body the great importance of obtaining funds for the American and Continental Funds and to request it to approach the Supreme Government with the object of securing an Act on the same lines as Ceylon Act IV. of 1894."

The Resolution was seconded by Mr. H. M. Knight.

Mr. Hodgson said the subject of Mr. Acworth's speech was new to him and he was not prepared to vote for it without first consulting his Association. The principle was fair, no doubt, but the Resolution called upon all planters in South India to consent to a self-imposed taxation, which was a proposition he was not prepared to assent to without consideration.

The Resolution was carried, coffee-planters holding aloof and not voting.

TEA AND COFFEE DUTIES.

Mr. W. L. Edmiston, in opening the discussion on this subject, said :—

Mr. CHAIRMAN,—At the meeting of last year the subject of tea duties was considered and a resolution passed. As nothing definite has been done and no satisfactory answer has been received to our Secretary's communication, I concluded the subject would have found a place on the Agenda paper for this year. I now find it is absent from the Agenda, and as my Association desires that the question of the reduction or abolition of coffee duties be added, perhaps you will permit that the subject be placed on the Agenda and considered first in Committee.

Mr. G. L. Acworth said :—I should like to point out, before going into Committee, that this matter has been sprung upon me, as it has upon others here. I am certain, as far as my Association is concerned, that we should oppose the removal of the duty on tea. In the first place, I don't think the British Government will take off the duty on British-grown tea and keep it on the foreign grown article, because that would immediately place a bounty on tea. Then look at the matter again from the point of view of expediency. You very well know that 2 lbs. of China tea are equal to 1 lb. of Indian tea. At the present rate of tea duty the impost on 2 lbs. of China tea is 8d.; the cost at 4d. 1 lb. is 8d. making the total cost 1s. 4d. per pound. Take 1 lb. of Indian tea which equals 2 lbs. of China tea; the price is 9d. and the duty 4d. making the total cost 1s. 1d. There you have an advantage over China of 3d. on the pound and you can sell a cheaper and a better article. Remove the tea duty altogether and 2 lbs. of China tea will cost 8d., and 1 lb. of Indian tea will cost 9d. China has therefore an advantage of 1d. on the lb. It is an open question, then, if you make the article cheaper, whether the public would not go back to China tea.

An adjournment at this stage was made for lunch.

The discussion was continued after lunch in Committee, when it was resolved "That the discussion on the abolition of import duty on British-grown tea and coffee be postponed till next year, by which time delegates can get the views of their respective Associations on the point."

IMPORT DUTY ON MANURES.

Mr. H. P. Hodgson said that this matter had been placed on the Agenda at the instance of Messrs. Arbuthnot and Co., who wanted basic slag exempted from import duty. He accordingly addressed the Madras Government on the matter, asking if it was prepared to support the application made by Messrs. Arbuthnot and Co. to the Collector of Sea Customs for the exemption of basic slag from duty. The article was of increasing use as a coffee manure and, in accordance with the Government policy not to tax manures, might be exempted, especially as it was not used for purposes other than that of manuring. With reference to the last point, however, he learnt afterwards that it could be used for other purposes. He received a reply from the Revenue Secretary stating that Government was prepared to recommend that basic slag should be exempted from the payment of import duty. Last year seven chemical manures were exempted from duty and now an eighth had been added, and this, he thought, pretty well included all the chemical manures planters were likely to use.

After some further discussion, Mr. Sprott moved and Mr. Parton seconded, "That the Secretary be instructed to ascertain from the Customs House authorities in Madras if the undermentioned will be charged import duty, and, in the event of their being charged, the planting member will take steps to have them removed: superphosphates, rock phosphates, tankage."

It was proposed by Mr. W. L. Edmiston and seconded by Mr. G. L. Acworth "That the Government of Madras be thanked for recommending that the Import Duty on basic slag be removed." The Resolution was carried by acclamation.

CURRENCY.

The Chairman said :—With regard to currency, Mr. Acworth wrote and asked me why it had been put on the Agenda paper, because the subject was dead as a door-nail. My answer was that he was right; but I think the question will arise again. However, that was not the reason it was put on the Agenda paper. I put it there because I thought you would like to pass a vote of thanks to Mr. Acworth and Mr. Hodgson. We cannot be too thankful to them for their labours in this connection on our behalf. I know when I go home for a holiday I like to do as little work as possible, and it was very good of them to give-up their time and to take such great trouble on our behalf. I can only hope that it did not altogether spoil their holiday. I therefore beg to propose a formal vote of thanks to these two gentlemen.

Mr. Acworth said :—

Mr. CHAIRMAN AND GENTLEMEN,—It was with some surprise I saw on the Agenda paper a subject that certainly, in my opinion, is dead and buried. We have lost, and the best thing we can do is to take our defeat as pleasantly as we can. But I can't sit down without thanking you for the confidence reposed in me and the honour you did me in electing me your representative before the Currency Committee. The position did me great honour; but at the same time it was not altogether an easy one, as I knew that there were some among us who approved of the policy of closing the Mints. Why these gentlemen cheerfully submitted to an export duty of 50 per cent. on their produce, I have never been able clearly to compreheud. But at the same time, when all the great producing industries, jute and indigo, spinning and weaving, India tea and Ceylon tea, had formed into line, I do think it was a pity that our Association was not of one solid mind. I thought it was a still greater pity—I hope you will forgive me for saying so—that the subject was publicly debated here. Our policy was settled, and it seemed to me that the debate at that moment was not merely unnecessary, but it weakened our cause. I trust the Association will understand that I merely mention this to show that when I went before the Committee I found my position a little more difficult than I would otherwise have done. With regard to my evidence there is nothing more to say. That given by Mr. Christy, the Ceylon representative, a few days previously, was so exhaustive that it rendered mine almost superfluous. At the time I thought that the Committee was prejudiced in refusing to have more representatives of the producers to give evidence; but since then I have changed my opinion, and I now think it was

perfectly right. All had been said that could be said by Mr. Christy. Well, we lost and if in the hearts of some of us there may be some tinge of bitterness at having lost, there is one word I would like to add, and that is that I do not consider that a stone of any kind can be cast at the Committee. Of course, criticisms can be made. It was quite impossible, proceeding as it did, to please everybody; but to the unfailing courtesy of Sir Henry Fowler, to his strict impartiality, to his great grasp of the subject and to his enormous industry, no words of mine can do justice. Sir Henry Fowler and his Committee deserve well of the Government of India and the Indian Empire, and whatever our personal views may be, one and all of us ought to be equally grateful to them. I for my part hope that the question has been settled. I wish the Government of India success in its new policy, and I may be permitted to hope that it will not prove detrimental to producers. I thank you heartily for the vote of thanks you have passed and I thank you more heartily for the honour you have done me in electing me your representative.

Mr. H. P. Hodson said :—I must thank you also for the vote of thanks you have so kindly passed for any services I have been able to render in connection with Currency matters at Home. Anything I have been able to do has been small in comparison with what Mr. Acworth has had to do, but I did it to the best of my ability. So long as there was anything to be gained by fighting, we fought. But, as Mr. Acworth has said, we have lost, and the best thing to do is to put on a good face and do what we can with what has been given us.

Mr. R. Gompertz said :—Regarding Indian Currency there is now little to be said. The matter has been finally settled, and we must just make the best of a 16-penny rupee. As long as there was any hope of influencing the policy of Government, we almost unanimously, strenuously and consistently opposed it—never, I think, losing sight of that respect which is due to the powers that be, but with all the persistence and firmness which the gravity of the situation demanded, and with which such respect was compatible. We have a right to conclude that our arguments were unanswerable, since they have never been refuted. But though never refuted they have been disregarded and we are bound to believe that our Rulers have done what they honestly considered best for the country as a whole. Whatever their faults may be, planters have been ever loyal; so I have no doubt you will all agree with me when I say that, now that the matter has been settled beyond recall, all agitation and grumbling must cease; and we must loyally accept the position. There is, moreover, great hope for the Indian coffee planter in the action of the Brazilian Government. The intrinsic value of the milreis is a trifle above that of the rupee; but whereas their coffee, as well as ours, is sold for gold, they now get—roughly—30 milreis for the sovereign (and they have been getting a good deal more), whereas we get only 15. This has resulted in a great expansion of the Brazilian industry and in raising the supply till it considerably exceeds the demand. This has of course forced prices down to a point which, at Rs. 15 for the sovereign, does not pay working expenses; but which the Brazilian, getting Rs. 30 (milreis) for the sovereign, can still get on with. But they are no longer to have it all their own way. To save itself from national bankruptcy, the Brazilian Government has had to follow the example of that of India, and has set itself the task of deliberately inflating exchange which it means to continue till the milreis is worth 18d. In the first year they have raised its value from $5\frac{5}{8}d.$ to something over 8d., or about 45 per cent., and already their planters are feeling the strain. Very soon now we shall have our innings. It may not be very generous of us to view with complacency the distress of our Brazilian rivals, but we have suffered so severely for their benefit, that if, in the near future, they suffer for ours we may be pardoned if we do not weep too bitterly at their discomfiture. All through our struggle to get the Mints re-opened we were unjustly taunted by our opponents with wishing to make enormous profits at the expense of our neighbours. I have frequently pointed out that a greater mistake than this has never been committed or a more groundless accusation made. All we asked was that the Mints should be re-opened and put upon equal terms with our silver-using rivals. If the milreis be raised to 18d., we shall be 2d. better off than the Brazilians; and there are unmistakable indications that all other countries are being forced into line, and that gold will eventually become the standard of the world. Already there are rumours that China is about to adopt it; and that—and the rise in the value of its copper coinage in which labourers' wages are paid,—will do as much for Indian tea, as Brazil is now doing for Indian coffee. In conclusion, gentlemen, I think that if the currency policy of our own Government is not what we should have wished, we have every reason to believe that the Governments of those countries which are our chief rivals are being forced by their necessities to do much to counteract its ill-effects. I think that there are bright days in store for the Indian planter, and that they are very close at hand. Let us all keep up our spirits then, but by no means discount our prospective prosperity by disregarding economy for the present. I trust, however, that, by this time next year, we shall have begun to laugh at the anxieties which now depress us.

THE PARIS EXHIBITION.

The meeting then proceeded to discuss the steps to be taken as regards exhibition planting produce at the Paris Exhibition.

FOURTH DAY, 17th AUGUST.

The discussion on the question of exhibiting at the Paris Exhibition was resumed to-day in Committee when the following Resolutions were passed, and adopted in open meeting.

(1) Proposed by Mr. H. P. Hodgson and seconded by Mr. W. H. Sprott:—"That the sum of £100 be given from the U. P. A. S. I. Reserve Fund towards starting a fund to meet the expenses of proper representation of our products at the Paris Exhibition and that District Associations be urged to subscribe as liberally as possible towards it. It is further resolved that a first charge on this fund shall be the cost of fitting up and sending to the Exhibition, a case to contain exhibits from each District, and that it shall be exhibited under the name of U. P. A. S. I."

(2) Proposed by Mr. W. H. Sprott, and seconded by Mr. G. L. Acworth :—"That the coast firms, proprietors and others interested in our produce be asked to subscribe liberally towards the funds, and that the various Governments interested should also be invited to do so."

Proposed by Mr. Scott Skirving, and seconded by Mr. Hockin —(3) "That the arrangements for carrying out the two previous resolutions be entrusted to a small Committee of the following:—Messrs. Acworth, Hodgson, Knight, and the Chairman."

(4) Proposed from the Chair: "That a cordial vote of thanks be accorded to Mr. Drummond Deane for the valuable advice he has given through Mr. Acworth, with regard to the arrangements for sending in exhibits to the Paris Exhibition."

THE DRAFT LABOUR LAW.

The meeting then resolved into Committee and discussed the alterations and suggestions made in the Draft Labour Law by the Special Committee appointed on Monday last.

HYBRIDISATION.

Mr. J. W. Hockin gave the result of his experience with hybrid coffee in Wynaad. He said that last year he had been asked to report on certain hybrids and this year he has been asked to report on another lot. He was very glad to be able to lay his experience before the meeting. The

parent trees were fine trees about 7 or 8 feet high and about 7 or 8 feet across. He had also seen trees of one and two years' growth on a field. He went through them carefully and counted a select patch to find out what percentage were true to type and of the one year and two year plants he found that 33 per cent. were a new, vigorous, well-cropping type, free from leaf-disease. At one time he thought that if the plant had been kept in a nursery he might have been able to distinguish the good from the bad, but the hybrids were rapid growers and the one-year plants were from 30 to 40 inches high and the two-year plants were from 7 to 8 feet high. He would suggest that they should be planted out, that they should be planted in spaces 5 ft. by 5 ft., and in the following year the worthless ones could be cut out, keeping the good ones in spaces 10 ft. by 10 ft. The result would be fine vigorous plants free from leaf-disease. He also found these hybrids fruitful, giving seed in the third generation. He thought Mr. Crawford could add a good deal to the information he had given about hybrids.

Mr. Crawford accordingly gave the following particulars regarding a large number of very good hybrids that had been raised on Mr. Brook Mockett's estate in Mysore. He said :—

I regret I have very little to say on this subject, and as I do not wish to take up the time of the meeting in attempting to make a speech, all I think I need do, is make a few general remarks about the experiments we have been making with hybrid coffee in Mysore. I believe you know the past history and generally all about the parent hybrid trees. This being the case I will confine my observations to the plants raised from seed taken from the parent stock. It is, as you now, in all hybrids, a very difficult matter to perpetuate in the second and subsequent generations all the good qualities of the first, and also that any permanency of character can only be obtained from plants with a considerable ancestry, which to you, as practical planters, will at once be apparent is a matter of time more than anything. You are aware that plants grown from the first generation of hybrid coffee very frequently throw back to one or other of the original varieties, and it is the exception and not the rule to raise a large number of seedlings with all the good qualities of the parent. The seven parent plants in question I may say are no exception to this rule and do show here and there types of an undesirable kind, at the same time, and, on the other hand, many of the plants exactly resemble the parent, and others, I venture to think, are decidedly superior. The latter are, if I may so describe them, like huge Arabian coffee trees and have a very dark strong textured leaf, which is apparently quite free from the attack of leaf-disease and rot, whilst the fruit is of medium size and ripens up with ordinary coffee and can be easily pulped with the existing pulper without difficulty. These trees have been found to be just as prolific as their parents, giving as much as 12 lbs. clean coffee per tree. Seedlings grown from this description of hybrid were put out into clearings last season and it will be very soon possible to say if in the third generation they will be as good as anticipated. I might mention in passing that samples of coffee prepared from the parent and last mentioned varieties of hybrids have been sent to the London brokers, who have reported highly on them, but in the present depressed state of the coffee market it is impossible to say what consignment would realise. I would like to point out that it does not necessarily follow because hybrids in Mysore and the Wynaad give as individual trees such big crops, it is certain they would do the same when planted over a large area. We have all of us, I feel certain, picked very large crops from individual trees of the ordinary Coorg variety of coffee. I myself have picked 16 seers and I have heard of as much as 25 seers of berries being gathered from one plant, which is about 5 tons per acre and I think compares not unfavourably with the crop taken from Hybrids. I shall be very glad to give, as far as I am able, any further information on the subject to any member who may wish me to do so.

ROADS AND COMMUNICATIONS.

Mr. J. W. Hockin opened the discussion on this subject in the following speech :—

Mr. Chairman,—Just at present we have no complaint to make as to the fund granted by Government for our roads, but we have great cause for complaint at the extremely dilatory way in which these grants were made. It is nearly three years now since we represented to His Excellency the Governor of Madras that the grants for our Calicut-Vayitri road were insufficient, and received an assurance that it was only right we should have these grants increased and His Excellency did not think there would be any difficulty about it. Every year since, we have pressed for an increased grant, but it is only just available. The result is, as we foresaid, *viz.*, that the road down the ghaut is now in a worse state than it has ever been. The road resembles a ploughed field more than anything else. I noticed one place where the difference between the bottom of the furrow and the top was quite 2 feet. Ruts of 1 foot and over are quite common and so are long stretches of jagged bed rock or red soil. I think, gentlemen, you will consider this pretty bad condition for a metalled Government road which was reconstructed at a cost of 3½ lakhs about thirteen years ago. And the pity of it is that the whole thing might have been prevented if Government had not taken one or two years to consider our complaints. Last year the surface was uneven and there were deep ruts in places. Now the surface is absolutely broken up over a great part. Fortunately the monsoon was a light one, but if it had resembled those of 1896 and 1897 the road would probably have ceased to exist. It is only fair to say that now at last funds have been found and gangs are at work on the road and, we believe, we have to thank His Excellency the Governor of Madras for overcoming obstacles among Government Departments, even greater than Mr. Romilly and I had to overcome in getting down the ghaut this year. It took us five hours to do a journey that can easily be done in two hours when there is a road to travel on, so we should not perhaps be surprised that it takes three years to get a simple application for funds through all the obstacles that can be put in the way of such a grant. I beg to propose "That this Association draw the attention of Government to the extreme importance of, and the great saving of money which will result from, the prompt granting of funds to keep existing roads in order, as opposed to delaying such grants till the roads practically want reconstructing."

Mr. H. P. Hodgson said he would like to make a few remarks on what Mr. Hockin had said about the great delay in the grant for the Calicut-Vayitri road being made. Mr. Hockin had admitted that H. E. the Governor at once sympathised with the request of the Wynaad planters for the money required and promised to give it. He complained, however, that a delay of three years had occurred since then. He (Mr. Hodgson), however, desired to point out that these three years covered a period of great financial stringency and Government was hard-put to find money for many public works. He knew this, having read and been present at the Budget debates in Council. It was probably this which, in a great measure, had caused the delay that had taken place in making the grant for the road in question available. He thought that some consideration was due to Government in view of the fact that it had lately made large grants to the Wynaad with a view to the roads. He thought he was right in saying that a grant of Rs.10,000 had recently been made for improving and metalling the road beyond Sultan's Battery. He thought that some acknowledgment should be made for grants of this sort and some allowance made for times of financial stringency in which delay was likely to occur in making grants available.

Mr. Acworth asked how Local Funds were administered in view to getting the road leading from Ammayanakanur into Peermaad improved.

The meeting then went into Committee to discuss this point. Subsequently Mr. Hockin replied to Mr. Hodgson's remarks as to the cause of the delay and stated that it was due not so much to financial stringency as to disagreements between the District Board and the D. P. W. as to the compensation due to the former body on taking over the control of the road from the D. P. W.

His resolution was then passed and the meeting adjourned.

FIFTH DAY, AUGUST 18.

The delegates held their last sitting to-day at 11 A.M., when the following business was transacted :—

CORRECTIONS.

Mr. G. L. Acworth, said :—

Mr. CHAIRMAN,—I wish to refer to the copy of the *Madras Mail* of this morning reporting the proceedings of the 15th instant. I see from the report of the discussion of the tea-cess that I have been exceedingly inaccurately reported, and I have been compelled to telegraph to Ceylon and Calcutta to reserve comment on my speech until they receive a revised copy of the speech from me. It may seem egotistical to state this, but I happen to know that all Ceylon are looking forward to this Meeting with great interest in order to ascertain what we are going to do in regard to the tea-cess, and I should be sorry to think that they should consider me so foolish as to be guilty of the mistakes made here. It is stated that Messrs. Gow, Wilson and Stanton reported that the London market had been relieved of 58 million pounds of tea. What I did say was that Messrs. Gow, Wilson and Stanton, writing two years since, stated that the London market at that time had been relieved of 50 million pounds of British-grown tea. The report further says :—"I tremble to think to what prices would have fallen, &c." It should have been Messrs. Gow, Wilson and Stanton trembled to think, &c." It does not matter what I think, but it matters a good deal what the greatest London brokers think. Then it goes on further to say that a prominent member of the Indian Tea Association, speaking at Calcutta, stated that the London market had been relieved of an additional 10 million pounds of tea, &c. What I did say was "Had the London market been relieved of an additional 10 million lbs. of tea, we would never have seen the slump in prices which has taken place," and then I went on to say "Had India done her duty the market could have been relieved." Further on the Report says that Ceylon raised by a levy of 20-cents over 3 lakhs a year. What I did say was if India followed Ceylon's example in having a 20-cent cess on every 100 lbs. of tea she would be able to raise a levy of 3 lakhs a year. It would be still more accurate to say something over 3 lakhs a year. Ceylon has never raised 3 lakhs a year, because on a cess of 20 cents. per 100 lbs., Ceylon has not sufficient produce to raise a levy of Rs.3 lakhs. These are the principal points I desire to bring to notice.

Mr. Sprott said : MR. CHAIRMAN,— I would like to make an explanation with regard to the report of my speech on the 15th instant on the "Deterioration of Coffee." In the Report, as it appears in the *Madras Mail*, I am made to say : "The Coast firms take a great deal of trouble in the curing ; but they lack up-to-date machinery, and we are being left behind." This I take it is a direct accusation against the Coast firms, and if it is allowed to go unchallenged may cause a good deal of friction. What I did say was :—"Our Coast curers take a great deal of pains in curing our coffee, but it is evident that from the use of up-to-date machinery, or some other causes, we are being left behind and we should urge them to try, if possible, to ascertain the reason for this and supply the want."

A HARBOUR ON THE WEST COAST.

Mr. J. W. Hockin, with reference to G. O., No. 471, dated 31 May, 1899, Marine, on Coast Light Dues and the improvement of Lighthouses, said :—

Mr. CHAIRMAN,—On my way to this meeting I was handed the above Government Order by a merchant interested in tea subject and asked to try and obtain your support for his views which are, I believe, generally shared by West Coast merchants. The Government Order was only sent to mercantile bodies and agents, but it requests the views of the shipping interest and we, as large shippers of produce, certainly share in the interest. The Government Order contains a proposal for raising a loan of 8 lakhs for the improvement of lighthouses round the coast of India, which is to be repaid together with the increased cost of maintenance by extra duties levied on shipping. The improvement of lighthouses is no doubt an excellent object. But the coast line of India is an easy one with hardly any deep indentations, or prominent headlands, and, as a matter of fact, an enormous amount of coast navigation is carried on every year with hardly any loss of ships or lives. The question is if money is to be spent in improving shipping facilities, whether there is not most urgent need for a safe harbour on the West Coast in which ships can load and discharge cargo alongside the wharf in all weathers. As regards produce, shipped only in fine weather, there is even now serious loss from sea damage and the detention of goods sold to arrive beyond the period stipulated for shipment by sudden spells of bad weather such, for instance, as occurred in April this year. This is unavoidable when cargo has to be shipped in open roadsteads in ships lying some three miles from the shore. Steamers could also afford to take much lower freights if they could load 500 to 1,000 tons a day from a wharf, instead of about 200 tons a day, as they now do, in the open roadsteads. The heavy freight from the West Coast has always been a grievance with South Indian produce and it is most important, in view of low prices, to reduce it. All these drawbacks are bad enough with produce shipped only in fine weather; but when it comes to tea which is a growing product requiring shipment throughout the year, the grievance is much heavier. I may say that no special port has been selected for improvement; that is left entirely to the judgment of Government after a careful enquiry as to the most suitable place for a harbour. Cochin, of course, has the best natural harbour with a bar on which there is always 13 to 14 feet of water, but that might be thought to lie too far south. The exact position of the harbour is not, however, of great moment in view of the railways now being made on the West Coast; and the railways might be induced to grant special rates for cargo diverted from one port to another. There is also an excellent network of canal and backwaters for the inland transport of cargo cheaply. There is, however, one mistake committed on the East Coast which should be avoided. The cost of the proposed harbour should be met by a tax on all the shipping trading to that portion of the West Coast which may be expected to benefit from the new harbour and not, as is the case at Madras, only on shipping entering the new harbour. The latter policy tends to make the dues at Madras unduly heavy and to prevent ships using the harbour if they can unload elsewhere even at greater inconvenience. The harbour should be designed to benefit the whole West Coast and the whole Coast should be called on to help to pay for it. It is believed a powerful steam dredger, capable of working in a seaway would be able to clear away any one of the many bars on the West Coast and might even be used at one season on the West Coast and at another on the East Coast. The cost of a really first-class dredger might thus be spread over the whole shipping trade of India. I beg therefore to propose the following Resolution :—"That this Association is of opinion that a safe harbour on the West Coast is more urgently needed than an improved

of the lighthouses round the coast of India, and would respectfully request that, before spending the proposed 8 lakhs on the improvement of lighthouses, an enquiry be made by Government as to the possibility of providing such a harbour on the West Coast in preference to improving the lighthouses if sufficient funds cannot be found for both projects."

Mr. H. W. Knight seconded the Resolution. The Meeting then went into Committee when the Resolution was modified as follows and adopted:—"That this Association do address the Government of Madras, supporting the views expressed by the Chambers of Commerce on the West Coast on G. O., No. 471, Marine, dated 21st May, 1899." Before the Resolution was confirmed in General Meeting, Mr. Acworth spoke in support of it, stating that there was great need for a harbour on the West Coast, if for no other purpose than as a harbour of refuge. There was no harbour of refuge between Bombay and Colombo, and, though such a harbour was not needed for a British fleet, it was needed for *puttimars* and other native craft which, at the opening of the monsoon, often required a place at which they could ride at anchor. He had often heard the question of a harbour discussed at Chambers of Commerce between Bombay and Colombo and all of them—excepting Bombay and Colombo—were in favour of it.

THE A. S. N. CO. AND TEA SHIPMENTS.

Mr. H. M. Knight made the following remarks on the arbitrary treatment of shipments of tea by the Captains of the Asiatic Steam Navigation Co., Limited. He said that at last year's Meeting, Mr. Edmiston had called attention to what was then considered unfair treatment with regard to tea-shipments by the steamer *Nurani*. It now fell to his lot to bring before the Meeting another grievance against the Commander of the *Nairung*. He read the following letter addressed by Messrs. John Grieve and Co., to Messrs. Peirce, Leslie and Co., Cochin, the Agents of the Company, which explained the grievances complained of:—

Messrs. Peirce, Leslie & Co.,
Agents, A. S. N. Co., Limited,
Cochin.

Dear Sirs,—We beg to bring to your notice the high-handed demeanour of the officer in charge of the *Nairung* respecting our late shipments to Bombay. On the 11th instant we despatched six boats containing 643 chests of tea, 93 of which were duly taken on board, when a slight stain of mildew was detected on one of the chests, in consequence of which the whole shipment was condemned and the Captain refused to take any on board, unless we consented to a fabulous claused receipt, to which our tally clerk rightly refused. The 93 chests, which had already been taken, were bundled back into the boats and the whole 643 chests returned ashore. The boats were sent off again next day and the only possible way we could get them shipped was to accept (which we did on protest) a receipt bearing the following clauses:—"All cases more or less stained." "Steamer not responsible for condition of contents." "Steamer not responsible for any cases that have been damaged or eaten by white ants." "Bad order receipt signed to this effect." Independent of these clauses some 46 chests were again returned which had sustained damage to the extent of a cracked stave or the edges slightly splintered, caused most probably by the slings in their rejection on the first day. We are at a loss to understand the Captain's reason for treating us in this manner. We are not exactly what you would call outsiders, considering we support the Asiatic Company to the extent of about 3,000 tons during the season. We shall be glad to have your explanation in this matter." . . .

The Meeting then went into Committee when the following Resolution was passed, and was afterwards confirmed in open Meeting:—"That the Secretary be instructed to write to the Secretary of the Madras Chamber of Commerce (enclosing the usual fee of Rs.15) asking them for their opinion on the correspondence between Messrs. John Grieve and Co., and Messrs. Peirce, Leslie and Co., Agents in Cochin to the A. S. N. Co., and also requesting them to state definitely what is the practice at Madras and Coast ports, and, if necessary, the Association's Solicitors be instructed to take Counsel's opinion."

RULES.

On the motion of Mr. Hodgson the rules of the Association, which were not included in the Articles of Association, were formally adopted.

Mr. Acworth proposed the following new rules:—(1) "That in the event of a member elected to office declining to act, an entirely new ballot be held."

(2) "That no Chairman shall hold office for more than two consecutive years."

The first was passed unanimously, the second being withdrawn, with the consent of the Meeting, after some discussion. Mr. J. W. Hockin proposed the addition of the following rule: "That at future Annual Meetings the election of office-bearers take place on the last day and not on the first day as now, and that all office-bearers be eligible for re-election." It was seconded by Mr. Gompertz and carried.

FINANCES.

The question of Finances and the Reserve Fund was then discussed in Committee and this brought the business on the Agenda paper to an end.

VOTES OF THANKS.

Mr. Scott-Skirving proposed a very cordial vote of thanks to the Press generally, and to the *Madras Mail* in particular. That paper he said, had systematically advanced the interests of the Association for the last eight or nine years and had always given them unfailing courtesy in their representations.

Mr. Graham Anderson said he felt sure he merely echoed the feelings of all the delegates present, and also all the members of the various Associations they represented when he wished to point out how grateful they were to their Secretary, Mr. Ormerod, for the ability, personal courtesy and absolute devotion to duty he had displayed during his period of office. Moreover, he would also say how grateful they were all to Mr. Ormerod, privately and officially, for keeping them so well-informed on all subjects which were connected with their industry. He felt sure that all would join in thanking Mr. Ormored most sincerely for all he had done for the Association.

Mr. Ormerod made a brief but suitable acknowledgment.

Mr. R. Gompertz proposed a cordial vote of thanks to the Planting member of Council who, for four years, had taken the greatest care of their interests and had watched over them and had done everything that could be done for the Association.

The Hon'ble Mr. Hodgson in reply, said:—

Mr. Chairman and Gentlemen,—The very kind vote of thanks you have just so cordially passed has indeed made me feel both proud and grateful, and I find it difficult to express in words how truly I appreciate your kindness. I am afraid that your generosity of heart has led you to greatly overestimate the value of my services—if service it may be called. By this time next year I shall have handed over the reins of my office to another who, I hope, will be our nominee, Mr. Acworth, and in his able hands you may rest assured that our interests will be carefully and intelligently guarded. There is one thing I must confess I should dearly like to see accomplished before the termination of my time of office, and that is our long hoped-for Labour Act. Since I was first honoured in 1896 by yourselves in nominating me, and by the Government of Madras in accepting my nomination as Planting Member of the Legislative Council of Madras,

I have never lost sight of the vast importance to us all of this measure, and from the sitting of the Enquiry Committee in 1896 up to the present moment, I have followed it through its slow and tortuous course always with anxiety and sometimes, I must admit, with impatience at our inability to hurry it on its way. Although I cannot yet congratulate you on the accomplishment of our aim in this direction, I think I may say that we are nearer to it than we have been at any time in the past thirty years, and I have every hope that the next Session will see the introduction and passing of a Bill, which will provide an Act containing provisions protecting alike the interests of the employer, that is the planter and the maistry, and the labourer, and giving to planters native territory that protection for the want of which they have in so long and so grievously suffered. It has sometimes occurred to me, during my term of office, when reading the published proceedings of the Meetings of the Legislative Council, that the absence of any questions standing in your representative's name may have led some among you to think that perhaps insufficient interest was being taken in your affairs. Now, without any way wishing to undervalue the right of interpellation, I am pleased to say that, in the conduct of our business, I have never found it necessary to use it, because I have always found that I could obtain all the information wanted more readily and in greater detail by direct communication with the Members of Government—from whom I have always received the most prompt and careful attention to any subject brought before them. I cannot say that I have not been asked to interpellate, for the request has been made of me on more than one occasion, but I think I may say that what was required has been done without resorting to interpellation. Gentlemen, it is always a pleasant feeling to start on a career of responsibility with the confidence and good-will of those for whom it is undertaken, but it is infinitely more pleasant to be told at the end of the course that such confidence and good-will has not been lost, and it is for this last assurance implied by the kind vote of thanks you have just accorded me, that I most sincerely thank you. It will always be a proud memory to me that I have been allowed to represent you for so long a time, and still more so is the assurance that you have been satisfied with the small service it has been in my power to render.

Mr. G. L. Acworth said :—I think the most difficult task that can fall to anybody's lot this morning has fallen to myself, namely, that of proposing a vote of thanks to our worthy Chairman. We have the authority of Shakespeare for saying "to gild refined gold, to paint the lily, to add perfume to the violet were but baseful and ridiculous excess." It seems to me that to try and praise our Chairman is to try to gild and refine gold. You all know the Chairman, and you all know his good qualities. What we want in a Chairman is a man of firmness, a good fellow and a man with common-sense. From the method in which he has conducted our meetings I am sure we can all appreciate his firmness. Those present at the dinner fully realised what a good fellow he is, and I am quite sure the Secretary will speak to his merits as a man of good sense in the correspondence which has passed between them during the past two years. I therefore propose a cordial vote of thanks to Mr. Romilly, and I can only hope that all other Chairmen will fill the post equally well.

Mr. Romilly, in reply, said :—Really, gentlemen, I should rather like to borrow Mr. Hodgson's speech and deliver it over again for myself. It is quite the pleasantest thing to take leave of you with the same friendly feelings with which I took up office two years ago. I think that these Annual Meetings are always most instructive and interesting, and this one has been no exception to the rule, and our thanks are especially due to Dr. Lehmann for the interesting advice he has given us about the application of manures. I am sorry that no Nati Association is represented, but as I said, in my opening spee native interest in public matters is rather difficult to arou and, I fear, that, like some of our less intelligent Europe brethren, they do not care to open their purse strings for t public good, unless the advantage gained is immediate and p sonal. I sincerely hope that the appeal we are going to make District Associations, firms and individual planters for subscri tions towards making a good show at the Paris Exhibition will liberally responded to; because, in my opinion, you should eith do a thing of this sort well or leave it alone altogether, and t £100 that we have already voted from the Reserve will not much more than cover the actual cost of exhibiting our produc and you must remember that besides this we want an attracti coffee-room. I hope, as Mr. Hodgson said just now, and fro what has transpired at this Meeting, that we are now with measurable distance of a Labour Law that will suit us all, wheth in British territory or in Native States, and we can now, wi absolute confidence, leave the management of the Bill in t hands of our member of Council. Before I conclude I shou like to endorse cordially the two votes just passed, one to t Madras Press and more especially the one to Mr. Ormerod. congratulate Mr. Sprott when he comes into office on havi such an admirable Secretary who will take all the work off h hands cheerfully. I have now much pleasure in declaring th Meeting closed. (Cheers.)

The Meeting then dissolved.

STRAY NOTES ON MANURES.

Prof. William P. Brooks, Massachusetts, says :—Green Manuri cannot increase the store of either phosphoric acid, potash or lim but it may be made to increase the solubility and therefore t availability of these soil constituents. The feeding roots of gro ing plants are furnished with a small amount of acid and this ac takes hold of and makes soluble elements which are not soluble pure water. The elements so made soluble become a part of t growing crop, and, when that crop decays, they become availa to the succeeding crop, whose labor is therefore lightened, becau it finds a larger store of available plant-food than would have be present had not the green-manuring crop been grown.

COCOA PLANTING IN SAMOA.

A report on cocoa planting in Samoa has been received at t Foreign Office from H. M. Consul at Apia. In an introduction the report, the Consul states that it would seem, assuming the pr of cocoa not to fall radically and no cocoa disease to arise, both which events seem unlikely to occur, that a potential commerc future has at length arisen for the Samoa group, after years depression owing to the fall in the price of copra and the appare unsuitability of the climate for other cultivations, such as ri sugar, tea or cotton.

Small capitalists (£500 to £2,000) going to Samoa and purchasi or leasing land for the purpose of cocoa-planting, would stan good chance of making a fair income after the first three or f years—provided that they either possess a practical knowledge tropical planting or will take advice from those in Samoa who ha experience in the matter.

Cocoa was first experimentally grown in Samoa by "Die Deutsc Handels and Plantagen Gesellschaft der Sudsee Inseln zu Hambur on one of their plantations near Apia. In 1892 a favourable rep on the quality of the bean was received from Germany. In 189 large number of seeds were distributed among the Samoans, a a few small plantations were started by some of the more enterp ing of the British and other foreign residents, which are n

coming into bearing. The number of small plantations are rapidly increasing and the amount of land at present bearing cocoa trees is estimated to be 75 acres.

The most encouraging reports continue to be received from Hamburg, San Francisco and Sydney, regarding the quality of the Samoan cocoa, the price varying between £60 and £80 per ton. An English planter in this island has an agreement with the German firm to cut and take all his cocoa, he paying freight to market and receiving two-thirds of proceeds, and the firm one-third, but it is stated that this arrangement has not yet been extended to others. However, there need be no difficutly as to drying and preparing the cocoa for market, as another planter who prepared his own in a rough manner received 16 cents (about 8d.) per lb. in San Francisco, whereas the cocoa prepared by the German firm realized 18 cents (about 9d.) per lb. in Hamburg. The expense of fitting up, drying and preparing rooms would not be great if divided amongst several planters. Small plantations are to be preferred, at all events at present, to large ones, as in the former personal supervision can be given, and the initial and working expenses are of course a mere fraction of what a large plantation would entail.

A small plantation of 6 acres holds about 1,200 trees, and these in the third year produce about 140,000 pods, and it is apparent that, even with the liberal allowance of 15 pods to the pound of marketable bean, each tree would produce from 6 to 8 pounds of prepared cocoa bean per annum. The trees begin paying in the third and fourth years after planting, and are in full yield after the fifth. Apparently there is practically no age limit to the bearing of a cocoa tree. The two heaviest cuttings are in April and September, and between times there are cuttings about every three weeks. The full grown pods, the immature one, and the blossom may all be seen on the same tree.

The best and cheapest way of preparing bush land for cocoa-growing is to thin out the undergrowth but to leave the trees standing so as to afford shade to the young plant. The cost of clearing and planting ought not to exceed £4 per acre. The young plants are raised in small cocoanut baskets filled with earth in well shaded nurseries and planted out; or the seeds are planted in holes well covered with topsoil, 15 by 15 apart, and when the cocoa trees have attained two years' growth, banana trees are planted between the rows of cocoa, the shade trees are ring-barked, and when dead are felled and allowed to rot *in situ*. It is surprising to see how very little damage, in fact practically none, is done to the plantation by the fall of these trees.

The cocoa tree seems to be able to bear an extraordinary amount of rough usage in Samoa. When the trees are about three years old the banana trees are cut down and rooted up. The tree with a single trunk is not considered desirable in Samoa, and by allowing two or three main stems to grow and training the laterals to branch out well a comparatively low bush is obtained, which does not attain the height to which the cocoa tree is allowed to grow elsewhere, and consequently is not so much damaged by hurricanes, and produces a larger crop of pods than the other variety.

The kinds of cocoa planted in Samoa were Caracas and Forastero but as usually happens by hybridization, a distinct kind has been produced, partaking of the best qualities of each variety. The Samoan cocoa is prepared in the Ceylon manner and is specially well adapted for confectionery purposes.

It is advisable not to prune the trees, as this entails stunting them in Samoa. In fact the golden rule for would-be planters in Samoa is not to follow any rule blindly, however well established, but to adapt the general rules of-cocoa planting to the special factors out here, and not to try and make Samoan nature follow scientific rules, but vice versa. The cost of land near Apia is about from £1. 10s. to £3 per acre if purchased from whites, and about 4s. to 8s. per acre if leased from the natives on a 20 or 40 years' lease. The soil is rocky and volcanic, and well adapted for cocoa.

Although labor in large masses is practically unobtainable in these islands and the native Samoan is by no means an energetic and hard-working laborer, yet sufficient floating labor for small plantations is to be had. The price is about 24s. to 35s. a month per laborer, his food costing about 16s per head a month. One man ought to be able to look after six acres of well grown cocoa in the dry season, but two are required during the wet season from December to May.

In Samoa the cocoa is a robust, hardy tree, growing luxuriantly, and yielding abundant crops with but trifling cultivation.—*Cultivator.*

DISTRICT ASSCIATIONS.

WYNAAD.

Proceedings of a General Meeting held at Yayitri, on 2nd August 1899. Present:—Messrs. J. W. Hockin (*Chairman*), B. M. Behr, Dr. Hayes, Messrs. J. S. Nicolls, G. Romilly, M. D. Taylor, A. West, H. B. Winterbotham, W. G. Wright, and E. de Fonblanque (*Honorary Secretary*).

Proceedings of the last Meeting.—The proceedings of the last general meeting were taken as read.

Election of Delegate to U. P. A. S. I. Meeting.—Proposed by Mr. E. de Fonblanque, seconded by Mr. M. D. Taylor,—That Mr. J. Williams Hockin be asked to represent the district at the forthcoming annual meeting of the U. P. A. S. I., and that he be given the usual fee towards defraying his expenses. Carried unanimously.

Subscription to U. P. A. S. I.—Proposed by Mr. H. B. Winterbotham, seconded by Mr. J. S. Nicolls,—That the subscription to the U. P. A. S. I. be the same as last year. Carried.

U. P. A. S. I.—Read agenda of the coming U. P. A. S. I. meeting.

Paris Exhibition.—A subscription towards the Exhibition was started and the sum of £205 was collected in the room.

The Secretary was requested to send a subscription list to all members. Members wishing to exhibit samples at the Exhibition are requested to communicate with the Secretary.

Delivery of V.-P. Parcels and Money Orders.—Proposed by Mr. H. B. Winterbotham, seconded by Mr. M. D. Taylor,—That the Postmaster-General be written to, requesting to know whether value-payable parcels and money orders should not be delivered at their addresses, within the radius mentioned in the Postal Guide, by the Post Office peons belonging to the offices of the district. Carried.

Pudu Padi Resthouse.—The resolution of the previous committee meeting, *viz.*,—"That C. Shangran's pay be stopped until the stables and bungalow be put in order" was confirmed.

Medical.—Proposed by the Chair,—That Dr. Hayes be asked to become Honorary Secretary to the Medical Fund. Carried.

Dr. Hayes accepted the post.

Resolved that the medical accounts should be rendered every month and audited by the committee every three months. Resolved that the Doctor be allowed a dispenser at a limit of Rs. 20 a month.

Doctor's Bungalow.—A committee of four, consisting of the Doctor, Messrs. H. B. Winterbotham, M. D. Taylor, and the Honorary Secretary, W. P. A., was appointed to settle all matters connected with the bungalow.

A vote of thanks to the chair closed the proceedings.

(Signed) E. de FONBLANQUE,
Honorary Secretary, W. P. A.

NOBODY WILL STEAL THEM.

There are two reasons why the Crown jewels are never stolen from the Tower of London. They are in a strong place, well guarded, and are dangerous things to handle when dishonestly come by.

Most losses of valuables are due either to carelessness on the part of the owners or custodians, or to bribery. Perhaps the burglar's vocation is under no circumstances an absolutely safe one, but not infrequently he chances upon a "job" which is both easy and lucrative. I do not mention this fact for the unworthy purpose of inducing any of the youth of the land to enter the profession, but solely to throw illustrative light upon quite another theme. Still, there is a relation between them, and we shall hit it after we have talked a bit about the case of Mrs. Mary Rowlands, who lives in Wales.

The lady says that no longer ago than February (1898) she had a severe attack of influenza, followed by bronchitis. At this point, we are concerned to know whether the influenza was in any sense responsible for the bronchitis, as cause and effect. If so, why? It is well understood, of course, in England, where influenza is so common, that other ailments *do* follow it; yet probably, the majority of us have not settled in our minds the reason for it.

At all events, Mrs. Rowlands had a low, bad time. The trouble lingered along as, sometimes, winter does, away down into the period proper for May blossoms. She could not seem to get the better of the throat ailment nor master the lethargy and weakness left her as a legacy by the influenza. Her condition may be likened unto that of a ship which has indeed survived a gale, but finds herself stripped of the sails needed to enable her to take advantage of gentler winds.

The lady's hope of getting back her lost strength by taking plenty of solid nourishing food was illusory. Every meal of that kind caused fearful distress in the stomach and acute pain at the chest. Nature distinctly repudiated the solid food, and almost as strenuously objected to the liquids, such as broths, teas, and milk It looked as if Mrs. Rowlands must starve at her own table.

Then came on asthmatic symptoms, so bad she was often obliged to gasp for breath. Between this combination of complaints, she got but little rest day or night. Soon after arose a threat of a still more serious disease—a threat happily not fulfilled. I refer to the cold, clammy sweats that broke out upon her, pointing to a fatal decline. The fear was natural, as grim Consumption, with his poisoned dart, often approaches by that same road.

"I became so reduced and feeble," the lady writes, "that my daughter had to nurse me constantly. I could not get into or out of bed without her help. In the house, or to others, I was of no use at all. The doctor who attended me left nothing untried that he knew of; but, in spite of all he did, I grew worse and worse.

"Where I should have been to-day, whether in the land of the living or not, who can tell, if a kind Providence had not intervened to save me? In some way my husband heard of Mother Seigel's Syrup, and persuaded me to try it. I began taking it and soon felt better. My appetite returned, and all kinds of food agreed with me. With plenty of nourishment I gained strength rapidly. The asthma and the bronchial trouble vanished, and almost before I could realise it, I found myself in the best of health, and have continued so to be ever since. For my remarkable and unexpected recovery I am under obligation to Mother Seigel's Syrup; and so I tell all whom I know."—(Signed) Mary Rowlands, Deri, *via* Cardiff, August 31, 1898.

One thing Mrs. Rowlands says in her letter which I have reserved for this place, namely, that she was a *dyspeptic*. Her system was weakened and her blood rendered impure by indigestion. That is the main point. *This is why she was open to the attacks of influenza, bronchitis and asthma.* Her body castle being weak, the precious jewel of health was stolen.

Keep the digestion strong and the blood clean and pure, by the frequent use of Mother Seigel's Syrup, and there will be no soil for the germs of disease to grow in. The system, thus guarded, protects the health as the walls and doors of the Tower hold safe the Crown jewels.

MARKET REPORT.

(By Mail Advices of 28th ultimo.)

COFFEE.

The *London Commercial Record* says:—The market has continued in a dull state, there being a want of confidence in the future, owing to Brazil receipts foreshadowing another record crop, and prices for nearly all descriptions have shown a declining tendency. Supplies have again been limited, and consisted almost entirely of Foreign. East Indian was mostly of unattractive quality, and it was almost impossible to elicit reasonable bids, therefore a large proportion was bought in; cherry pickings met with fair competition and mostly sold, although the recent high prices paid for this class are not quite maintained; Jamaica easier, Colombian and Guatemala steady, foxy Salvador and Nicaragua 6d to 1s lower. No further sales will be held after to-day until the 10th August. The receipts in Brazil continue very heavy, and "futures" have been weak and lower, but at the close the tone is fairly steady, *viz.*:—

London ...	... Santos ...	Sept. delivery	... 26s. 6d.
New York	... No. 7 Rio...	„ „	... 4·45 cents.
Hamburg...	... Santos ...	„ „	... 27 pf.
Havre ...	... Santos ...	„ „	... 32½ francs.
Holland ...	... Good ordinary Java ...	...	... 26¾ cents.

Imports, Deliveries and Stock of Coffee in London are as follows

	Stock.		Imports.	
	1899.	1898.	1899.	18
Tons ...	25,698	19,090	34,755	32,
	Home Consumption.		Export.	
	1899.	1898.	1899.	18
Tons ...	9,596	8,514	13,898	15,

The preceding figures exhibit—

	To
In the Imports an increase this year of	... 1,
In the Home Consumption an increase of	... 1,
In the Export a decrease of	... 1,
In the Stock an increase of	... 6,

Auctions this week have passed off as follws:—

Ceylon.—5 casks 3 tierces 2 barrels 3 bags were bought in.

East India.—951 bags offered and partly sold as follows:—*Myso* smalls 40s, low middling greenish and grayish 42s 6d to 4 bold 58s to 59s, pea-berry 49s to 55s. *Coorg*, smalls 25s, low m dling 36s to 39s, common pale grayish bold 39s 6d, pea-berry 3 *Neilgherry*, smalls 35s 6d to 36s, low middling 40s 6d to 42 *Nelliampathy*, low middling pale grayish 36s

Jamaica.—180 barrels 108 bags about half sold, ordinary to go ordinary greenish 25s to 31s, fine to fine fine ordinary 32s 6d 37s 6d, middling 43s, pea-berry 27s to 30s.

Java Liberian.—111 bags withdrawn.

Costa Rica.—25 bags were bought in.

Guatemala.—1,290 bags mostly sold, smalls 28s to 34s 6d, good fine fine ordinary 35s to 38s 6d, low middling dull colory 39s 40s 6d, middling to good middling dull greenish colory 43s 48s 6d, pea-berry 40s 6d to 47s 6d.

Salvador.—Of 1,223 bags offered about 1,100 bags sold—sma 27s 6d to 33s 6d, ordinary to good ordinary pale greenish 25s to 3 ordinary to good ordinary dull foxy green 28s 6d to 30s, fine fi ordinary dull colory 37s to 39s, middling 41s to 45s, pea-ber 34s 6d to 53s 6d.

Nicaragua.—268 bags nearly all sold, smalls 26s 6d to 30s, go ordinary foxy 30s, middling 42s to 44s 6d, good dull blue b mixed 65s, pea-berry 57 to 81s.

Colombian.—550 bags mostly sold, smalls 27s to 29s 6d, fine or nary to low middling 35s 6d to 40s 6d, middling to good middli 42s 6d to 51s, pea-berry 40s to 52s 6d.

Ecuador.—25 bags sold, yellow country-damaged bulked at 27s

Mexican.—44 bags retired.

Vera Paz.—13 bags bought in.

Brazil.—Of 914 bags washed Santos 466 sold, small dark gre ish 32s.

Receipts in Rio and Santos.

Since July 1	1899-1900. Bags.	1898-99. Bags.	1897-98. Bags.	1896- Ba
Rio	272,000	217,000	307,000	317,
Santos ...	555,000	391,000	521,000	425,
Total ...	827,000	608,000	828,000	742,
Crop		8,772,000	10,461,000	8,680,

Rio Exchange.—8¼d. previous day, 8 7/32d.

Havre, *July* 27.—Santos good average July opened steady at 31 and closed steady at 32¼f., September opened at 32f. and closed 32½f.

Hamburg, *July* 27.—Good average Santos July opened quiet 26¾pf. and closed quiet at 26¾pf., September opened at 27pf. a closed at 27pf.

New York, *July* 26.—Closing prices of No. 7 Rio were as follow

	July.	Aug.	Sept.	Oct.	N
July 26 ...	4·45	4·45	4·50	4·55	4
July 25 ...	4·40	4·40	4·45	4·50	4

To-day's auction supplies consisted of:—224 bags East In 9 casks 2 tierces 2 barrels Ceylon, 41 barrels Jamaica, 714 ba Nicaragua, 787 bags Salvador, 903 bags Guatemala, 30 bags Hon ras, 265 bags Ecuador, 958 bags Columbian, 149 bags Mexic 31 bags Coban, and 89 bags Rio. The sales went off with alteration.

Prices realized at auctions for some of the principal marks of East India :—

NEILGHERRY.

	A	B	C	PB	T
Curzon	55-0	42-6	34-0	...	...
Susan	no bid	no bid	34-6	45-0	28-0
Ferndale	36-0 bid	32-6 bid	...	...	24-0
Woodroffe, Kotergherry	no bid	no bid	no bid	no bid	20-0
Adderly	...	...	...	...	26-0 bid

WYNAAD LIBERIAN.

	T	G
Walker's Estates, Touramulla Liberian...	28-6 bid	20-0	10-0

WYNAAD.

	A	B	C	PB	T
Walker's, Estates Nellakotta ...	no bid	no bid	no bid	no bid	23-6 bid

TEA.

China.—No change of importance can be noted in this market. A fair demand was experienced for the 6,708 packages offered at auction during the week, and the major portion sold at valuations, except Green, which was decidedly cheaper through pressure to sell. Moning realised 5½d to 11¼d, Panyong 5¾d to 6¼d, Paklin 6¼d to 6½d, Kintuck 9d to 9¼d, Ningchow 11¼d, new make Congou 5¾d to 6¾d, Kaisow 5½d to 6½d, Scented Caper 5⅞d to 8¾d, Oolong 4¼d to 8d; Green Tea, Moyune, Gunpowder 6½d to 1s 1½d, Young Hyson 3⅝d to 7d, Sow Mee 6¼d to 1s 1½d, Foong Mee 8¼d to 10¾d; Ping Suey, Gunpowder 3½d to 7¼d, Young Hyson 4½d to 5d per lb.

Indian.—Owing to the trade dispute being at present unsettled, public auctions have again been on very restricted scale, viz., only 5,300 packages on importers' account and 900 packages from second hands, against 5,600 packages and 7,600 packages respectively last week. During this period a year ago 18,700 packages were offered.

Notwithstanding that the teas were disposed of with the usual 1-lb. draft allowanee there was a quiet tone for most descriptions and prices ruled on the whole in buyers' favour, while a considerable portion was withdrawn.

Including what is printed for next Monday (31st instant), the quantity which passed the hammer in the month as compared with previous years, will be as follows :—

1899.	1898.	1897.
22,300 pkgs.	55,000 pkgs.	44,200 pkgs.
(chiefly new season's)	(chiefly new season's)	(40,100 new season's)

Ceylon.—Rather over 7,000 packages were brought forward on usual conditions, also 383 from dealers' stocks contrasted with 10,600 packages, and 5,000 on the 18th instant. At this time in 1898 there were 33,000 packages submitted.

There was more spirit in the biddings, and quotations for useful to fine kinds were in most instances higher. A few choice tippy lots also commanded brisk competition, and realised better rates, notably Warleigh Estate, broken Orange Pekoe, 1s 2½d to 1s 5d per lb., and Dimbula Estate 1s 1½d per lb.

The average is a little above 7¼d versus a fraction under that figure on the 20th instant, and about the same as in 1898.

Catalogues for July comprised :—

1899.	1898.	1897.
40,300 pkgs.	106,100 pkgs.	120,900 pkgs.
(Avge. 7¼d per lb.)	(Avge. 7⅜d per lb.)	(Avge. 7⅛d per lb.)

Java.—The sales have consisted of 1,200 packages of direct import, which passed steadily without any material change in values. For the 31st instant, 1,000 packages are advertised.

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns, were—

	Lbs.
From 1st to 25th July, 1899	12,541,493
Do. do. 1898	13,581,642

During the week the following have been printed for sale by public auction :—

	Sold. Pkgs.	Withdrawn. Pkgs.	Total offered. Pkgs.
India	3,317	1,997	5,314
Ceylon	6,884	208	7,092
Java	1,098	129	1,227
Total ...	11,299	2,334	13,633

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated July 28th, 1899, states :—

Quantity brought to Auction in London from 1st June to Date.

	Indian. Pkgs.	Ceylon. Pkgs.	Java. Pkgs.
1899-1900	74,853	130,923	8,058
1898-1899	84,981	210,651	5,901

6,288 *pkgs.* Indian
7,610 ,, Ceylon
1,227 ,, Java
} Total 15,125 packages were offered in public auction this week.

No settlement has yet been arrived at between buyers and importers in reference to the question of the 1-lb. draft.

The situation has, nevertheless, somewhat changed since our last circular. A notice dated the 20th instant was issued by the Indian and Ceylon Associations, suggesting that in view of a conference between buyers and sellers, their resolution of the 3rd inst. should be suspended for a fortnight. Various meetings have been held since, and we believe that negotiations are still proceeding.

Owing to the above circumstances, the "without reserve" catalogues printed for last Monday without the draft allowance, and on the new conditions of sale, were all withdrawn.

The following quantities of Tea were offered in public sale during the week :—

Garden account ..	402	Indian.	5,519	Ceylon.	1,227	Java.
Importers' account ..	4,704	6,288	1,696	7,610	..	1,227
Second-hand	1,182		395		..	

A meeting of Growers of India and Ceylon Tea was held on Wednesday to consider the regulation of supplies at Auction; the suggestions put forward were unanimously approved, the details of working the scheme to be left to a "Regulating Committee" advised by Representatives of Importers.

Although some Importers of Tea purchased in Calcutta or Colombo may not join in the movement, it is expected that many will do so in order to obviate the danger of buyers overlooking their Teas amongst the multiplicity of Garden Invoices.

Indian.—The small Indian sale passed off without material change in rates, although competition, on the whole, was, if anything, rather better than last week.

Ceylon.—The few Teas brought forward were mostly sold, fully up to prices current last week, with firm all round bidding. Average for week 7·41d., against 7·23d. in 1898.

Javas.—In sympathy with Indian and Ceylon Teas passed without material change in prices.

Bank Rate 3½ per cent. Exchange on London three months sight :—Calcutta $1/4\frac{5}{32}$. Colombo $1/4\frac{5}{32}$.

COCOA.

Auction supplies on Tuesday consisted of 1,769 bags Colonial and 1,243 bags Foreign growth, together 3,012 bags; demand was good and fully half sold at prices which were in holders' favour. Of 156 bags Trinidad only 25 bags good to fine red sold at 68s 6d, a steady price. 180 bags Grenada realised 60s to 64s for fair to fine, and 57s to 58s for common, or 6d to 1s above valuations. 11 bags good red Demerara brought 62s, and 22 bags common Dominica 57s, which were full up to recent rates. Of 220 bags Jamaica 130 bags were placed at steady prices—61s for good red, and 54s to 56s for common. 7 bags fine Ceylon-character Montserrat sold at 69s. 18 bags common Para quitted at 55s 6d. 31 bags Colombian withdrawn. Of 1,194 bags Guayaquil about 800 bags sold at a 1s advance —Caraquez 68s to 70s, and Tumaco 64s to 65s. Of 1,173 bags Ceylon only 270 bags sold - the greater part, being highly limited, had to be withdrawn—very fine bold red 82s 6d to 85s, common medium and bold red 59s to 60s 6d, broken 54s 6d, and pickings 50s 6d per cwt. Since the auctions 250 bags Trinidad have been sold at 69s to 70s for fine; 400 bags Grenada at 60s 6d for fair and 63s to 64s for good; 300 bags Dominica at 57s to 58s; 500 bags Ceylon at from 58s to 68s; and 500 bags Guayaquil at auction's rates.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

	1899. Bags.	1898. Bags.	1897. Bags.	1896. Bags.
Imports, B.P. ...	98,189	104,782	92,541	101,702
Foreign ...	43,715	70,527	43,183	44,810
Home Con., B.P ...	51,805	65,802	50,306	44,876
Foreign ...	31,545	35,394	35,989	34,066
Exports, B.P. ...	28,703	22,388	28,120	24,903
Foreign ...	16,771	18,680	24,935	16,652
Stock, B P. ...	63,479	76,631	91,991	97,774
Foreign ...	47,973	49,953	42,478	70,457

PEPPER.

Black.—The market for arrival is firm with sales of about 200 tons, including now landing at 5¼d, July-September shipment at 5⅜d, August-October at $5\frac{7}{16}$d to $5\frac{15}{32}$d, and September-November at 5½d. On the spot retail sales at $5\frac{3}{16}$d to 5¼d for fair Singapore.

At public sale on the 26th instant, 180 bags Penang were bought in, whilst of 202 bags Tellicherry only 6 bags of good heavy brown sold at 5⅜d per lb.

White is quiet. For arrival 60 tons Singapore have changed hands, viz., July-September shipment at $8\frac{7}{16}$d, August-October at 8½d, and September-November at $8\frac{9}{16}$d. On the spot small sales of fair Penang at 8d.

At acution on Wednesday 88 bags Penang passed the hammer unsold.

15 tons Tellicherry have been sold at 50 per cwt. c.i.f. deliverd weights, September-October from Genoa.

GINGER.

Cochin.—Offerings were reduced to 287 bags 65 cases, which experienced a desultory demand, 137 bags 25 cases selling at steady prices, except for cuttings, which were cheaper. Bold and medium brown Calicut rough, part hard and rather mouldy and wormy, in cases, realised 28s 6d, medium and small ditto 26s, and fair to good cuttings 16s to 16s 6d per cwt.

Jamaica.—400 barrels, &c., were catalogued, and 220 barrels sold—fine bright bold washed 75s, low middling dull to middling 53s to 60s 6d, common to good common 47s to 52s, and dark Rhatoon 45s per cwt., which prices show no alteration from those ruling last week.

INDIA RUBBER.

The market is rather easier for fine and little doing. Sellers of hard cure forward at 4s 2d and soft cure spot at 4s 1d. 5 tons scrappy sold at 3s 2½d. Peruvian lower. Small sales of fair to good ball at 3s to 3s 0¼d, ordinary mixed 2s 11½d, slab 2s 6d (10 tons), but sellers now at these prices.

At auction a very small quantity offered and part sold with competition.

Para.—10 packages offered and 1 sold—good selected virgin 3s 7¾d.

Mangabeira.—25 packages offered and 21 sold—sheet, fair to good 2s 7d; pressed sheet, fair part slightly dead 2s 5d; mixed slabby and porous 2s 2½d.

Tumaco.—4 packages sold—scrap, fair clean part virgin 2s 7d.

Madagascar.—7 packages sold—fair to good pinky 3s 4¾d.

Colombian 10 packages, Mozambique 11 packages, Penang 26 packages, Borneo 12 packages retired.

Prices Current.—Per lb.	Present Prices.	1898.
Para—fine	4 1 @ 4 2	4 4 @ 4 4½
„ negrohead	0 0 „ 0 0	0 0 „ 0 0
W.I.—sheet	0 0 „ 0 0	0 0 „ 0 0
„ scrap	0 0 „ 0 0	2 9 „ 3 2
Borneo...	1 6 „ 2 9	1 6 „ 2 2
Madagascar	1 9 „ 3 6	1 4 „ 3 2
Assam—No. 1	3 2 „ 3 4	2 9 „ 3 3
„ No 2	1 9 „ 2 8	1 9 „ 2 2
„ No. 3, &c.	0 0 „ 0 0	0 0 „ 0 0
Mozambique—red ball	3 3 „ 3 9	2 10 „ 3 3
„ sausage	3 5 „ 3 6	2 3 „ 3 2
„ white ball... ...	2 9 „ 3 3	2 6 „ 3 0
„ red unripe ...	0 0 „ 0 0	1 3 „ 1 11
„ Lamu ball.. ...	3 1 „ 3 3½	2 5 „ 2 7

CINCHONA.

The Amsterdam correspondent of the *Chemist & Druggist* wri on July 25 that both bark and quinine are very quiet, the only ne of importance being that the Amsterdam quinine-works ha lowered their prices for quinine to 33f. per kilo. for Ed. III, a 28½f. for Ed. II., against 37f. and 32f. The shipments of bark fr Ceylon for the week ending July 4 were *nil*, and from January 1 July 4 they were:—

	1899.	1898.	1897.	1896.
Lbs. ...	414,873	489,687	380,400	610,457

QUININE.

The announcement of a reduction of 2d. per oz. on Monday b the quinine-manufacturers was as startling as it was sudden, b considering the depression that has existed on this market for t past three weeks the reduction was only natural. The Unite States market, however, is directly responsible for this collapse, for some weeks the competition between manufacturers and deale there has been keen, so much so that the German manufacture were losing business, as the New York market was below the Lond parity, and a second reduction of 2c. per oz, as reported in o American cable last week, gave the cue as to the position of t market there. As far back as July 15 the American make contemplated a revision of prices, as there was nothing in the ou look to warrant a stronger market, and as second-hand holders h shown increased weakness the reduction was inevitable. Secon hand holders on the London market have naturally shown increas weakness in consequence, and on Monday there were sellers of go German brands at 1s. 2d. per oz. for August delivery, and Tuesday business was done at 1s. 1¼d. to 1s. 1½d. To-day (Wedne day) second-hand holders are trying to talk the market firmer, b with poor result, there being buyers at 1s. 1½d, but no sellers. T general opinion for the moment is that we shall see shilling quini again, and that ere long. The official price is now 1s. 4d. per o for 1,000 oz. lots. Howards' quote 1s. 5d. per oz. in bulk (100- tins) in quantities of 1,000 oz., and 1s. 6d. for not less than 100 oz. one tin, and correspondingly higher prices for smaller packag Their quotations, however, are only for limited quantities, and prompt delivery only. Makers have also reduced their prices salts, the quotations for the more important in 1-oz. vials now bei as follows:—Quinine benzoate, 2s 4½d.; bihydrobromide, 2s 5½ bihydrochloride, 2s 4½d.; hydrobromide, 2s. 2½d; hydrochlor 2s. 2½d.; hypophosphite, 2s. 4½d.; phosphate, 2s. 4½d.; salicyla 2s. 2½d.; and tannate, 1s. 4d. per oz. 100 oz. lots in one tin are ch ged 4d. per oz. less.

SULPHATE OF QUININE.

On Monday last the German manufacturers reduced their quo tion 2d per oz. from 1s 6d to 1s 4d. The reduction was looked and had little or no effect on the market, which for the time entirely governed by the liquidators of the August deliver account. There can be but little doubt that a considerable quant of Quinine was bought during the late rise in values by w speculators who have shewn much anxiety to sell—this has led a further decline in values—as low as 1s 1¼d has been taken August, 1s 1½d for October, and 1s 2d for December. At decline good buying began, and value has since recovered to 1s August, 1s 2½d October, and 1s 2¾d December. The sales yest day were 50,000 oz., making about 120,000 oz. for the we Howard's quotation is 1s 6d in bulk, 1s 8d in tins.

(Average for all India 6·88d.) *July* 28th.

Garden.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dus and Various	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Pric
Neilgherry	**160 p**	**7·62**												
BBK ...	46	6	...	...	11	+6¼	.	...	21	6	7	5¾	7	6¼
Kodanaad ...	114 p	8½	...	...	64½c	8 9¼	25½c	10	25	7½	...	...	...	...
South Wynad	**172 p**	**6·46**												
Erramaculla ...	33½c	7¾	...	...	...	...	33½c	7¾	...	...	...	...	...	...
Perrindotty ...	139 p	6¼	...	...	97½c	6¼	...	...	42	6	..	..	..	..
Travancore ...														
Riviera ...	70 p	6	...	...	46	6	17	+6¼	...	...	3	5¾	4½c	5½

PLANTING OPINION.

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WRITTEN BY PLANTERS FOR PLANTERS.

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N.B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 1st Proximo. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, 23*rd August.*—*Weather.*—Two days rainless. Saturday, a good shower at Polli Betta: none out east A good smart shower yesterday evening. Total rainfall not much short of last year, but badly distributed. The preponderance of sun in July rendered conditions unfavourable for supplying. *Plant-diseases.*—Borer has been bad in some parts; but, on the whole, it has been an average borer year. There is a minimum of leaf-disease. A shower once a fortnight will see the paddy fields through.

THE TERMS OF PEACE.

As we anticipated, there was no foundation for the assumption of some of our contemporaries that the settlement of the 1-lb. draft question involved a re-arrangement of weighing the gross as well as the tare. It is now announced that, at a representative meeting of tea importers, merchants and dealers held in Mincing Lane, on the 2nd instant, a basis of settlement was arrived at having for its main provisions the following:—"(1) The 1-lb. draft to be allowed as heretofore. (2) That in respect of all teas the gross weight is to be taken, "scribed," and recorded as heretofore. (3) The following alterations shall be made with reference to weighment and tares:—If the empty package weighs an even pound, it is to be entered as such, if it weighs an even half-pound or over, it is to be entered as the next pound above, and if it weighs less than half a pound, it is to be entered as the pound below. There shall be no "overtakers"; boxes are to be weighed and tared as heretofore; if parcels are to be bulked in London, separate tares must be taken on each package; and, finally, it is

agreed that there shall be an increase in the number of tarers in dealing with bulked tea." It was understood that this new system would come into force on the 1st October next, and that in future neither party would demand an alteration without giving three months' notice of its intention to do so, and that for the first year the system should have a trial without either party having the privilege of withdrawing or of claiming modifications. That is to say, the three months' notice clause is to be inoperative, until after the expiry of the first nine months.

We scarcely think that anyone will question the wisdom of this settlement. The planter gains something, though not very much; and he has acquired some small experience which, though it has been costly, may yet prove to have been far from dear. One result of the "war" is a fairly general impression that London charges need thorough scrutiny and revision. It may be that importers will hesitate to undertake a campaign against them so soon after emerging out unwounded from the struggle with dealers; but at least the matter will not be permanently lost sight of. It ought to have received attention first, and then the 1-lb. draft might even have succumbed later. We take it as certain, however, that London dock and warehouse charges, &c., will be looked into sooner or later, and that eventually the planter will find the expenses of transport from estate to market very considerably reduced. In the meantime, importers have taken up a subject of perhaps quite as much moment, namely, the regulation of supplies of tea offered for sale at auction. We give a full report elsewhere of the meeting at which this subject was considered and, in a measure, settled. The rules adopted were—"(1) That public auctions of Indian tea be, as far as possible, distributed over ten months, August to May inclusive. (2) That a committee of brokers, advised by representatives of importers, if necessary, shall regulate the amount to be printed for sale, and shall be called the Regulating Committee. 'That the importers instruct their brokers regarding teas ready for sale, and which they desire to have sold on the first opportunity. *Note.*—All teas 'ex' vessels which have been entered at the Custom House on or before the previous Monday shall be considered ready for sale.' (4) That the brokers hand into the Regulating Committee particulars of all of the teas that they are instructed by their merchants to print for the first opportunity. (5) That the closing time for these particulars be Thursday night at the office of the Tea Brokers' Association, Dunster House. (6) That the Regulating Committee sit every Friday morning, and ballot for the order of brokers' sales, from the particulars handed in, and inform the broker the result of the ballot, and the date of his sale. (7) That the clerical work entailed by these regulations shall be arranged for by the Brokers' Association, and the expense shall be borne proportionately by the Indian Tea and Ceylon Associations. (8) That the months of June and July be not regulated for, and importers of Indian tea will be at liberty, if they think fit, to print in those months."

It would not be difficult to criticise these rules adversely. They will not find favour with all planters or all importers; they may even press somewhat heavily on some among those who agree to conform to them. But the principle in which they have their origin is sound, and it is only by practical experiment that importers can hope to arrive at really workable regulations that will not be unfair to men who have no voice in their application. Hence, we are glad that the new rules have been adopted. They will be tried, and, wherever found wanting, they will doubtless be amended from time to time. Then, with his tea more evenly distributed over the auctions, with a nearer approach to fairness in the weighment, and with, perhaps a hope of modifications in London charges, the planter will perhaps, begin to think that the war of 1899 was not unfruitful. What we would urge both planters and importers to note, however, is that there is more to be gained by friendly negotiations with dealers than by catching them by the throat. Importers and retailers are not foes; they are, or should be, allies, both working to push British grown teas into British homes. Instead of pulling against each other, they should stand and pull together: with the single aim of advancing to their own advantage, the industry in which they are mutually, though not in equal degree, interested.

COFFEE IN DISTANT LANDS.

VIII.

Brazil.—The British Consul at Rio reports:—Coffee continues to be the great and almost exclusive item of export from this district. The production has not ceased to be very abundant, the 1897-98 crop, which finished on June 30 last, having yielded—

	Quantity. Bags.
Rio	4,721,000
Santos	6,053,000
Total ...	10,774,000

The shipments from Rio during 1898 consisted of 3,441,1[illegible] bags, the average value may be stated at 31s. 6d. per bag. The latest official estimate of 1898-99 local crops is as follows:—

	Quantity. Bags.
Rio	2,500,000
Santos	4,250,000
Total ...	6,750,000

But independent opinion appraises the quantity for the two districts at 8,500,000 bags. The quality is good. As to the 1899-1900 crop, the official estimate of the probable yield is—

	Quantity. Bags.
Rio	3,000,000
Santos	4,250,000
Total ...	7,250,000

whereas private calculations rate this coming crop at 9,000,000 bags. The quality will probably be good. The increasing area of land under cultivation makes it each year more difficult to estimate the true yield of a crop. The zone is now so large that in the same season very different climatic conditions may prevail in different parts so that of two districts, otherwise equal, one may give a large and the other a small yield. It is thus difficult even for an eye-witness to arrive at absolutely exact conclusions, and the reports circulated are far from reliable, being not frequently coloured according to the informant's interest.

It is impossible for these reasons to say if any of the foregoing forecasts will prove accurate; but, judging from

st experience, it may be said that private estimates may taken as the least misleading. It should be mentioned t a clause of the Brazilian Budget Law for the year 1899 horises the Government to grant licences for bonded rehouses and for public sales, in bond, of coffee and er produce of the country, as well as of imported rchandise. A project for making the exportation of fée a Government monopoly was brought forward in the ambers, but easily defeated. As regards the prospects this article, the commercial value of which so vitally ncerns the prosperity of Brazil, it must be remarked t excessive supply is still the leading feature of the nation, and that, until some check is given to production, le hope can be entertained of improvement in the sent low value.

Planting has certainly been on a reduced scale during past two or three years, which will no doubt have its ct in time; but, meanwhile, we are getting the results of essive planting from 1892 onwards, and, until this runs much reduction on present supplies is not to be expected. is true that a considerable number of plantations, ticularly in the State of Rio de Janeiro, being old and favourably situated as regards transport, labour, &c., are paying and are being abandoned as coffee producers; , up to the present time, any loss from their source is e than balanced by the new plantations coming into ring. This is particularly true of Sâo Paulo, where, ng to larger average yield and superior labour and nsport facilities, the development of new coffee planta- is has been very great during the past five years. It uld appear, in view of the large accumulation of coffee the markets of the world and of the continued large duction of Brazil, that prices must go still lower in er to limit production and so secure an equilibrium ween supply and demand, although prices have reached oint (the lowest ever recorded, 9 milreis per arroba for de No. 7 having been quoted in March last year) beyond ch further decline must be slow and of comparatively ll proportion. On the other hand, I understand that es are entertained of improving the situation by secur- a more extended sphere consumption, this expectation g especially inspired by the agitation which has of late n noticeable in France in favour of a reduction of the ies on coffee imported into that country.

t is moreover worthy of notice that the Brazilian Budget v for the current year contains a clause authorising the ernment to adopt a differential tariff for one or more ses of goods of foreign origin, establishing agreements n the respective Governments in order to obtain the re- tion of duties now charged, or to be charged, on Brazi- products, with authority to levy on the goods derived n the countries refusing such agreements of import es in an equal proportion to those exacted on Brazilian luce. It may well be that the action likely to result n such a provision will lead to developments calculated tly to favour an increased consumption of Brazil's most ortant product in other countries.

verything well considered, there is reason to foresee , when once the temporary effects of over-production ceased, coffee-planting will again become, at no nt date, a very profitable industry, and it appears that prevailing circumstances offer many favourable oppor- ties for the investment of capital.

The low rate of sterling exchange favours the planter, by enabling him to obtain better prices in milreis, even with the gold cost being continually reduced, and at present prices, say, 12 milreis per arroba for No. 7 grade, he is probably making some 20 per cent. profit in the case of such plantations as are financially unencumbered and which, at the same time, are favourably situated. Estates of all sizes and descriptions can now be acquired on advantageous terms, while the depreciation of the currency, about 75 per cent., affords an excellent opportunity for the introduction of sterling capital for the purposes of purchase and production. There is no doubt also that, with more perfect methods of cultivation, and under intelligent and energetic supervision, the quality of the crops would be improved and the value of estates rapidly enhanced.

It may be worthy of notice that, as the result of an experiment, it has been found that coffee exported in casks preserves its colour and aroma better than when shipped in bags. There is also a movement on foot to replace the jute sacking now used in packing coffee by cotton sacking, which is said to preserve the good qualities of the bean, while jute destroys them. The idea is agreeable to the Brazilian mind, as, apart from other considerations, its adoption would favour the development of cotton cultivation and manufacture in the country. Jute is a foregin production, which, under such conditions, native interests would naturally gladly see abolished from the country.

A.—*Return of Exports of Coffee from Rio de Janeiro during the year 1898.*

Destination.	Quantity.	Total.
	Bags.	Bags.
United States—		
New York	1,817,378	
New Orleans	170,118	
Baltimore	162,406	
		2,149,902
Europe—		
Hamburg	369,839	
Genoa	170,571	
Marseilles	130,179	
Trieste	71,170	
Havre	54,209	
Antwerp	47,218	
London	38,577	
Bordeaux	18,428	
Lisbon	881	
Bremen	752	
Liverpool	171	
Oporto	98	
Odessa	42	
Naples	34	
		902,169
Other countries—		
Cape of Good Hope	118,772	
River Plate	83,529	
Valparaiso	6,150	
		208,451
Coastwise—		
Northern ports of Brazil	141,863	
Southern ports of Brazil	38,781	
		180,644
Grand Total ...	...	3,441,166
Grand Total for preceding year ...	...	4,066,734
Decrease in 1898 ...	...	625,568

B.—*Return showing Extreme Prices in Cents per lb. for Coffee, Grade No. 7, in New York, during the years 1898—1896.*

Month.	1898.		1897.		1896.	
	From	To	From	To	From	To
	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.
January	6¼	6¼	9⅜	10¼	13	14⅜
February	6¼	6⅜	9¼	9⅞	13	13¼
March	5½	6¼	8¼	9⅜	13	13¾
April	5⅞	7	7¼	8	13¾	13⅞
May	6¼	7	7⅜	8	13	14
June	6¼	6½	7⅜	7¾	13	13 1/16
July	6	6¼	7¼	7½	11½	13
August	6	6⅜	6⅞	7⅜	10⅝	11½
September	6	6⅜	6⅜	7⅛	10	10½
October	5⅞	6¼	6⅜	7	10⅜	11
November	5⅞	6⅜	6¼	6⅝	9¾	10⅞
December	6⅜	7	6⅜	6⅞	9¾	10½

C.—*Table showing the Exports of Coffee from Rio de Janeiro during the past five years.*

Year.	Number of Bags shipped.					
	United States.	Europe.	Cape of Good Hope.	Rio da Prata and Pacific Ports.	Coastwise.	Total.
1894 ...	1,748,784	676,463	94,165	51,555	100,991	21,671,958
1895 ...	1,780,091	683,302	105,210	74,282	120,824	2,763,727
1896 ...	1,724,498	718,484	121,525	82,919	137,532	2,784,958
1897 ...	2,454,613	1,221,074	150,676	74,368	166,003	4,066,734
1898 ...	2,149,902	902,169	118,772	89,679	180,644	3,441,166

TEA FROM SEED TO CUP IN SOUTHERN INDIA.

(By Thomas Brown, Glendale, Coonoor.)

X.

We have received the following communication in connection with consumption of fuel, and as it will add to the interest of this little work, take the liberty of publishing it with our reply.

The following appears in *Planter's* note-book published by the *Ceylon Observer* on the same subject, written by (H. W. W.):—"*Coal Memo.* Ordinary High pressure Engines "consume 10 to 12 lbs. coal per hour per indicated H. P. "In ordinary practice 1 lb. coal evaporates 6 to 8 lbs. water "at 212°. *Wood has only about one-fourth of the evaporative "power of coal or coke.*"

Well might the planter feel himself mixed up with all these memos. and not know what to believe. His brain usually much puzzled with his "*Balance Sheet*" and *Jibbing coolies*, must find relief in what is not good for him, and as Rudyard Kipling says:

The end of the fight is a Tombstone white
With the name of the late deceased
And an epitaph drear, A Fool lies here
Who wanted to serve the East!

Amongst the particulars given in your interesting article entitled "Tea from seed to cup in Southern India, notice the following:—

"*Consumption of Fuel*:—A Steam Engine usually bu
"10 lbs. of dry wood per H. P. per hour. The Engine
"rule is 2½ lbs. of coal per H. P. per hour, and we h
"heard the statement frequently made that the same q
"tity of wood does the work at mills; but it has never b
"our experience to use less. Wood, down at Madra
"only about Rs. 5 a ton, and coal Rs. 20 or four times
"value; yet the Railways prefer coal to wood as being m
"economical, so that the low consumption of 2½ lbs. of w
"per H. P. needs to be carefully tested before be
"accepted. Tea driers of modern make take on the a
"age 1½ lbs. of wood per pound of made tea. These are
"figures to work upon in reckoning out requirements."

From the above it is evident that confusion has ar somewhere and it does not require much investigatio discover that the cause of this must be, that very misl ing and well-nigh obsolete term "Nominal" Horse Po since your experience of 10 lbs. of *wood* per (presuma *nominal* horse power will be found to agree closely eno with the engineers' rule of 2½ lbs. of *coal* per *indicated* h power in Condensing Engines of good class and s but 2½ lbs. of *wood* per indicated horse power must be sidered rather too good for even high-class Mill Eng and, as you conclude by remarking, must be carel tested before being accepted.

Again the relative values of good Bengal steam co Madras at the present time are more nearly Rs.14 Rs. 7 per ton, which makes the action of the Railways m more intelligible than from your figures would appear

In reply to our correspondent's interesting notes, we l to state that the price of English coal at the time Railway took to its use was about Rs.20 and that of wood, certainly at some stations along the line (as to-day), was as low as Rs.5 per ton.

Good gum wood fuel can be bought in any quantit Coonoor to-day in 3 feet logs at Rs.5 per ton, yet Nilgiri Railway is burning patent fuel, costing, deliv at Coonoor, probably Rs.30 and more a ton. We the analogy to show that wood is far inferior to in heating powers, and that it is very improbable 2½ lbs. wood per I. H. P. per hour is the rate of consu tion at mills.

As to *Nominal* and *Indicated* H. P., we arrived at H. P. in a practical way as follows:—

1 Economic Tea Roller	2 H. P.
1 24-in Rapid	3 H. P.
1 Small W. W. Sirocco Fan	2 H. P.
50 % Shafting and Friction	3½ H. P.
Total	10½ H. P.

and the Engine doing the work is a 10 H. P. nm. probable an Indicator would show 30 H. P. at times the ways of a Tea Roller are wicked and trying, and let the young planter be warned, *never get a 2 H Engine to drive a Little Giant said to take 1 H. P. to* It may take 1 H. P. to turn it when it is in motion give us 4 H. P. when pressure is on, that's all! We a the Head of an Engineering firm recently if one 2 Break H. P. Oil Engines would do to turn a Little G "I am afraid not," said he, "you had better take 6." will conclude this by saying that while 3 H. P. off a 10 or 20 nominal H. P. Engine will turn a 24-inch

Roller, a 3 H. P. Engine will fail miserably. The subject is too intricate to follow up further here, and we must confess to not possessing the ability to do so. This article is just a suitable prelude to the consideration of our next article "The Factory."

RING OUT THE OLD, RING IN THE NEW.

We might say this of the new Custom-house regulations for the weighment of tea, but our present remarks have reference to the dissolution of the "London Wholesale Tea Dealers' Association," which has practically been merged in a new Association, entitled "The Tea Buyers' Association" Is there any special significance in the change from "dealers" to "buyers?" Perhaps not; but it is at least a coincidence that just at the time of the great fight between importers and dealers, an influential body of the latter should emphasise the fact that they are *buyers* of tea, as well as sellers. Now that peace has been restored, we need not waste words about changes of this kind. It is at least satisfactory to note that the final report of the old Association records the following among other important matters:—"An attempt was made, through Her Majesty's Customs, to weigh all packages of tea to half a pound; this was successfully resisted. A provisional agreement having been made with the importers, upon their statement that packages would be fairly weighed, they accepted them at net weights; but a trial extending over about three years having been given, and the system having been found to work unjustly to the buyers, it was resisted and abandoned. Alteration of public sale conditions proposed some time ago without consent of the buyers was resisted and defeated. The establishment of the tea clearing house and abatement of buyers' charges was arranged. The regulation of quantity of tea in public sale. . . . time for delivery of tea, weight notes, and warrants greatly reduced; uniform conditions of weight notes as proof of payment of deposit; restriction of number of bonded warehouses; teas from different warehouses collected at the same time charged by railway companies as one consignment. Simplification of Customs documents and the lodgment at one centre. Attempt to have public sales on Saturdays frustrated. Alteration of Clause 4 in the public sale conditions. Re-weighing tea upon delivery from bonded warehouses."

The Association has expired just as some of the measures it vigorously opposed in days gone by have been partially adopted by dealers and importers alike. May harmony for ever characterise the relations of its successor, as an Association of tea-*buyers*, and tea importers as a body of *sellers*.

"DETERIORATION."

The term "deterioration" was not generally approved by delegates to the U. P. A. S. I. meeting who saw it employed in conjunction with the words "of coffee," and the word "improvement" was suggested as a substitute. It is a little curious to note that an article in a Calcutta contemporary on "*Improvement in the quality of Tea*" opens with the words—"many people have been puzzled to find out a reason for the *deterioration* in the quality of Ceylon and Indian teas, which undoubtedly has taken place." Deterioration or no deterioration, it is at least sound advice to advocate *improvement*. "A coffee curer" writes to the *Mail* as if to suggest that he and his competitors are not behind South American firms in the matter of machinery and methods. This is quite possible, but the policy favoured by the U. P. A. S. I. is not one of complacent self-confidence, but one of close investigation and comparison. Coffee and tea cannot well be grouped together with respect to this matter, but it is clear that there is a good demand for *fine* coffees, and at the moment of a plentiful supply of cheap tea. Surely, then, attempts to improve quality should not be out of place in regard to either commodity. Java teas and Japan teas are being pushed. Central and South American coffees are improving. Indian coffee, as well as Indian tea, must not only not be allowed to deteriorate, but must be improved, or they will be left behind in the race.

While on this subject, we may refer to some remarks of a South African contemporary on coffee roasting. Here are one or two extracts:—

"Years ago it was the Mocha bean which made coffee famous. But as time goes on, the fashion changes, or one variety of coffee outvies another in public estimation. Now it is doubtful if the good old Mocha can hold its own with the stimulating beans of Costa Rica, Java, Ceylon, Rio, or—to come nearer home—of Blantyre. Each land fosters its own peculiar flavour or characteristic, and thus the variable palate of millions of coffee-drinkers scattered up and down the earth is variously suited. And the coffee roaster and blender comes in with his expert judgment and his art to create new delights by cunning blends and combinations of the fine coffee qualities." Again, "the varieties of coffees most in favour here are found to be Java, Costa Rica, Plantation Ceylon, and Rio." Not a word about *Indian* coffee! Not much attention need be given to an isolated instance of this kind; but, when we also know that certain messes and others in India consume *imported* coffee, we realise that something should be done. To improve the coffee (and the tea) of India is no doubt the first thing to be done; the next is to make arrangements for sales *in India* as well as elsewhere. Both matters have now been taken in hand, and it is to be hoped that, after another year, considerable progress will be reported.

PLANTERS WANTED.

The *Times* lately published the following advertisement under the heading, "Investment, Occupation and Sport":—

The East India Lands Development Corporation is prepared to offer special advantages to gentlemen desirous of finding an opening for themselves or sons in profitable enterprises connected with coffee, tea, rubber planting, or other land cultivation in India. The Corporation has at present under control some 32,000 acres, or about 50 square miles of forest land in the Madras Presidency, and adjoining the Nilgiri Hills, suitable for the planting and cultivation of various remunerative Indian products such as tea, coffee, cardamoms, cinchona, rubber, &c. Part is already cleared and under cultivation. This is producing high-class coffee, samples of which can be seen in London. The property is at an elevation of from 3,000 ft. to 7,000 ft. above the sea level. The climate is good; there is excellent big game and other shooting in the immediate neighbourhood, and abundant fishing is obtainable in the lakes and in the rivers running through the property. It is within easy reach of the main line of railway running from the East to the West coast of the Madras Presidency. The Corporation is ready to grant leases on favourable terms for blocks of from 250 to 1,000 acres or more, and its local representatives in India (who are

planters of many years' standing and experience) will be prepared to furnish estimates, to advise, and give every assistance to intending lease-holders or planters. The Corporation is also prepared to give financial aid, if required, for development purposes to responsible lessees settled on the estate. For further particulars, apply to the Manager, East India Lands Development Corporation, St. George's House, Eastcheap, London, E.C.

The idea of advertising in an English paper for planters to come out to places where there are already many practically out of work, struck us as curious until we had read the advertisement itself. That explains the apparent anomaly, for surely no man who had done even only a year's "creeping" on an estate in Southern India would be tempted by the specious statements quoted above Can any of our readers furnish us with information about the "East India Lands Development Corporation?" It has a high-sounding title, but we have no idea who are "running the show."

NOTES.

Tare of Tea. We call special attention to the remarks of Mr. H. Drummond Deane on another page.

Seeds. During 1898 Ceylon imported Cardamom seed to the value of Rs.9,429, and Tea seed Rs.132,024.

Calcutta Tea Sales. The average of the last tea sales is unobtainable; 26,000 packages were to be offered at the sale on 18th instant.

Tea in Kanan Devan. Some interesting remarks appear in the remarks of the Chairman of the Amalgamated Tea Estates Co., Ld., reported on another page.

Neighbourly. The *Times of Ceylon* alludes to the U. P. A. S. I. as "our closest neighbours in the planting fraternity," and informs its readers that the report of the Association's proceedings at the Annual Meeting will well repay perusal.

Inopportune. The *Capitalist* comments very aptly on the affairs of the Dumont Coffee Company, saying:—"The shareholders have the distinction of coming into the business of coffee planting at the moment when all the planters in possession were most anxious to get out of it."

Central African Coffee. The *Central African Times* states that "with the excellent prospects which coffee is showing this year, the Cholo planters are largely going in for extensions." "Excellent prospects," forsooth! When there is already more coffee available than the world wants.

Vanilla. At the last London auction, only 268 tins were offered, all second-hand parcels; and the principal vanilla-broker announced that the catalogues represented the whole of the London stock (with the exception of about 40 tins). It was enough to make coffee stocks turn *green* with envy.

More hopeful! The *Weekly Journal of Commerce of New York* states that a well-known member of the (coffee) trade, who recently made a tour through the interior, states that to his surprise he found that the principal Western cities merchants are carrying but comparatively small stocks of coffee.

The Dumont Coffee Co., (Brazil). After the highly unsatisfactory report lately published, a stormy meeting was anticipated, but things passed-off fairly quietly. It was, however, resolved to send a representative of the shareholders to Brazil to see if the estates are worth saving. We give a report of the proceedings elsewhere.

Beneficial Insects. Apparently, Queenslanders put little faith in insect "friendlies." The Minister for Agriculture in their colony recently informed a deputation that with regard to the infection of bananas by the fruit fly there was only one remedy, and that was to destroy the infected fruit, and no member of the deputation appears to have challenged the accuracy of the assertion.

Gray Blight. We quote to-day some remarks from a Ceylon contemporary, and indorse its remark that "it is desirable to publish as much reliable information as possible regarding pests which are spreading or which are liable to spread" Planters can render no better service to the planting industry than by publishing their experiences in regard to pests, blights and plant diseases.

The Work of the U. P. A. S. I. Commenting on the report of the Association, the *Ceylon Observer* says:—"It is a record of much useful work on behalf of planters in the way of securing railway extension and favourable freights, scientific investigation, export and tea estimate returns, making arrangements for representation at the Paris Exhibition collecting information as to lady-birds, &c."

Tea-growing in the United States. Referring to Secretary Wilson's recent utterances, the *American Agriculturist* remarks:—"Of course the chief drawback to growing tea on a commercial scale is the vastly higher rate of wages in this country compared with the Orient, yet the experiments in the south are watched with interest. It is probable the department of agriculture will make extensive experiments in tea culture in the south."

Demand is Limited. *Mutato nomine*, the following remarks of the *American Agriculturist* might be taken as referring to almost any crop:—"It will not pay any considerable number of farmers to grow such flower seeds. There is only limited demand for the seed and a large increase in acreage would overstock the market and force the price below cost of production. Be the limits wide or narrow, they can be reached, as Coffee has proved.

Coolies in Ceylon. The *Ceylon Examiner* comments on the troubles of estate coolies in Colombo on their way to the Coast when they are often

ctims of thieves. One way of diminishing the risks, our ntemporary suggests, is the encouragement of remittances India through the Post Office, and another the opening a large licensed lodging-house in the Pettah, specially r estate coolies on their way to and from India.

The Indo-Ceylon Tea Mart."

The *Planter* says:—"We shall probably yet see Colombo made the Indo-Ceylon Tea Mart, *i.e.*, if Ceylon ll combine with India. The undertaking would, of urse, be a colossal one, but there is little doubt that the pital would be forthcoming once the scheme was decided on by India and Ceylon." It seems to us that there is ry *little* probability of the event here predicted ever curring.

ffee in Queensland.

Replying to a deputation that recently urged an increase in the port duty on coffee in Queensland, the Minister of Agriture stated that he believed that a duty of 50 per nt. of its value was already levied upon it, and if it were creased the only effect it would probably have would be lessen the consumption of coffee. He was glad to learn at the Cairns coffee was of such good quality that there ere Sydney buyers for it.

lcutta Tea Sales.

On the 18th instant 24,000 packages were sold. There was a good mand throughout the sale, at slightly lower rates for all scriptions except good liquoring broken pekoes, which ere fully up to the previous week's prices. The demand r common leaf grades was good Prices for these were mer, owing to foreign competition, especially for the nerican and Australian markets The demand from mbay and Persian Gulf ports was also brisk. Quality, a whole, was, however, somewhat inferior.

ay Blight in Ceylon.

A Ceylon contemporary states that there is little unity of feeling -country with regard to gray blight, which is at present etty prevalent on the hills. Some are inclined to laugh e thing down and say there must always be a little here d there; while others are becoming nervous and imagin- g that the beginning of great trouble is upon them. We ree with our contemporary that "scare or no scare, plan- rs should one and all make a systematic examination of eir estates and decisively doctor any affected parts."

rsore and Ceylon.

"Astonished" writes to the *Ceylon Observer*:—"Gray blight is ercising the minds of some of the Kelani Valley Planters. is surely time for the Government to have a Cryptogast available as well as an Entomologist for the Agriltural interests. In the South Mysore Planters' Associaon's proceedings, published in the August number of the *ropical Agriculturist*, page 98, it is stated that Dr. ehmann is appointed Agriculturist Chemist, the Dewan hibiting in the matter his accustomed liberal-mindedness. r shame, Ceylon Government!"

e Green Tea Bonus.

As was only to be expected, the Green Tea Bonus experiment in ylon has failed. The *Times of Ceylon* remarks:—"It has led so conspicuously that there cannot be half-a-dozen persons in the island who would wish another cent wasted upon it. We, therefore, point out that the resolution passed by the Thirty Committee on the 10th September last year, ceased to be operative two months ago, and any further payment cannot legally be made About £1,500 out of the £2,000 set aside has been saved; and we congratulate the planting community on this extremely useful re-imbursement of the main fund."

Colombo Tea Sales.

At the tea sale at Colombo on 16th instant a break of Broken Flowery Pekoes from Mt. Vernon Estate fetched the high figure of R1·05 per pound. The *Times of Ceylon* says:—At the public sales of tea at the Chamber of Commerce Rooms about 8,839 pkgs. =676,031 lbs. were offered, of which about 7,006 pks. =533,055 lbs. were sold. Prices were very irregular, and in many instances showed a decline, partly, no doubt, due to the fact of many buyers not giving the teas offered their usual attention this week. Good invoices were offered from High Forest, Stafford, Passara, Killarney, Iona, and Mount Vernon.

The Tea Pest in Morawak Korale.

On the 11th instant the Superintendent of the Enselwatte Estate reported:—The grub is now doing no perceptible damage on the estate. I still find it in a torpid state, thinly scattered about the two fields first attacked and an isolated one here and there on distant fields. I can still find no chrysalis or moth likely to have laid the eggs, but I notice that lately, and only lately, the eggs, which used to hatch out small grubs, now are hatching out a winged grub, something like an exaggerated white ant, but with small weak wings. I shall soon have the 73-acre field all pruned, and the 61 acres is already done. I am burning prunings as I go along, and hope this will destroy any insects left.

Coats-of-Arms, &c.

The U. P. A. S. I. has contented itself with a modest monogram and the motto, "E terrâ in terras," but, according, to the *Globe*, Sir Thomas Lipton has gone in for something more elaborate and now boasts a coat-of-arms entirely of his own design, and based on, what may be termed, his business rather than his family history. For his crest, he has chosen two horny hands of labour, one holding the flower of the tea-plant and the other that of the coffee-plant. The shield bears the shamrock, in memory of his native country, and the thistle in commemoration of the fact that Scotland saw the beginning of the big business now associated with his name. The base of the device is a cornucopia, and the motto "Labour conquers all things."

Coffee in South Sylhet.

A correspondent of the *I.P.G.* says in addition to the remarks quoted on another page:—"I consider that we have an equal chance with the very best coffee districts and a far superior chance to the majority. Our climate is suitable, our district is new as far as coffee is concerned, labour is as cheap and cheaper than in most other coffee-growing districts, and it is plentiful. . . . . As far as our bushes have gone in South Sylhet, they have not shown signs of leaf-disease, although we have had white bug at the root and some spotted and light berry. The bushes continue to grow splendidly as they have done all through. They are pushing

their secondaries out in abundance and their primaries keep on lengthening and thickening proportionately."

Paris Exibition: Transport Rates.

With a view to encouraging the representation of Indian products and industries at the Paris Exhibition next year (which, we understand, is the particular wish of H. R. H. the Prince of Wales) the Indian State Railways (worked by the State) will contribute their mite by carrying exhibits, properly marked, at reduced rates within the maximum and minimum applicable to goods classified in the first or lowest class. A similar concession will probably also be granted by the Companies and other Railways, whose co-operation has been invited by the Government. As the Ceylon Railway is to carry exhibits free, we may reasonably hope that the Madras, South Indian and Southern Mahratta Companies will do likewise.

The London Tea Market.

Cabling to Colombo on the 17th instant, Messrs. Gow, Wilson and Stanton reported that the market generally showed a slight decline, that for fine teas generally was dearer, while the market for teas for price was easier. The price of fair liquoring Ceylon pekoe souchong was 6¼d. and the average price of Ceylon tea sold on garden account 7⅛d.—the former a half-penny, and the latter a farthing, down, as compared with the last report. Reuter's telegram reported that the Common to Medium teas were easier. Fair Pekoe souchong is 5⅞d., and the average for the week 7¼d., the former showing a falling-off of ⅜d. and the latter of ⅝d. as compared with the last report. 43,000 packages of Ceylon tea were offered for sale, of which 36,000 were disposed of.

Brazilian Finance.

According to the *Rio News* of June 27, the Brazilian Congress was discussing a measure for imposing an additional 5 per cent. on the proportion of import duty payable on gold only. "It is the opinion of many," remarks the Rio de Janeiro paper, "that the 30 per cent. on gold imposed at the beginning of the year has been a failure, because it has contributed largely towards reducing imports, and therefore towards decreasing the revenue. If this is true, then it is a mistake to add on 5 per cent. more. At any rate, the subject will bear discussion, and, if business men do not take a part in it, they will never receive proper consideration. There is no doubt whatever that commerce and industry are now heavily overtaxed, and it is therefore a duty to oppose further steps in this direction."

The Henfold Tea Company.

The Henfold Tea Company, Limited, is being offered for private subscription. It has a capital of £65,000, £40,000 in 7 per cent. cumulative preference shares, and £25,000 ordinary shares; no debentures to be issued without the consent of three-fourths of the shareholders in general meeting. The vendor takes the whole of the ordinary shares as part payment. The Directors are Messrs. C. W. Wallace (Messrs. R. G. Shaw and Co.), J. L. Shand, Eric S. Anderson, and W. J. Keymer. The Henfold and St. Regulus estates are to be acquired, 570 acres, all under tea in full bearing. £63,000 is the purchase price. £110 per acre is a long price, but not only are the Agras a delightful residential spot, but the profits for the last three years, averaging £5,875, £3,075 after the £40,000 cumulative preference shares received their 7 per cent.

Ceylon and the Paris Exhibition.

It has been resolved that tea be offered for sale in small pa at the Ceylon Tea House, packets to be "done up in view of the public and wi depleting the stock of exhibits." At a recent meeti the General Committee (Ceylon) the Chairman of the ters' Association stated that, in his opinion, the repres tive of the Thirty Committee and the Planters' Associ should be in residence in Paris for the whole period d which the Exhibition would be open. The Chairma the Chamber of Commerce desired to refer the questi his committee. Mr. J. H. Renton has been nominate the Planters' Association and the Thirty Committe their representative at the Exhibition. Among the bits is to be a model of a Tea Factory borrowed from Imperial Institute. By the way, the Ceylon Railway carry exhibits free of cost.

Brazilian Coffee.

The *Brazilian Review* of 16th reports:—"Since the week en 9th June when entries reached 156,564 bags they have steadily falling up to the week ending June 30 in co quence probably of the heavy rains, but even so sho the last five weeks an advance of 165,162 bags over corresponding period last year, and may now be exp to show a steady growth. For the crop entries are 38 less than for the same period last year, this crop however, comprising one day less." *A Cidade de Bra* states that the heavy frost that fell lately has done mense damage, one-third of the trees being irredeem lost. The crop will, it states, be small this year in district and next year next to *nil*. This should of c be taken with the usual pinch of salt. *O Estado de S. I* states that the frost did no damage in the Laranjal dis where the crop promises to be good.

The Anamalais.

A correspondent writes to the *lon Observer*:—"We are pus ahead upon these Anamalai Hills here, and about 1,300 have already been opened; but this is only a feeler and year we shall probably be opening more than this, as me getting more confident now that the transport difficu etc., are being overcome. There appears every probab of the railway coming to Pollachi within 13 miles o foot of the Ghaut; and from there, the cart-road is l pushed on rapidly, as many as 3,000 coolies being em ed nearly every day. With regard to labour, at fir were rather short, but, now we simply have not line for all that come in, and many coolies are sleeping u iron sheets in the open, in spite of rain, and both my n bours and myself have had to turn away coolies. Of c at present the coolies are not equal to the Ceylon la but I have no doubt, from what I see of them, that, i or three years, they will be quite equal to anything C can show in the way of "big kanacks."

The London Tea Market.

The *Chemist & Druggist* marks:—The importers are g a terrible accumulation of t

heir hands, and they can hardly drink it all themselves ven in this thirsty weather. The dealers, on the other and, while they are glad to work down their stocks, find rade very quiet in the country, buyers looking forward to normous sales and low prices when peace is declared. nd it is hard to see what can prevent low prices for com-non tea in the near future, seeing the abnormal amount here is waiting to be put up for sale, and the very large roportion of common tea in it. Growers of tea always urn out all the common tea possible when we have a high narket here in the spring, and the usual effect is, and ppears likely to be, that the excess of common tea will oon be as marked as the recent scarcity, and that we may e buying sweet, clean 5d. Indian and Ceylon leaf-tea efore long. Fine tea, however, is likely to be as scarce nd dear as common tea is plentiful and cheap.

Mincing-lane Broker in Ceylon.

Mr. Stillman, of Messrs. Chas. Hope & Son, a Mincing-lane firm f tea-brokers, was lately in Ceylon for some three months, uring which he made a thorough tour of the planting istricts, more especially Dikoya, Maskeliya and Bogawan-alawa, but not omitting the outlying estates such as those n utmost Uva; his rounds extended as far as Madulsima. ccording to a Colombo paper, Mr. Stillman, who was ere four years ago, but only on a brief visit, expresses him-elf as delighted with all he has seen of the country, which o him appears in a fairly prosperous condition. He had oticed the scare in certain localities, due to the appearance f gray blight; and it seemed to him that to stamp-out a isease, or a pest in Ceylon, must be extremely difficult, nless severe measures are enforced by law. In India the ork is regulated by the seasons and everybody prunes at nce; but in Ceylon neighbouring estates prune different ortions according to their turn, and often adjoining pieces f two estates are knifed at very different times. With egard to the late tea-struggle, Mr. Stillman offered the pinion that the home agent should have commenced the truggle by getting every planter in Ceylon to agree to ithhold sales; then to approach the dealers and, if they roved unmanageable, to begin the fight with the pro-ucers firm at their back. As it was they "engineered" he fight first, and "bluffed" the tea-dealers early in the ay. But once the game was started, it was only Calcutta hat gave any help. Colombo, he thought, had behaved ery badly. He was surprised to find the brokers here had one little locally to aid the cause of the importers.

eylon Tea in the U. S.

Mr. Arthur-Lampard wrote from Vancouver to Mr. Mackenzie on 0th July, 1899, that he had travelled through the States rom East to West, taking in New York, New England, Massachusetts, Pennsylvania, Michigan, Wisconsin, Mis-ouri. Illinois, Minnesota, Dakota, Montana, Washington, Oregon and California, in all of which places he had visited he chief cities and discussed Ceylon and Indian prospects vith the leading tea-houses. He says:—"I have come to he conclusion that you very much under-estimated the esult of your labours to me, for I am convinced the most eart-breaking portion of the difficulty, (*i.e.* the initiation) f introducing Ceylon and Indian tea has been well over-ome. I myself found no difficulty in getting Ceylon tea o drink in all the important hotels I stayed at in the big cities from Portland, Oregon, 'Frisco, New York, Chicago, Boston—it was even announced in the bills of fare, that is, the tea list was Oolong, Japan, English Breakfast and *Ceylon* Tea. No menu that I have seen had Indian tea on it. I am sure that all that now remains to be done is to be extravagant for about twelve months in your subsidies to the large American firms. They are immensely powerful both as to capital and as to their facilities for pushing the business. I saw a letter of yours to Reid Murdock of Chicago, and that is the stamp of firm I consider you would be wise in backing. The Arbuckles, Franklin McVeagh, Sprague Warner, Reid Murdock, Chase and Sanborne have the control, I believe, of far more money, than the whole of the London tea trade put together. No *English firm can have* a chance of competing successfully with the established grocery firms, for after all credit is the chief facility required by the retailers." The statement that *Indian* Tea is not mentioned seems to call for some explanation on the part of Mr. Blechynden.

GENERAL ARTICLES.

AFTER THE BATTLE.

THE INDIAN AND CEYLON ASSOCIATIONS IN LONDON.

REGULATION OF TEA SUPPLIES OFFERED FOR SALE AT AUCTION.

The following is the Report of the Joint Committee of the Indian Tea Association and the Ceylon Association on the proposal to regulate the offerings of Indian and Ceylon teas at public auctions throughout the year:—

The Joint Committee having had their attention called to the great inconvenience alike to buyers and sellers of both Indian and Ceylon teas caused by the large quantities of Indian teas at times put up for sale in one week, decided to endeavour to come to an arrangement for spreading the sales more evenly over the year. To that end a sub-Committee, consisting of representatives of both Indian and Ceylon Importers, was appointed, and these gentlemen in consultation with a sub-Committee of the Tea Brokers' Association, have drafted the rules on the enclosed sheet. The Joint Committee have carefully considered these rules, and they now submit them for the consideration of the general body of importers at the general meeting to be hold on the 26th instant, of which a formal notice is enclosed. A copy of the proposed rules has been sent to the Tea Buyers' Association, through the Tea Brokers' Association, with a request that they will be good enough to consider them, and to give us the benefit of their views on the subject. These views will, if possible, be laid before the general meeting of Importers on the 26th instant. In drafting these rules it was found that in ordinary times, Ceylon teas, arriving as they do, practically speaking, evenly all the year round, regulate themselves, and that therefore in their interest, as well as in those of Indian teas, it would generally only be necessary to regulate the offerings of the latter. As will be seen, the suggested rules accordingly apply only to Indian teas, but the Regulating Committee will be instructed, in deciding on the quantities of Indian teas to be offered from week to week, to take into account the quantities of Ceylon teas coming forward, the state of trade in the country, and all points connected with the matter. There will, however, on the resumption of sales after the termination of the present misunderstanding between buyers and sellers, be an accumulation of Ceylon teas, and to meet this case, it has been arranged, subject to the approval of the general body of importers of Ceylon teas, to utilise the services of the Regulating Committee to regulate by means of the proposed rules the offerings of Indian and Ceylon teas combined (in their respective just proportions) until the accumulation of Ceylon teas shall have been worked off. And in the same way, the machinery now provided ostensibly for regulating the offerings of Indian teas, will always be available when required for Ceylon teas also. With regard to Rule 8, the Joint Committee feel that no hard-and-fast line can be drawn, but they

strongly recommend the importers of Indian teas to clear off the old crop before the end of May—the earlier the better, as, so far as there is any difference, the heaviest arrivals of Ceylon teas are from May to July. It is not intended by any arbitrary means to restrict the discretion of any would-be sellers of tea when the total quantity of both Indian and Ceylon teas does not exceed the maximum quantity that the trade can conveniently taste and handle—estimated at present at between 65,000 and 75,000 chests in a week—but only to provide machinery—the operation of which will be fair to all sellers—for keeping within such limits. The Joint Committee and the Sub-Committee appointed by the Tea Brokers' Association are unanimously of opinion that this object can be attained by the suggested Rules now circulated, and attained more fairly and completely by them than by any of the many other plans that were put before them, if Importers of Indian and Ceylon Teas will accept the Joint Committee's recommendation and adopt them and abide by them. The Resolution, of which notice is herewith sent, will therefore be submitted to the general meeting of all Importers of Indian and Ceylon teas to be held on the 26th instant, and the Joint Committee trust that it will be carried unanimously.

GENERAL MEETING OF IMPORTERS.

THE REGULATION OF INDIAN TEAS DECIDED ON.

A general meeting of importers of Indian and Ceylon teas, convened by the above Associations, was held at Winchester House, E. C., on July 26th, to consider and, if approved, to adopt the following rules for regulating the supply of Indian teas offered at public auction:

1. That public auctions of Indian tea be, as far as possible, distributed over ten months, August to May inclusive.
2. That a committee of brokers, advised by representatives of importers, if necessary, shall regulate the amount to be printed for sale, and shall be called the Regulating Committee.
3. That the importers instruct their brokers regarding teas ready for sale, and which they desire to have sold on the first opportunity.

Note.—All teas "ex" vessels which have been entered at the Custom House on or before the previous Monday shall be considered ready for sale.

4. That the brokers hand into the Regulating Committee particulars of all the teas that they are instructed by their merchants to print for the first opportunity.
5. That the closing time for these particulars be Thursday night at the office of the Tea Brokers' Association, Dunster House.
6. That the Regulating Committee sit every Friday morning, and ballot for the order of brokers' sales, from the particulars handed in, and inform the broker the result of the ballot, and the date of his sale.
7. That the clerical work entailed by these regulations shall be arranged for by the Brokers' Association, and the expense shall be borne proportionately by the Indian Tea and Ceylon Associations.
8. That the months of June and July be not regulated for, and importers of Indian tea will be at liberty if they think fit, to print in those months.

The chair was occupied by Mr. W. H. Verner, and there were present:—Sir J. Muir, Messrs. W. H. Anderson, H. Atkinson, J. F. Anderson (Lyall, Anderson & Co.), R. C. Bowie, A. Bethune, A. Brown, F. A. Bond, H. Blechin, A. Bryans, E. W. Braine (for Arthur Kimber), J. Baten (Panawal Tea Company), W. N. Clark (of Begg, Dunlop & Co.), R. A. Cameron, W. Church, H. Earnshaw, H. L. Forbes. Hugh Fraser, J. S. Fraser, W G. Goodliffe, G. H. Gregory, R. Hart, R. Hancock, George J. Jamieson, H. L. Johnson, J. M. Kirwan, Robert Lyell, W. M. Leake, A. Lidington, S. W. Lloyd, C. McLeod, W. H. Moss, R. Macnaughtan, T. C. Owen, P. Oswald, R. W. Pringle, H. K. Rutherford, W. W. Raban (British Darjeeling Company), F. A. Roberts, I. A. Roberts, C. M. Robertson, Russell B. Reid, James Riddell, J. Stuart, T. Sketch, W. G. Smith, Sydney H. Smith (Scottish Trust and Loan Company of Ceylon, Limited), H. J. Shepherd, D. M. Stewart, F. Strong, James Sinclair, J. C. Sandvar, D. H. Skrine, J. M. Smith, J. Shand, R Gordon Shaw, G. A. Talbot, John Tilly, A. Thomson, E. Tye, H. J. Vollar, James Wilson, David Wilson, W. T. Wilson, Alfred Want.

The Secretary of the Indian Tea Association in London, Mr. Ernest Tye, having read the notice convening the meeting, the Chairman then read the resolution for the adoption of which the meeting had assembled, viz.,

"That this meeting being of opinion that the adoption of the rules now submitted for the regulation of the supply of Ind teas offered at public auction will be of benefit alike to buyers sellers of both Indian and Ceylon teas, resolves that they be adop and instructs the Joint Committee to put them in force a securing the adhesion in writing of all, or of a sufficiently la number, of the importers."

THE CHAIRMAN'S SPEECH.

The Chairman, in proposing the resolution, said:—Gentleme I do not propose myself to go into any lengthy explanation justification of the present proposal. That will be done by gentleman who will second the proposal, Mr. Bryans, who has gi much time and attention to the consideration of the subject, who assisted in drawing up the suggested rules. I should like, however, to refer to one or two small points, leaving Bryans to give the full explanation, which he is in a positio make. In the first place this question has, for many years p been very forcibly appreciated by importers and producer Indian and Ceylon tea, because at certain periods of the y enormous blocks of tea are put up to sell, and there are consi falls in the price of teas. The matter has been before both Associations, and the result has been the appointment of a comm tee, which has now suggested the above rules. I daresay you h all received copies of the suggested rules. I think they have b carefully drawn up. It is necessary, however, to point out for of misunderstanding, that perhaps the most difficult portion of business, and one which I am sure can be satisfactorily arran supposing the rules are received, is rule No. 2, which is: "T a Committee of Brokers, advised by representatives of importe necessary, shall regulate the amount to be printed for sale, shall be called the Regulating Committee." You will all want assurance that it will be dealt with in a way that will be enti fair and honourable to everybody concerned. For instance, no la producer should have such a voice in the matter as wo give him more influence than a smaller importer. Everyth dealing with the matter should be automatically arranged. Howe that portion of the details has not yet been gone into. I speak this particular point because everybody who is connected with subject should be properly treated. Of course everybody will h to come to the brokers, and make quite sure that nobody follo different policy, and that is why it is proposed to leave the ma as much as possible to the brokers. I have nothing more to on the subject, and the reason I have said so much about it is I feel sure that if we work together, bearing in mind that it is the good of all, even if we suffer a little individually, that on whole we shall gain. I think it is necessary to give you assura that this will not be done unless some system is made that is eq ly good for the very smallest producer as for the largest. regards Ceylon tea, the committee which considered the ma have seen that it was practically unnecessary in any way to in fere with the sales of this tea, and that so far as regulating the s would affect it, that this could best be done by simply regulat the sales of Indian teas. The two gentlemen representing Indian tea and the gentleman representing Ceylon tea who are the Special Committee, and, I think, all the members of the Gen Committee of the Ceylon Association, are all of one opinion, t the Ceylon tea should be practically left alone, except a little bl that is influenced by other events. The Ceylon teas are selling the year round, and there is very little variation in them. Ind planters will understand that this is not an attack on the right the Indian importer, and the Ceylon planters will understand t the refusal to deal with the Ceylon teas is not a slight on them now beg to propose the resolution I read at the opening of remarks.

OTHER SPEECHES.

Mr. Bryans, in seconding the resolution, said: I rise, Mr. Ch man and gentlemen to second this proposal, and, as Mr. Verner been kind enough to mention me specially in the matter, to and explain a little how we came at this pamphlet of rules. W gentlemen, as our Chairman has told you, this is of course mer a plan to relieve certain months of the year, when very large qu tities of tea are, and have been in the past, placed on the mark a happy-go-lucky fashion, and the result has been that during periods, say in July, August, September, there have been h heavy quantities on the market, and we have still gone on, pil up our produce, and the result in consequence was necessari fall in price. Somebody has to carry the baby. In the past have practically asked the trade to do it entirely, but by passi

ese rules we shall relieve the pull, so that we shall divide the oy into twins, and we shall each carry one of them. I do not nk there is any doubt as to the great mistake in persisting in tting our stuff in the market when the market had plenty with- t it. The buyers could not in many cases really fairly sample r teas. and the result frequently was that there was a slump in ice. We have got into line so much over another matter that thought it was a very right and proper opportunity to get into e over this matter. It is one we have considered year after ar during the last twelve or fourteen years, with a view to see if me system could not be devised, and we have, in reforming an- ier system, a grand opportunity for laying down some definite les to reform this one. The practical result of these rules will to form a number of small series of sales. A certain amount of will go in and will be called ready for sale, so that it shall be ntified with what teas could be printed, and what teas could t be printed. When these teas ready for sale are in the nds of the brokers they ballot for places for selling them, and til a series is sold, the next lot ready for sale cannot be sold, d must not be printed. This, it seems to us, must be a fair stem of working, fair both to the large importer and to the small porter. It seems to me that the chief thing we have to do is to ove the principle, and the principle is as I have tried to explain

If we can do this and instruct our brokers to fall in with that inciple, I think that we, as importers, will have very little further do. The great thing is that the responsibility will rest on the okers, but they will always have the Regulating Committee be- nd them, so that if any importer asks them to do anything out- le this principle they can refuse to do so on the ground that the erchants have told them to act on the rules and system adopted the Regulating Committee. If the rules as laid down are nd to be not quite clear or practicable, I think we can leave it the brokers to make out the details as they think best, provided at they have the unanimous support of the importers. What we nt is unanimity in adopting the principle and in instructing our okers to carry out the rules. I have no doubt most of you are are that the sales of coffee and indigo are regulated by similar les, and are found to work well. I need only confirm what fell m our Chairman, that the Ceylon importer must not think for moment that his interests were not considered. I think I may rect our Chairman in his remark that there was only one presentative of Ceylon on the Committee, as I myself am largely erested both in the Indian and Ceylon tea industry. Seeing at Ceylon manufactures its tea all through the year, and imports steadily during the year, the Ceylon sales would regulate them- ves, provided we can regulate the Indian sales. I think the gulating Committee should be allowed a certain amount of itude in working out the details. The Calcutta buyer is a different position somewhat to the grower who sells at me, but I believe we shall get a large number of Calcutta buyers come into this system and be willing to join, provided they are ated with a little latitude. I have nothing more to say except impress upon you the necessity of accepting this system. All t we have to do is to instruct our brokers to carry out our gene- rules, perhaps with some modifications, and I believe we shall d that it will be a system that will work for all our pecuniary nefits. I beg to second the resolution.

Mr. Arthur Thompson remarked that everyone connected with trade must wish to co-operate in the movement, which he be- ved must be to the benefit of sellers and buyers.

Mr. Hart pointed out that he considered the subject of great im- rtance, and he had no doubt that if they acted together it could carried out successfully. He had no doubt that many must have n in some of the tea papers an expression of surprise that thing had been done in this matter before. The present was, he ught, a good opportunity to bring the matter forward.

Mr. D. M. Stewart, while expressing his entire approval of the stem, pointed out that those outside the combination, who had all quantities to sell, would find great difficulty in getting the okers to take them up. He cordially supported the proposed olution, and felt certain that the principle was a good one, and t if any defects were found in working the rules they could be ended.

The resolution was also supported by Mr. Leckie and by Mr. ng.

The Chairman remarked that the broker must sell if anyone side the combination wanted small quantities of tea sold. They hoped the great majority of importers would come into the arrangement. The question of *pro rata* and other matters of detail would have to be settled.

The resolution was then put to the meeting and carried *nem. con.* The proceedings closed with a vote of thanks to the chairman.

EXPORTS OF INDIAN TEA.

The General Committee of the Indian Tea Association, Calcutta, state in their Monthly Return of Sailings and Daily Customs Entries of Tea from Calcutta, and Return of Exports of Ceylon Tea for four years up to the 1st August 1899:—

EXPORTS OF INDIAN TEA FROM CALCUTTA.

	1899. lbs.	1898. lbs.	1897. lbs.
Sailings to Great Britain in July ...	15,612,704	12,675,109	14,153,912
Sailings to Great Britain from 1st April to 31st July	29,671,480	22,725,556	23,720,246
Sailings to Australia and New Zealand in July	902,077	452,632	727,514
Sailings to Australia and New Zealand from 1st April to 31st July	1,238,302	520,188	1,001,632
Sailings to America in July ...	*271,811	92,445	109,655
Sailings to America from 1st April to 31st July	316,282	110,457	125,000
Sailings to other places in July ..	856,449	1,101,947	595,559
Sailings to other places from 1st April to 31st July	1,475,335	1,536,899	972,186
Total Sailings from 1st April to 31st July	32,701,399	24,893,100	25,819,064

Daily Customs Entries for Export to Great Britain from 1st

April to 31st July	1899	lbs.	33,532,477
Do do. do do. ...	1898	„	25,031,674

EXPORTS OF TEA FROM CEYLON.

Total Exports from 1st January to 1st August	1899	lbs.	75,484,692
Do. do. do.	1898	„	73,405,371
Do. do. do.	1897	„	72,247,882
Do. do. do.	1896	„	67,538,732

Yours faithfully,
J. TAYLOR,
Acting Secretary.

* Exports to United States ... lbs. 183,069
Do to Canada ... „ 88,742

HISTORY OF THE MYSTIC TEA-DRAFT.

The tea draft has obtained for centuries, and was not brought into existence to compensate dealers for stray bricks, pieces of lead, and other substances, the use of some of which as make-weight is not unknown even at the present day. Long before the East India Company was given a monopoly, Dutch merchants were in the habit of supplying this market with tea and of accompanying their wares to London, not only to effect sales, but to obtain personal possession of the sums realised. They were obliged to lodge with citizens engaged in trade and the latter had to guarantee that they were peaceable and respectable, and be responsible for their conduct. Naturally they lodge with customers, who as recompense for free lodging and the giving of what was practically bail for their behaviour were allowed a full 1 lb. in addition to any fraction thereof off the weight of each package. In 1721 this continental trade, which was taxed at the rate of 10s. per pound, against 4s. on that imported from the East India Company's territories, was prohibited on the representation of the latter that the duty could be more easily and less expensively got from them than from a number of importers. Although this proposal commended itself to the Government and the company obtained a monopoly, it was not until 1784 that they were allowed to collect the duty and pay it over to the Government. The Dutch having given dealers the 1-lb. draft, the East India Company, who always had the smuggler as a formidable competitor, were obliged to continue the custom.

ALL ABOUT TEA.

While investigating the history of tea, an English writer, according to an exchange, came across a rare manuscript in the British Museum, giving a quaint summary of the virtues of the herb called tea or chee. It was dated October 20, 1686, and purported to be a translation from the Chinese, as follows:

1. It purifies the blood that which is grosse and heavy.
2. It vanquisheth heavy dreams.
3. It easeth the brain of heavy damps.
4. Easeth and cureth giddiness and pains in the heade.
5. Prevents the dropsie
6. Drieth moist humors in the heade.
7. Consumes rawnesse.
8. Opens obstructions.
9. Clears the sight.
10. Cleanseth and purifieth humors and hot liver.
11. Purifieth defects of the bladder and kidneys.
12. Vanquishes superfluous sleep.
13. Drives away dizziness, makes one nimble and valiant.
14. Encourages the heart and drives away feare.
15. Drives away pain of the collick.
16. Strengthens the inward parts and quickens the understanding.
17. Strengthens the memory.
18. Sharpens the will and quickens the understanding.
19. Purges safely gaul.
20. Strengthens the use of due benevolence.

From the foregoing it seems that the "cup that cheers" was a beverage very highly esteemed in England 200 years ago. Its introduction was an event of great significance. Its medicinal and wholesome qualities had been proclaimed in advance, and its arrival was hailed with delight as a substitute for intoxicants.

TARE OF TEA.

Mr. H. Drummond Deane, of Peermaad, writes to the *Ceylon Observer*:—

I have read your article in your issue of 3rd August on "Customs weighment to the half pound," and also the extract of a "London expert's" letter, and I am bound to say that I gather but little satisfactory news from either.

Your London expert may to a certain extent be right in his deductions as to the loss in weight which occurs through carelessness on the part of the *factory superintendent*, but it would be hard to blame the Customs weighing for that. If proper care is exercised in taring the loss will at present be *under* 4 oz. of tea per chest of 100 lbs.: and I conclude by the new system of weighing we shall have at least to put 2 to 3 oz. extra into our chests to make sure of the scale turning in our favor, so the gain will then be a mere nothing to the man who takes the trouble to tare his packages correctly; and if to get this every package is turned out, the damage done in repacking as performed in London will more than eat up the small saving in tea.

Now to prove my point. I enclose for your perusal (and careful return), my last six invoices of teas sold in London, all of which were *properly tared*. The maximum tea put in a package to make *the tare correct* was 10 *oz.*, and the minimum 3 oz.; and the average probably 7 oz. at *the outside per package*. You will see that on the total number of packages, *viz.* 490 chests, there was a gain of 145 *lbs.* in London, or rather over 4 oz. per package, so that my nett loss from London weighing will not exceed 3 oz. per package—which is not much to growl at; and to myself at all events, I see no gain in the proposed change in weighing except saving a little trouble to myself in packing.

I also enclose four invoices of my predecessors packed in the old way, that is to say, no attention to taring, but *8 oz. extra put into each chest*. This careless packing proves your London expert's remarks; but as before said it is the *careless supervison* and not the Customs weighing that is to blame. You will find these four invoices consist of 497 chests of tea. Loss in London on these packages 241 lbs., or say, 7 oz. per package, to which must be added the 8 oz. extra put into each chest on the estate, which makes 15 oz. per chest loss simply through not taking trouble to tare in conformity with regulations as against 3 oz. when that trouble has been taken.

While, therefore, recognising that the Colombo buyer will b to some extent owing to some two-thirds probably of teas b not having been properly tared in the past, I see no gain is to accrue to those who, like myself, are careful over this detail of factory work.

You may like to see *the original invoices*, which prove my ments. In short a superintendent, sending off a crop of chests and attending to his taring, saved 1,500 lbs of tea employers, as compared to a superintendent who did not tar packages, but merely put 8 oz. of tea extra into each ch

P.S.—It would be interesting if any one else who tare packages carefully gave their results extending over say twelve invoices—perhaps the agents of Kandapolla could o as I believe Mr. Denison always tares his packages.

THE DUMONT COFFEE COMPANY.

GENERAL MEETING: MR. RUTHERFORD'S EXPLANATION.

The third annual general meeting of the Company was he Winchester House, Old Broad Street, London, E.C., on Friday 28th July, Mr. H. K. Rutherford presiding.

The Chairman, after explaining that Mr. P. R. Buchanan Chairman of the Company, was absent through illness, said the unsatisfactory condition of things was entirely due to the price of coffee. In 1898, they found themselves face to face wi very bad market, and a very short crop. When they purch the property, ordinary Santos coffee fetched 78s. per cwt., Dumont coffee only fetched 62s., on which figure very hands profits were earned. The Directors decided to produce a b quality of coffee, and for that purpose provided machinery appliances. The price of coffee had now reached its lowest 1858, and was perilously near the cost of production. but the dulum would inevitably swing the other way, and prices grad improve. As to yield, it was reasonable to expect that when new lands came into bearing, they would get better average than hitherto, although they might not get the amount origi estimated. Although the production of improved coffee ent the employment of more labour, they had produced the cro an average cost of 1s. 6d. per cwt. below that at which they produced by the previous proprietors. Last year, owing t diminished crop, the cost of production was necessarily hig they had to import Italian labourers and these had all to be on whether the crop was great or small. The outlay on ca account for machinery, building, etc., had been heavy, conseq upon their determination to raise the quality of the coffee. first efforts resulted in their obtaining 17s. per cwt. more fo coffee, but, unfortunately, when they were able to produce quantities, the requirements of the market as regards quality changed, so that last year they only realised an increased pri 4s. 4d. per cwt. In two years, from these increased prices, had obtained £24,000, so that the capital outlay would be full covered in two or three years more. It had been alleged that company had been mismanaged. Well, with regard to the mated profits, he knew no other means of estimating than pas perience, and he had much experience in estimating. He w point out that the average annual crop since the formation of Company was 64,000 cwts. This, at the rate of 62s. per cwt average price of Dumont coffee for the four years previous to taking the cost of production, landed in London, at 24s. 6d. cwt., the average cost since the formation of the Company. w have yielded a profit of £120,000 per annum, sufficient to pay d ture interest, preference dividend, and 17 per cent. on the ordi shares. The present price, as a matter of fact, was somew about 8s. (*sic*) to 30s. per cwt. In the matter of accounts Board had thought it desirable, as had been fully explained at last meeting, to purchase the Company debentures at a consi able discount, which thereafter would have had to be redeemed premium. The debentures had fallen, and they had had to re a portion of them, and the net loss on the transaction was £500. As regarded the future of the Company, he could only that its success or non-success was bound up with the rise and of the coffee market. They expected a good crop this year, they had impressed upon their manager the absolute neces of economy. They had therefore every hope that the cost of duction would be cut down to the lowest possible limit.

rectors had studied the position from every point of view, and hen the turn of the tide came, as it must come, they hope the ompany would prove the success they had anticipated when ey originally invested in its fortunes. He than formally moved e adoption of the report.

Mr. G. A. Talbot, in seconding the motion, referred to his visit Brazil. He had found the land good, and the trees healthy and gorous. He had recommended that the cultivation of maize ould cease, but it had been found impossible to stop it entirely. ast year they pulped 27,000 cwt. of coffee, which fetched an erage of 3s. 10d. more than the average price of Santos coffee. he property was in such a condition that with a fair market a ich larger profit could be gained than previous to 1896.

The Chairman, in reply to shareholders, said, with regard to the y in which the estimates had been framed, that they had re-ived a statement from the vendors, duly vouched for, which, er a survey of the property, they found correct. He thought the argin of profit on the present crop would be a great deal ore than the debenture interest for 1899. During 1898, they rchased 727 debentures, costing £60,410. Of these, 374 deben-res were sold for £29,903, leaving a balance on 31st December, of 3 debentures, costing £30,506. Half of these debentures were ught in the open market, the others were offered to them by ndors and purchased. They had been heartily congratulated by ost of the large shareholders on the successful purchase of ese debentures.

Mr. J. L. Densham agreed that the non-success of the Company s entirely due to misfortune. He fully believed that they pos-ssed a good property, and he thought that the Board had acted roughout in an honourable manner.

Mr. Mackenzie suggested the advisability of an expert being it out to look into the management on the other side.

The Chairman remarked that the Board had had reports from veral experts on the working of the estate, but, if it were the sire of the shareholders, they had no objection to some other ntleman going out.

After some discussion, it was decided to leave the question of pert examination of the property in the hands of the Directors.

The resolution was then put, and carried unanimously.

The Hon. H. A. Lawrence and Mr. R. Hart were re-elected Direc-s, and Messrs. Jackson, Pixley, Browning, Husey & Co., were appointed auditors.

A cordial vote of thanks to the Chairman terminated the pro-dings.

CEYLON TEA PLANTERS' RETAILING.

An attempt is being made "privately" to obtain subscriptions an issue of 20,000 ordinary shares of £1 each and £5,000 deben-es in this concern and if those who have received the prospectus l be advised by me they will pitch it into the waste-paper basket. e object of the company is the acquisition of a tea estate in Cey-called the Dickoya and the opening up of "centres, shops and ncies for the sale of the produce direct to the consumer, saving middlemen's profits." It sounds exceedingly well and some-ng might be said for the proposition if the ground were not too ll covered by large undertakings already. But there are other ious flaws connected with it. The vendors are selling the estate he value they have fixed themselves; and, instead of a state-nt of past profits, they give an estimate based on "expectations he annual crops in future" and the present retail price of Cey-tea! And they audaciously end up their invitation with the owing paragraph :—

A full report on the Dickoya estate buildings and machinery has n received from Mr. E. Gregson, the well-known visiting agent in lon, as to the crops, receipts from bazaar rents and expenditure the three years 1894-5, 1895-6 and 1896-7; and the report, dated ne 17, 1898, may be seen at the Company's office.

This is the old familiar dodge. If Mr. Gregson's twelve-months report had been favourable to the flotation, it would have been erted in the prospectus; and the promoters know that there is danger of the provincials between Land's End and John Groat's to whom they direct their appeal, travelling up to London make the inspection. Further, if the estate were worth the price d by the vendors they would not require to offer it to the public; ould be taken by some of the large corporations which are ex-ting the tea industry in Ceylon.—*The Critic.*

A TEA MERCHANT INTERVIEWED.

John McEwan, senior partner of the large London tea firm, McMeekin & Co., was interviewed by a representative of the St. John, N. B., Sun, when he was in that city.

McMeekin & Co. deal only in Indian and Ceylon teas, and have plantations of their own in both countries. The late Mr. McMeekin was one of the earliest tea-planters in India. He was also a practical horticulturist, introducing new methods of cultivation of the tea-plant.

Mr. McEwan has been in the tea business since 1877, and has visited the plantations of India and Ceylon, and has been over the tea-drinking world in the interests of his trade. He has visited Russia, and Australia, and Africa, and has been over this continent from New Orleans to Winnipeg, and from Halifax to Vancouver and San Francisco. His firm handle a large direct trade with the west coast, across the Pacific. His travels and his business experience make him an authority on the subject of tea, and he is now preparing a paper on "Distribution of the Tea Plant in Production and Consumption," to be read before the International Geographical Congress at Berlin next September. He is a Fellow of the Royal Geographical Society, which has a commercial geographical section. He has written a booklet on Indian tea.

Discussing the cultivation of the tea plant, Mr. McEwan pointed out that India and not China was its real home. The cultivation of the plant in India was begun by the East India Company, members of which brought plants from China in ignorance of the fact that the plant was a native of India. They cleared the jungle and set out Chinese plants, but in the course of time discovered they had been cutting down trees of a superior character to those they had brought from China.

The native Indian plant, as a profitable commercial product and as a leaf for producing good liquid tea was found to be vastly superior to what was thereafter termed the China variety. Consequently much the greater portion of all the modern cultivation of tea, both in India and Ceylon, has been of plants from the seed of the indigenous type. Many hybrids are, however, in use, and are more or less successful, according to elevation. The pure China tea has in some cases given very satisfactory quality at a high elevation, although its yield in quantity is comparatively small. Many hold the theory that under European supervision and methods of planting, cultivation and manufacture a tea superior in quality to any thing the world has yet seen may be produced. Many tea experts maintain that for delicacy and flavor there never has been such tea as formerly came from China, but under the modern conditions of trade its production appears to be a lost art. There is a possibility of recovering, in the way suggested, what seems to have been forgotten.

The blending of teas, Mr. McEwan pointed out, cannot be done in Ceylon, for the importation of other teas is forbidden, nor in India, on account of climatic conditions. If tea were opened up during the rainy season in Calcutta or in the moist, steamy atmosphere of Colombo, it would lose materially by the exposure. Nothing is more sensitive than tea. In packing it on the estate the last process, called the final firing, is designed to remove any particle of moisture which may have been left during the earlier process, or contracted while it awaited packing. Immediately after the final firing the tea is packed and sealed down, but when packages are opened at the point of shipment for any purpose it is not possible to refire them, and consequently the contents to some extent deteriorate, especially if exposed to a moist atmosphere.

"For this reason," said Mr. McEwan," the best tea to handle in a country store, with a miscellaneous stock of goods, some of which give off strong odors, is a tea in sealed lead packages. Any tea which has to be left open in bins or chests is liable to contract some of the characteristics of other goods, and consequently deteriorate."

"In spite of the rise in prices since last December," aggregating fully 50 per cent. on the value of all common grades of Indian, Ceylon and Chinese teas, the home consumption in England has continued to increase, and it seems probable that prices will be maintained at a high level for a considerable time to come. It will be easily seen that it is not possible quickly to extend the production of tea, as an estate yields practically no crop for about five years after the land is cleared for planting. There need be no fear, however, of an ultimate short supply, for a very large acreage of new cultivation in India and Ceylon and in Travancore in Southern India has yet to come into bearing, and will materially increase the supply.—*Canadian Grocer.*

GRAY BLIGHT.

It is desirable to publish as much reliable information as possible regarding pests which are spreading, or which are liable to spread. As soon as thoroughly reliable scientific advice can be obtained the better for everybody; but meanwhile something can be done if planters will describe what methods they have taken, with success or otherwise, to deal, for example, with gray blight. The drawback at present is that even where every estate in a district is prepared to take precautions the lines pursued vary considerably. A planter from a well-situated district, discussing the matter with us yesterday, stated that estates in the hills, he believed, could cope with the pest in the worst form in which it has yet appeared in Ceylon at a cost of two cents per lb. of made tea. This would be serious for low-country places, but up-country—in all the principal districts—could still stand that and a little more if necessary. Opinions differed as to whether the blight attacked only bushes which had gone ten months since the previous pruning. A neighbour had laid in a large supply of baskets, canvas-lined, and had issued them to each plucker to carry on the double work of plucking the flush and the shuck leaves into separate baskets simultaneously. Our informant thought it would not prove to be the economical plan anticipated; and that, if the disease was at all bad, there was nothing for it but pruning. Other superintendents were putting on special gangs; but heavy pruning would admit of the ordinary pluckers being afterwards given the task of looking out for any diseased leaves which had been spared, or which might subsequently show signs of infection Our visitor had some leaves with him which he was taking to be microscopically examined, but which he believed represented both gray and brown blight, one marked difference being that the former spread in patches over the leaves, while the latter remained in separate spots. Dr Watt, the Anglo-Indian expert, had described brown blight as only a curiosity in Assam; and consequently the further opinion was expressed that the brown blight, in Ceylon, unlike gray blight, had not been imported. We ventilate these views for the planting community to discuss them. The results of actual experience and close study will always be welcomed as increasing the present limited knowledge on this and cognate subjects.—*Ceylon Observer.*

COFFEE IN SOUTH SYLHET.

A correspondent writes to the *I. P. G*:—

I notice in the *Indian Planters' Gazette* of 5th August, an excerpt from the *Ceylon Observer* says that more than twenty years ago a well-known Assam planter, the late Mr. C. B. Anderson, visited his brother in Ceylon and was so struck with the splendid growth of tea bushes in an avenue leading to the bungalow that he then and there wanted to start a tea garden in Ceylon. It further states that it would have been well for him if he had done so, but he was simply laughed out of his conceit of establishing a tea garden in Ceylon some twenty-three years ago. Instead of starting a tea garden in Ceylon he took a parcel of coffee seed to Assam to plant out a hundred acres. The coffee grew all right, but so did the leaf-disease. Mr. Anderson, it says, abandoned the Assam clearing before anything like a crop had been gathered on it and nothing more was heard of the venture. This would lead us to believe that the leaf fungus had laid firm hold of the young plants from the first, and that before they had given a crop. It may have happened, but it is a very unlikely story that young plants should be attacked so virulently when planted in virgin soil in an entirely new locality and before the bushes had been weakened in the slightest degree by heavy cropping. I have heard about this one hundred acres before. Dr. King told me that it was the borer which caused its abandonment. Then I have been told that it was simply through neglect and bad management, which ultimately slided into it being left to fight for itself. Perhaps some of your Upper Assam correspondents can tell us all about it; as, if I am not mistaken, there is still a Mr. Anderson of the same family living in the Dibrugarh district. As Mr. Anderson was struck with the splendid growth of tea bushes in Ceylon, I was equally struck with the splendid growth and enormous crops on the coffee bushes in the bungalow compounds in the Balesera Valley. But I have not been laughed out of starting a coffee garden in South Sylhet, and although I by no means under-estimate the difficulties ahead before I start whistling on emerging from the wood, I'll whistle the merrier if I am the latest in laughing, as it is said laughs best who laughs last. The *Ceylon Observer*, it appears, led to recall this reminiscence of a strange experience in our p ing world by a revival of a cry to plant coffee freely in As They say they in Ceylon will be very glad indeed if planter Assam are able to supplement their tea with coffee and to g the latter profitably. They wish us a full measure of success, their doubts can only be overcome when they learn of a hund acre field of Arabian coffee at 4 to 5 years old giving a paying of the berry without showing signs of exhaustion from the d leaf-disease. Well, if we have any doubts whatever we are to find that we have nothing else to contend with than the disease. I would say that in an entirely new district and diffe climate we might be pardoned for looking for an equal measur success as they had in other districts for the first dozen years o

MANURES IN CEYLON.

Official statistics show that the manures imported into Ce during 1898, comprised the following:—

	Rs.
Bone manure (from U. K., India and Continent of Europe) valued at	260,096
Chemical manure (from U. K., Australia and Germany)..	73,782
Castor seed poonac (from India and U. K.)	389,494
Fish manure (from Maldives)	4,180
Refuse of saltpetre (British India)	57,564
Guano (from Germany)	1,204
Sulphate of Ammonia (from U. K., Germany and Australia)	39,937
Sulphate of Potash (India and Germany)	8,960
Patent manure (Germany and Belgium)	14,201
Total Rs..	849,418

The *Observer* remarks:—

The total of "manures" proper imported last year is only a l more than *one-half* of what it amounted to twenty-two years In 1876 the value of "manures" entered was so high as R.1,400, and we suppose the value per ton has increased in the inte considerably! But we suspect a great deal of what is now ent as "Poonac" is for manure; the large value given, nam R.1,182,392 stands for as much as 295,598 cwt. and the valu for the Customs is only R.4 per cwt. As the harvesting of increases—that is if the cultivation continues to be profitable— are sure to find a new departure in respect of the import trad manures, especially in respect of fish manure, bones and castor c

THE TEA DRAFT ALLOWANCE AGITATION

The opinion was generally current a week ago that there w possibility of the existing dispute being speedily settled, but t hopes have failed to be realised, and it seems difficult to reco the views of importers and dealers. Meetings have been held week, but no arrangement has been arrived at to give satisfa to both parties. The present system of weighing and taring has been under discussion, but nothing definite has been allowe transpire. Buyers held a meeting on Wednesday, and there no mistaking the enthusiasm with which they meant to fight question to the end. Merchants have evidently been at sea in t calculations as to how the trade would take their proposals, an is probale that if they could make a dignified retreat, say ov golden bridge, they would not hesitate long in doing so, as quite time the dispute was at an end. The latest reports are t effect that the basis towards a settlement has been reached, should this meet with approval from all the various inte concerned, it is expected business will resume its normal co after the holidays in the early part of August, and heavy sup occupy the attention of operators.

The quantities brought to auction have been small—6,000 ages Indian and 7,000 packages Ceylon, offered on the old condi There is, however, a much larger quantity of Ceylon tea u next week, amounting in all to about 13,000 packages, and it i dent that Ceylon importers are becoming impatient of the ex inaction. They have everything to lose by the deadlock, as Ce teas so rapidly deteriorate in quality, that it cannot fail to rather serious consequences to merchants in the prices at w the teas will be ultimately knocked down at public sale.

ncipal dealers are pretty well stocked, whilst the small quanies that are appearing in auction are sufficiently large to satisfy requirements of those who may not be similarly situated. yers are so thoroughly cognisant of the large quantities of tea iving, and which are swelling unsold stocks, that they are con-nt to go on and bide their time until the expected unloading kes place, when there will be enough for all comers and plenty to are. The market cannot thus well recover from an ill-regulated pply, which will be pressing for sale all at one time, whilst it is o questionable whether a healthy tone can be attained for some nths later. It is generally recognised by buyers that importers ll have to pay the piper in the long run, as prices will be affected ereby, and it is the more to be regretted that they should have nged into the present dispute without first taking buyers into eir confidence and making an amicable arrangement, so as to re satisfaction to all concerned.—*The Grocer*, 29th July.

MARKET REPORT.

Per Mail Advices of 4th August 1899.

COFFEE.

The *London Commercial Record* says:—No auctions have been d since our last, and privately business has been of the most ignificant character, but in the few transactions that have transed prices show no material alteration. With continued large azil receipts the market for "futures" has been weak, and prices one time declined 6d. per cwt, but at the close the tone is dedly steadier, and there has been a slight recovery in value; nsactions have been extensive.

ndon ...	... Santos	... Sept. delivery	...	26s. 3d.
w York	... No. 7 Rio...	„ „	...	4·35 cents.
mburg...	... Santos	... „ „	...	27¼ pf.
vre ...	... Santos	... „ „	...	31¾ francs.
lland ...	.... Good ordinary Java	... ...	...	26½ cents.

Auctions are suspended until the 10th instant; spot sales are r. Futures of Brazil opened firm to occasionally dearer, further proved, and close 3d to 6d per cwt. over yesterday's rates The Dutch Trading Company announce their next sale for Tues-r, the 8th instant, at Rotterdam, when 25,800 bags 25 cases Java l be offered. Good ordinary valued at 27½ cents.

mports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
Tons ...	25,716	19,417	35,641	33,985
	Home Consumption.		Export.	
	1899.	1898.	1899.	1898.
Tons ...	9,839	8,755	14,524	15,504

The preceding figures exhibit—

	Tons.
the Imports an increase this year of	... 1,656
the Home Consumption an increase of	... 1,084
the Export a decrease of	... 980
the Stock an increase of	... 6,299

Receipts in Rio and Santos.

	1899-1900.	1898-99.	1897-98.	1896-97.
Since July 1	Bags.	Bags.	Bags.	Bags
... ..	388,000	283,000	412,000	388,000
ntos ...	799,000	560,000	726,000	572,000
Total ...	1,187,000	843,000	1,138,000	960,000
ep		8,772,000	10,461,000	8,680,000

RIO EXCHANGE.—8¼d. previous day, 8 7/32d.

HAVRE, *Aug.* 3.—Santos good average August opened steady at f. and closed steady at 31½f., September opened at 32f. and closed 31¾f.

HAMBURG, *Aug.* 3.—Good average Santos August opened steady 27pf. and closed quiet at 27pf., September opened at 27¼pf. and ed at 27¼pf.

NEW YORK, *Aug.* 2.—Closing prices of No. 7 Rio were as follow:—

	Aug.	Sept.	Oct.	Nov.	Dec.
gust 2 ...	4·35	4·35	4·40	4·45	4·85
gust 1 ..	4·35	4·40	4·45	4·50	4·85

Prices realized at auctions for some of the principal marks of East India:—

NEILGHERRY.

	A	B	C	P	T
Mullanoor	50-0 bid	48-6 bid	34-6 bid	60-0 bid	no bid
Tullach Ard	51-0 bid	40-6	35-6	no bid	25-0
Elephant Vagavarai Talliar ...	no bid	37-0 bid	no bid	42-0 bid	24-0 bid
Craigmore	62-0 bid	42-6	...	no bid	...

Nellakota	1	2	P	T
E / A H / J	no bid	36-0	no bid	27-6

COORG.

	A	B	C	P	T
EAF Chickhallery	39-6	36 0	25-0	37-0	23-0
BN Coorg	no bid	39-0	no bid	no bid	25-0

MYSORE.

	1	2	3	P	T
Morris Mysore Attikhan	58-0 bid	44-0	40-0	49-0	35-0
Do. Bedaguli	58-0 bid	42-6	22-0	55-0	25-0

WYNAAD.

	1	2	3	PB	T
Arbuthnot	33-0 bid	33-0 bid	no bid	38-6 bid	25-0 bid

NELLIAMPATHY.

	A	B	C	P	T	Cherry
Manalaroo	38-0 bid	35-0	no bid	40-0	24-0	34-6
Polyampara						34-0

Landed last week .. 890 *tons.* .. *Deliveries* 875 *tons.* .. *Stock* 25,867 *tons.*
Do. last year .. 1,032 „ .. „ 686 „ .. „ 20,035 „

IN BRAZIL.

Santos, July 6, 1899.

Owing to the sudden rise in exchange a slight fall of the currency prices of coffee is to be registered during the week under review, yet a firm undertone prevailed as receipts were small, smaller than expected, but just sufficient to meet requirements. Had the European ports shown the least inclination to buy, instead of a fall of 100 to 200 reis, an equivalent rise in spite of the higher rate of exchange would have occurred.

We quote: 6$500 to 6$700 for *superior*.

To-day the latter price was willingly paid even when exchange had not yet eased off, but only showed a weaker tendency.

At the former price of 6$500 very few if any transactions can be registered as *Commissarios*, notwithstanding their readiness to sell, were not pushed to that extremity, stocks in first hands being small the yearly revision of stocks indicated them as slightly above 100,000 bags, more than twice as much being in the hands of exporters, probably already sold, and on boardships in port

The quotations for the different qualities remain the same as last week, a little more interest being shown for washed coffees, which accordingly command to-day somewhat better prices.

Peaberries, although still in good demand, no longer fetch such extreme prices as lately quoted, evidently dictated by an anxiety to cover short sales.

Green coffees for Scandinavia and the Mediterranean command a premium and lots composed of coffees of good size bean were mostly sought after, buyers being more willing to meet owners for such goods than for small bean. Bourbon coffees, still form the bulk of arrivals. Yet there are decidedly more selections than only a week ago, although coffees with roasting merit are still extremely scarce and, strange to say, including Bourbons. It only proves again that an early crop is not any good for anybody.

Informations from the interior were in so far very interesting as they reported a first flowering in several districts, this occurrence was naturally much commented upon and, as it deserves, adversely. Rarely, if ever, such a premature appearance of blossoms has been so generally observed wherever it occurred and must, as it is almost bound to come to nothing, tend to weaken the trees for the following flowerings.

The weather has been very forcing during the last four months, abundance of rain and alternate hot weather, that is why some experienced planters welcomed the last frost, notwithstanding its

destructive effects on some badly situated plantations, as a set back against a premature flowering, which after all has made its appearance.

Roads in the interior were still quite lately reported as being impassable owing to heavy rains, which accounts for the small receipts; but we look forward to an increase shortly, unless rain set in again or the rate of exchange rise to such an extent as to disgust planters entirely with the proceeds of their account sales; they are not over-cheerful now.

Stocks in Santos are very small and will not increase for some time to come as daily sales for export exceed daily entries.

By the way, it has been arranged with the Commercial Cable Company at the instance of the *Associação Commercial* to publish from the 1st July onward the daily movements of our stock, as is done in Rio, and Havre speculators will no longer be surprised or frightened by the sudden decline of our supply of a hundred thousand bags or more from one day to the other and then put it down complacently to a telegraphic mistake.

News from the States was scarce owing to the two hoildays and probably, also, owing to the fact that only little can be offered which might tempt the interior markets, as the stock of old crop coffees is almost exhausted. They must likely buy whatever they require in New York, whilst importers there replace their sales by buying undescribed goods here.

For the now most current composition, New York types 3, 4 and 5, 6 1/4 c. to 6 3/8 c. were offered, but is of difficult execution owing to higher exchange.

TEA.

China.—A quiet, almost insignificant, trade is being done at the prices recently ruling. Auctions have offered 7,690 packages during the week, a small proportion of which sold as follows:—Old season's—Ningchow 5¾d to 6¼d, Keemum 6⅛d to 6¾d, Kintuck 7d, Souchong 5¼d, Oolong 4d to 8d, Paklin 6½d to 6¾d. New season's—New make Congou 5⅞d, Kaisow 5⅜d, scented Caper 5⅞d to 7⅜d, Ouchaine 4⅛d to 5⅛d; Moyune Green—Gunpowder 5d to 1s 1d, Young Hyson 4⅛d to 7⅛d, Sow Mee 6d to 1s 1d, Imperial 4d, Foong Mee 8⅛d, Ping Suey 4⅝d to 5½d per lb.

Indian.—Very limited supplies have again been placed on the market, consisting of 7,100 packages (chiefly Calcutta bought invoices) against 5,30 ' in the preceding week. Last year at this time business was much restricted on account of the Bank Holiday, only 3,900 packages being offered on the 4th August.

There was a little more enquiry, especially for good liquoring parcels which were occasionally dearer, but no material change in quotations took place for common to medium; a tendency to firmness was, however, at times noticeable for these grades.

The deliveries for the past month from the London bonded warehouses were about on a par with those of the two previous years, whilst the stock on the 31st ultimo, was almost identical with that of the same date in 1898.

Entries for Export to the United Kingdom during July were 14¾ million lbs., contrasted with 13½ million lbs. a year ago, the total from 1st April being 33,512,000 lbs. *versus* 25,017,000 lbs. during the similar portion of 1898-9.

Ceylon.—Public auctions comprised 11,200 packages opposed to 7,000 last Tuesday. There was a better demand for nearly all sorts, and prices slightly hardened in value, particularly for the few fine and finest, a marked advance in one or two instances being paid for tippy lots with choice flavour.

The average is 7⅞d per lb. On the 27th ultimo, it was rather over 7¼d per lb., and slightly above 7½d per lb. in 1898.

Java.—About 1,1 0 packages of direct import were submitted to the trade, and received considerable attention, though not much alteration is to be noted.

For the 14th instant, 1,200 packages are advertised.

July catalogues included the following:—

1899.	1898.	1897
4,200 pkgs.	2,500 pkgs.	4,600 pkgs.
(Avge. 7¼d per lb.)	(Avge. 7¼d per lb.)	(Avge. 6⅜d per lb.)

A settlement as to the future weighing of tea was practically arrived at yesterday. The new system to come into operation on October 1st.

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns, were—

	Lbs.
From 1st to 31st July, 1899	17,067,041
Do. do. 1898	17,751,641

During the week the following have been printed for sal public auction:—

	Sold.	Withdrawn.	Total off
	Pkgs.	Pkgs.	Pkgs.
India	5,157	1,976	7,133
Ceylon ...	10,651	583	11,234
Java	1,023	121	1,144
Total ..	16,831	2,680	19,511

Also 1,349 packages from second hands.

Quotations for cargoes—open charter—are as follow:—Steam Rangoon 7s 0d to 7s 3d; Bassein 7s 0d to 7s 1½d; Necransie 0 to 0s 0d; Moulmein 0s 0d to 0s 0d on E. No. 2 terms. Saigo 0d to 6s 3d. Siam—Garden 7s 0d to 7s 3d. Field 0s 0d to 0 on c.i.f., delivered weight terms. Sailers, Rangoon 7s 0d to 7s on E. No. 2 terms.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Re dated August 4th, 1899, says:—

Quantity brought to Auction in London from 1st June to Da

	Indian Pkgs.	Ceylon Pkgs.	Java Pk
1899-1900	83,428	144,184	9,22
1898-1899	89,119	210,651	6,61

8,575 *pkgs.* Indian
13,261 ,, Ceylon
1,166 ,, Java
} Total 23,002 packages were offered in public auc this week.

The dispute concerning the overweight which growers of Ind and Ceylon Tea have formerly allowed buyers has been set subject to the conditions being confirmed by a general meetin importers to be held to-day, and the proposed method of weigh receiving the sanction of H. M. Customs. The main points of agreement are as follows:

The 1-lb. trade draft to be allowed as heretofore.

All Teas are to be weighed gross as formerly, odd ounces be disregarded and consequently given in Buyer's favour.

The empty package is to be weighed to the ½-lb.

(*a*) Should it weigh the exact even pound it is to be enterted as s

(*b*) If it weighs the even ½-lb. or over it is to be entere the next pound above.

(*c*) If it weighs below the ½-lb. it is to be entered as the 1-lb. be

These regulations to come into force on the 2nd October, 189

This agreement is generally considered, under all the circ stances, a reasonable compromise and one that growers can be by, if they exercise care in weighing gross and tare.

In view of the recent cessation of sales and consequent accu lation of Teas in stock it will of course be necessary for Impor to offer their Teas in reasonable and workable quantities. Fur progress has been made during the week in the proposed sch for regulating the supplies in the future.

Indian.—There was an improvement in the demand and pr showed a tendency to advance. More attention seemed to be to useful liquoring parcels. The official wire states that shipm to U. K. from the commencement of the season to the 31st were lbs. 33,512,000, against lbs. 25,017,000 during same period year. Exports for July lbs. 8,280,000, against lbs. 6,920,000 in 1

New Season's Tea sold on Garden Account 1st June to date 1 13,233 pkgs., av. 7·81d. 1898, 40,252 pkgs., av. 8·09d.

Ceylon.—These Teas were well competed for at prices showi fractional advance.

Shipments to the United Kingdom during July amounted 8¾ million lbs., against 10½ millions same month 1898. Total ports from 1st January to 31st July lbs. 62,250,000, against 60,750,000 for same period 1898. Average for week 7·73d.

Ceylon Tea sold on Garden Account 1st Jan. to date 1 543,083 pkgs., av. 8·19d. 1898, 666,308 pkgs., av. 7·59d.

Javas.—These kinds met with attention and recent values w well maintained.

Bank Rate 3½ per cent. Exchange on London three mo sight:—Calcutta 1/4 5/32. Colombo 1/4 5/32.

IN AUSTRALIA.

Sydney, August 1st.—Tea ruled firm notwithstanding the re heavy offerings at auction. Buyers do not seem to have satis their requirements for common descriptions.

Melbourne, August 2nd.—Sales of tea covered 700 half-chest panyong at 5¾d., 50 half-chests of kooloo at 7½d., 80 chests Ceylon at 6½d to 8d., and 60 chests of Indian at 7½d.

Adelaide, August 2nd.—The demand for teas of all growth not specially brisk, although fair trade sales are making in Ch Ceylons and Indians at satisfactory rates.

COCOA.

Free supplies were catalogued for auction on Tuesday, the total mming to 6,649 bags, and demand being good nearly 3,000 bags ld at a further upward movement. Of 1,195 bags Trinidad 800 gs sold—superior red at 71s 6d, fine 67s 6d to 70s, fair to good s to 67s, and common 62s to 62s 6d, or 1s to 2s over the prices ling last week. The whole of the Grenada brought forward ,122 bags) found ready buyers at 1s to 2s advance, good to fine alising 63s to 65s 6d, fair 61s to 62s, and common 57s 6d to 60s. f 129 bags Dominica 25 bags sold at 58s to 59s for common to fair. 5 bags Demerara mostly sold at 66s 6d for fine. Of 391 bags maica 250 bags sold at firm rates—61s to 62s 6d for good to fine, d 52s to 58s for common to good common. Of 72 bags Surinam fered about 20 bags were quitted at 61s 6d. Of 400 bags Samana 0 bags were placed at a slight improvement—58s 6d. Guayaquil iet but steady, only 300 bags selling, out of 2,308 bags brought rward, at 68s to 70s for Caraquez and 61s for Arriba. Ceylon as also quiet, but valuations were obtained; 933 bags offered and 0 bags sold—fine bold red 80s to 84s 6d, pickings 56s to 60s. ivate sales include 100 bags Trinidad at 69s. 50 bags Jamaica at s, 120 bags Dominica at 58s to 60s, 350 bags Caraquez at 68s 6d, d 1,000 bags Guayaquil at 70s 6d to 71s for Arriba and 68s to 70s r cwt. for Caraquez.

Import, Home Consumption, Export and Stock of Cocoa in ndon are as follows:—

	1899.	1898.	1897.	1896.
	Bags.	Bags.	Bags.	Bags
nports, B.P. ...	100,340	105,256	94,006	103,298
Foreign ...	47,974	74,675	45,662	46,648
me Con., B.P ...	52,687	66,933	52,898	45,484
Foreign ...	32,575	36,058	37,647	34,168
xports, B.P. ...	29,754	23,887	29,532	25,841
Foreign ...	16,989	19,509	25,582	17,117
ock, B.P. ...	63,482	74,475	89,452	97,827
Foreign ...	50,984	52,608	42,652	71,728

PEPPER.

BLACK.—The market has assumed a firm appearance and value is gher in all positions. About 200 tons Singapore have been sold, z., fair quality on the spot at $5\frac{1}{4}$d to $5\frac{5}{16}$d, July-September at $5\frac{3}{8}$d, ugust-October at $5\frac{1}{2}$d to $5\frac{9}{16}$d, September-November at $5\frac{9}{16}$d to $\frac{1}{2}$d, and October and December at $5\frac{3}{8}$d.

At public sale on Wednesday, 340 bags Singapore bought in at to $5\frac{1}{2}$ per lb. 95 bags Tellicherry sold—good clean brown shot alabar character $5\frac{1}{4}$d, ditto light brown colour $5\frac{1}{4}$d, fair heavy d per lb.

The shipments of Black Pepper for the month of July compare follows:—

	1st-half.		2nd-half.	
	1899.	1898.	1899.	1898.
	Tons.	Tons.	Tons.	Tons.
K.—Sing. ...	240 } 290	120 } 250	100 } 130	20 } 140
, Penang ...	50 }	130 }	30 }	120 }
ntinent ...	240	120	200	30
ited States ...	*nil*	*nil*	360	240
Total ...	530	370	690	410

WHITE is also firmer, with sales of 150 tons Singapore, including w landing $8\frac{9}{16}$d, June-August shipment at $8\frac{7}{16}$d, August-October $8\frac{1}{2}$d to $8\frac{5}{8}$d, September-November at $8\frac{5}{8}$d, to $8\frac{11}{16}$d, and October-cember $8\frac{3}{4}$d. In Penang no sales reported; August-October, ipment $8\frac{1}{4}$d buyers.

The shipments of White Pepper for the first half of July compare as follows:—

	1st-half.		2nd-half.	
	1899.	1898.	1899.	1898.
	Tons.	Tons.	Tons.	Tons.
U.K.—Sing. ...	90 } 200	160 } 170	30 } 50	40 } 130
„ Penang ...	110 }	10 }	20 }	90 }
Continent ..	30	*nil*	40	40
Total ..	230	170	90	170

GINGER.

COCHIN.—Holders exposed a good selection for competition, the total summing to 146 cases 1,548 bags, but there was very little enquiry, and 79 cases 210 bags was all that changed hands under the hammer. Prices accepted disclosed a slight decline generally. Good medium cut and scraped, limed, realised 50s to 50s 6d, boldish medium very roughly cut and scraped, limed and wormy 43s, medium, some small, ditto ditto 27s 6d to 28s, small and ends 23s, medium and boldish brown rough, part dark 23s, small to bold plump brown rough, partly limed, 20s to 20s 6d, limed cut ends 22s, good washed brown ends 21s 6d, and cuttings 16s per cwt.

JAMAICA. 415 barrels, &c., were offered, and the greater part sold at an improvement of 1s to 3s per cwt.:—Fine bright bold washed realised 76s, fair to good bold and medium 66s to 71s 6d, low middling to middling 55s to 64s 6d, common to good common dark 48s to 52s, Rahtoon 45s to 47s per cwt.

CINCHONA.

The Nederlandsche Veem cinchona-bark department at Amsterdam report that the shipments from Java during July amounted to—

	1899.	1898.	1897.	1896.	1895.
Amsterdam lbs. ...	940,000	1,172,000	900,000	107,400	548,000
January-July	6,030,800	6,089,000	4,234,000	5,050,000	4,316,700

The exports from Ceylon for the week ending July 11 were 11,611 lbs., and from January 1 to July 11 they were as follows:—

	1899.	1898.	1897.	1896.
Lbs.	426,484	529,622	408,691	615,251

The auctions to be held in Amsterdam on August 24 will consist of 4,667 bales Ledgeriana and Hybrid, and 646 bales and 183 cases Succirubra The stock in first hands on August 2 at Amsterdam consisted of 2,458 packages Government bark and 9,463 packages private bark, including the quantity to be offered in auction. There is every possibility that other parcels will be added to the above auction-offerings in a few days.

CINCHONIDINE.—The nominal quotation is 1*s.* 6*d.* per oz., but very little is to be had. Howard's price for sulphate, in tins and vials, has been advanced to 1*s.* 1*d.* and 1*s.* 2*d.* per oz, respectively. Cinchonine sulphate is quoted on this market at $3\frac{1}{2}$*d.*, and muriate $4\frac{1}{2}$*d.* per oz.

QUININE.

Quiet and easier on the whole, although there have been several daily fluctuations. Last week the market closed weak, August delivery being sold in second-hand at 1*s.* $1\frac{5}{8}$*d.* to 1*s.* $1\frac{3}{4}$*d.*, and December 1*s.* 2*d.*; but since then there has been a slight recovery, sales being made at 1*s.* $1\frac{5}{8}$*d.* to 1*s.* 2*d.* spot. On Wednesday it was reported that 1*s.* $2\frac{1}{2}$*d.* had been paid for December delivery, but this lacks confirmation. To-day the market is firmer, with business at 1*s.* $2\frac{1}{4}$*d.* to 1*s.* $2\frac{1}{2}$*d.* for August delivery.

MOVEMENTS OF TEA IN LONDON (IN lbs.) DURING JULY.

	Imports.			Deliveries.		
	1899.	1898.	1897.	1899.	1898.	1897.
Indian	8,750,356	6,147,205	5,814,912	9,619,897	9,967,116	9,490,723
Ceylon	11,614,924	9,424,972	10,380,636	7,908,084	7,979,848	8,962,686
Java	225,960	285,950	293,230	355,810	239,610	381,780
China, &c.	10,171,998	5,723,800	6,851,340	2,585,937	2,556,218	2,671,243
Total lbs. ...	30,763,238	21,581,927	23,340,118	20,469,728	20,742,792	21,506,432

From 1st June to 31st July.

	Imports.			Deliveries.			Stock.		
	1899.	1898.	1897.	1899.	1898.	1897.	1899.	1898.	
Indian	12,257,769	7,497,901	7,907,769	18,742,353	20,339,031	18,509,040	25,016,957	25,232,658	21,6
Ceylon	19,729,454	19,201,950	21,090,100	15,927,396	15,579,560	16,831,132	23,592,310	20,615,684	24,2
Java	582,960	534,730	742,700	747,740	520,170	712,180	550,340	672,140	7
China, &c. ...	10,739,479	6,252,254	7,136,887	4,673,128	4,824,724	5,252,855	16,131,240	13,278,794	14,8
Total lbs. ...	43,309,662	33,486,835	36,877,456	40,090,617	41,263,485	41,305,207	65,290,847	59,729,276	61,5

Comparative prices of Indian and Ceylon Tea and weekly table of Indian Tea sold on Garden Account will be found at the back of this circular

(Average for all India 6·90d.) August 4th.

Garden.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, D and Vario	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Pr
Travancore ...	**530 p**	**7**												
Ashley ...	50	6¾	...	...	26	6¼	22	7¼	...	...	...	...	2	
Atchencoil ...	34	7	...	...	...	...	29	7¼	...	...	...	...	5	5
Balamore ...	175½c	6¾	...	...	122½c	6¼ 6½	49½c	7¼	...	...	...	...	4½c	
Corrimony ...	153½c	7¼	...	...	93½c	6¾	60½c	8	...	...	...	...	...	
Seafield ...	118½c	7¼	...	...	80½c	6¼ 6¾	38½c	8	...	...	...	...	...	

A SPECIAL LINE TO PLANTERS.

P. S. A. C. Hard-wood Pulleys to fit any size of Shafting, Bush being interchangeable. Lighter, Stronger, Cheaper than Iron or Ste 6 to 60 inches diameter.

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[w. 1-10-98—t.f.o.]

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

OL. IV.] MADRAS, SATURDAY, SEPTEMBER 2, 1899. [No. 35.

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DOMESTIC OCCURRENCE.—The fee for inserting a domestic urrence will be *One Rupee* for each insertion, payable in advance.

N.B.—Remittance should be sent to E. C. Duff & Co., Proprietors, anting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 8th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg. Polli Betta, 30*th August.*—*Weather.*—Rain on some days; none on others. Amounts very small. The S.-W. Monsoon is, I suppose, about done. *Plant-diseases.*—With all the bored trees removed, coffee is generally wearing a very fine look. There is some leaf-disease in parts. There has been no rot at all; but white bug at the roots and black bug on coffee under affected shade trees are occasionally found. *Labour.*—More than is wanted. *Health.*—Good.

Kotagiri station. 1*st September* 1899.—Rainfall in August in. 2·51. Average due August in. 4·43. Drought continues in an aggravated form, notably to the eastward: following represents the feeble S.-W. monsoon current out in that direction:—

From 16 April to	14 May	...	rain...	Nil.
	14 May	...	...	0·70
May	31	...	...	0·05 = 0·75
June	10	...	...	0·70
	14	...	...	0·07
	15	...	...	0·12
	16	...	...	0 05
	17	...	...	0·03
	18	...	...	0·52 = 1·49
July	1	...	..	0·05
	29	...	...	0·09
	31	...	...	0·15 = 0·29
August	21	...	...	0·12
	23	...	...	0·05 = 0·17

Total S.-W. monsoon rainfall = 2·70

Throwing out the inappreciable showers under 15 cents. which count for nought during a drought, that side of the district has had in 137 days = 19 weeks and 4 days, one shower of ·70 on 10th June and another of ·52 on 18th *idem.*—Weather to-day, 1st September, set fair, terribly dry: no signs of moisture. Too "sick" to say more.

TEA, COFFEE AND CINCHONA.

A BLUE BOOK, entitled "Agricultural Statistics of British India for the years 1893-94 to 1897-98," has just been published. It contains what it professes to give; but the information given is not rendered more valuable by the fact that in one place the figures relate to a quinquennium, in another only to the years 1896 and 1897, in yet another to the period 1885—1897. However, taking the figures as they come, we will draw up some small statistical tables, showing part of the information that the book affords. First as to tea we give the following :—

TEA.

	Gardens.	Average Number of Persons employed daily.	Area under Plants. Mature. Acres.	Immature. Acres.	Yield of manufactured Leaf.
Burma ..	1,121	6	1,095	65	275,653
Assam ..	822	35,602	263,489	47,337	107,266,332
Bengal ..	520	52,444	97,286	21,905	38,950,615
N.-W.Provinces	79	3,902	7,701	264	2,042,941
Panjab (Kangra ..	2,737	2,283	9,340	629	2,302,318
Madras—					
Nilgiris ..	81	769	4,913	566	392,236
Malabar ..	7	174	416	440	6,200
Cochin ..	4	..	59	8	4,000
Travancore ..	67	6,800	24,472	5,537	2,541,913
Total..	5,438	101,980	408,771	76,751	153,782,208

Some of the Malabar figures are said to be unreliable, and probably all these statistics must be accepted with reserve, although they are said to have been "obtained from owners and managers of tea estates, through the district officers, in a form prescribed for the purpose." The "mature" plants are those over three years old; the labour employed is stated according to the average daily number entertained in the year. As regards production, it is noteworthy that the total for India has advanced from 71,525,977 lbs. in 1885 to 153,782,208 lbs. in 1897. Details will be given in a later issue.

Turning now to Coffee, we give similar statistics to those cited above :—

COFFEE.

	Plantations.	Number of Persons permanently employed.	Area in Acres. Mature.	Immature.	Total yield in lbs.
Burma ..	11	123	209	99	77,212
Assam ..	3	150	8	144	190
Bengal ..	2	2	2	..	20
Bombay ..	147	65	53	9	1,767
Madras ..	12,615	19,360	46,338	14,050	11,763,219
Coorg ..	15,579	7,505	72,105	9,557	7,063,140
Travancore ..	31	761	3,128	872	127,667
Cochin ..	19	295	3,337	287	350,176
Mysore ..	19,305	9,558	93,799	32,077	4,659,376
Total ..	47,712	37,819	218,979	57,095	24,042,767

There are many points in the above that challenge comment. For instance, if the average yield in pounds per acre were taken out, the figures would be somewhat confusing in their variety. We must, therefore, assume that these statistics also are far from reliable. Still, we will add that the total yield of Coffee in India has *decreased* from 34,959,295 lbs. in 1885 to 24,042,767 lbs. in 1897, although during the same period the acreage has *increased* from 237,494 to 276,074. The maximum figures are 289,266 acres in 1896, and 40,141,667 lbs. in 1895.

The third article to be touched upon is Cinchona, and here a distinction must be drawn between Government and private cultivation. The following table shows the posi at the end of the official year 1897-98 :—

CINCHONA.

	Acreage.	No. of Plants. Mature.	Immature.	Yield of in lbs.
Government Plantations—				
Bengal ..	1,384	1,625,229	716,490	318,71
Madras ..	793	1,333,555	212,872	128,34
Private—				
Bengal ..	10	5,000	..	13,96
Madras—				
Malabar ..	572	165,850	40,000	617,34
Nilgiris ..	914	340,054	314,000	526,94
Coorg ..	8	12,500	..	..
Mysore ..	303	92,599	48,041	6
Travancore ..	361	..	..	87,10
Total..	4,345	3,574,787	1,331,403	1,692,49

Here, again, the yield of bark per plant in some priv estates compares curiously with the results on Governm plantations, and tempts us to philosophise on the unreliabi of statistics. Instead of doing this, however, we will mer add that the following short table shows the position 1886-87 compared with that in 1897-98 :—

	1886-87.	1897-
Acres under cultivation	14,491	
Trees	28,312,953	4,90
Bark collected	lbs. 1,060,165	lbs. 1,69

It may well be that some of our readers will blame us devoting so much space to obviously inaccurate figu Our reason for doing so is that we wish to bring prominen before planters some results of their own shortcomin It is from them that reliable figures should come. T alone can furnish information that will enable Governm to prepare reliable statistics concerning the planting dustry. So long as they will not do this, they must content to see ridiculously incorrect records go forth the world. We cannot but think that, in the long run, t would derive advantage from the bestowal of a little att tion on the preparation of proper statistics.

TEA AT KIUKIANG.

The British Consul at Kiukiang reports that tea sh an improvement as against previous years' statistics, that the total falls short of what it used to be in for years, and British merchants are not sanguine as to future. The season, it is said, was a specially good one native dealers, but foreigners also appear to have do profitable business. Ningchows, until of late years, w the favourite Russian teas. Recently, however, Keem seem to compete with them for Russian favour, especi in the finest grades, and this, combined with low excha has consequently driven prices up. If it be the case t this is caused by the Russian taste following the Bri and preferring stronger liquory teas, and that this is le ing them to take more and more British-grown tea e year, there is very good hope for Ceylon and Indian tea Russia. Mr. Consul Brady quotes the remarks of a gen man, well conversant with the tea trade, who appears t very despondent as far as regards the prospects of exp to Great Britain. He says, "Teas from the Keemun Ningchow districts have been of superior quality, and h sold at good prices. The total yield for the season about the same as last year, and it looks as if Rus

quirements would prevent any further falling-off in production. Export to the United Kingdom, however, is eadily shrinking and threatens to become nominal. The ste of the British public in the matter of tea has undergone a marked change of late years, and consumers have o appreciation of light flavoury teas such as China products. The introduction of machinery might revive the ade with England, and the colonies; but this seems as far- f as ever, the Chinese being quite satisfied with the prices aid for their tea prepared according to their own methods." is added that green teas pass through Kiukiang, but no usiness has taken place for twenty-five or thirty years.

TEA FROM SEED TO CUP IN SOUTHERN INDIA.

(By Thomas Brown, Glendale, Coonoor.)

XI.

The Factory.—We propose to have a factory of two ories, covering 100 × 40, giving thus the following floor pace, inside :—

Lower 97 × 37	= 2,589	sq. feet
Upper do.	= 2,589	„
Total ...	5,178	„

The cost of this at Rs. 2 per foot = Rs.10,356.

Machinery may be as follows :—

	£.
2 Jackson's 24-in. rapids	216
1 2 Davidson's small D. D. drier with new mu . stove ...	170
1 Good sorter or appliances	21
1 Davidson's packer	33
1 12-H. P. boiler and 10-H. P. engine	220
Total ...	660

	Rs.
Exchange at 1s. 4d.	= 9,900
Add 25 % freight and packing	= 2,475
Do. for shafting and erection	= 2,475
Total ...	14,850

Withering Racks, in the upper floor, will consist of ur sets of three each, covering in all 82 × 24 feet, or 968 sq. ft., *i.e.*, each set will be 41 × 12 feet or, if referred, they may be 82 feet long; but, with the style rack we have found best, the weight to haul along ich a length becomes too great and the cloth is drawn nd destroyed very soon. Should, however, some other ystem of racks be thought better, then a length of 82 feet ay be advisable. Each tray will occupy 6 inches of eight, so that in 9 feet there will, with the floor, be 18 ays giving in all 1,968 × 18 = 35,424 sq. ft. of area, ough for nearly 6,000 pounds of leaf at 6 sq. ft. per lb., nd, with a high temperature, probably 9,000 lbs. can be anaged at times of pressure.

Cost of Racks will be as follows :—

	Rs.
Carpentering 33,466 sq. ft. @ 8 pies per foot	1,394
Wood and bamboos @ 8 pies	1,394
Jute, Hessian and carriage @ 8 pies	1,394
Total ...	4,182

(The floor making up difference of area.)

a total cost of Rs.29,388, so that two similar buildings can e erected alongside whenever found necessary, with balance of money available to meet all requirements. We consider it better to have detached buildings for office, storeroom, tool-house, etc., than to have wings to the factory, as light and air are considerably curtailed by wings, and they detract considerably from the appearance of the building. Any style of building that the site or taste may dictate can be erected separately at about the same cost, *viz.*, Rs.2 per foot of ground covered. Details can be worked out from the estimate that will be given for the factory building proposed. It may be considered advisable to have a second drier, but from our own experience we consider that one such, as proposed, will be sufficient for the work. At times of pressure it is always possible to have one-half of the leaf so laid as not to be ready till 4 or 5 in the evening, when the rolling can be easily done and the drying finished at night. We have had no difficulty in dealing with 3,600 pounds of leaf with one D. D. Sirocco; indeed, if the work turned out by one of these machines was anything like that claimed by the patentees, *viz.*, 160 pounds of made tea per hour, then 6 hours' work should finish such a pick. It took, however, just double that time, *viz.*, from 10 A.M. to 10 P.M. working incessantly. We never, however, fire at over 220, as a higher temperature burns the tea and at best destroys flavour considerably. Of this, we will write fully later on. These large picks are so seldom made that it seems a waste of money to have machinery standing idle waiting for them and more advisable to arrange to work night and day while the pressure lasts. A garden of 300 acres, producing at the rate of 500 lbs. an acre, or 150,000 per annum, gives an average for 250 days of but 600 lbs. per day, or 2,400 lbs. of leaf. It is, of course, impossible to regulate the leaf as we would wish, still this is more possible in Southern India than it is in Assam, by judicious pruning at the two periods, *viz.*, before the spring and before the autumn, so as to avoid being rushed. However, for

Additional Machinery, there are both ample means and space provided; a third roller and a second drier can be put in, and the engine power will be found enough, since one roller can be stopped when the driers are started.

Tea Sifting is a most complex business, and no machine we have yet seen does the work as could be wished. A Savage Tea Mill or Equalizer, to cut to ¾ inch, another to cut to ⅜ and a set of hand sieves, is what we would recommend as so far what we have found to be the best. The cost runs between ½ and ¾ pies per lb. by contract and this can hardly be done cheaper by a machine, as the cost is due mainly to picking out red-leaf sticks and fibre. A cylinder to our mind fails miserably, a large percentage of finest Orange Pekoe coming out at the end with the Congou. This matter will again be dealt with under the head of manufacture, these remarks being intended to warn the young planter against investing in an unsatisfactory machine. We shall be glad of comments from other planters on this matter, such as can be published as notes to this article. Very good second-hand engines and boilers can frequently be obtained very cheaply. Our own of 10-H. P. nominal, bought in 1883 for Rs.1,000, is now, in 1899, in excellent condition and does its work most efficiently and economically (turning 1 economic; 1.24-in. rapid, 1 small D. D. Sirocco fan, 1 sorter and cutter with great ease), although it is an old type of engine with no governor.

Oil Engines deserve attention; but of these, unfortunately, we have not the least experience. They are well spoken of in Ceylon, as being well adapted for the turning of tea machinery. Of all motors, nothing can touch for economy and efficiency a good

Turbine, and this is naturally what every planter will try to have if water and height of fall can be secured. A stream of water 9 inches deep in a 12-in. channel (the depth being taken at the flow off), will suffice for such a factory as we contemplete, with 30 feet of perpendicular fall. To measure the water, cause it to flow through a wooden duct 12 feet long, placed at a gradient of 1 in 120. This is the most practical form of measurement we can recommend. Be careful to measure your water in the driest time of the year, which, for this station, is September. Remember that springs on hills are oftenest syphonic and and start flowing when the reservoirs from which they start are full; continuing to flow well through the hotest months.

The Pelton Wheel has much to recommend it, and is doing useful work on estates. We have no experience whatever of its working efficiency, and so cannot say anything more of it.

ABOLITION OF THE ENGLISH IMPORT DUTY.

The Indian Tea Association (Calcutta) has addressed to the Secretary, Ceylon Planters' Association, the following interesting letter, dated 17*th August* 1899 :—

I am directed by the General Committee of the Indian Tea Association to address you, in continuation of my No. 334-O., of 16th June, and with reference to your letter of 23rd May, on the above question.

The resolution passed by your Committee, and the papers to which it refers, have had their attention. In giving expression to the views held by my Committee it will, I think, be convenient to first of all deal with the points referred to in your papers.

The reasons given for the attitude taken up by your Committee may, I think, be summarised as follows :—

1. That abolition will remove all check upon teas entered for consumption and that thus the market might be flooded with "rubbishy" teas.
2. That reduction or abolition might chiefly benefit low-priced teas from China.
3. That the time is not propitious for agitating the question.

In regard to the first objection I am to point out that whether an article of food is dutiable or not it is subject to the same laws in respect of its fitness for human consumption. Abolition would not remove any of the checks imposed as obstacles to adulteration so far as the law goes, and the question resolves itself therefore into this: as to whether or no the Customs no longer having to carefully weigh the tea would relax their vigilance, and whether, if they did, other checks in existence, or which might readily be introduced if required, would not operate sufficiently. Is there any reason to suppose that adulterated tea would escape detection when other imported non-dutiable foods do not? One does not hear complaints on this score in connection with grain, cheese, butter, eggs, tinned provisions, and so on, and my Committee think the objection is hardly worth considering. They observe, however, that you use the word "flooded" in connection with the expression "rubbi teas," and they think you may include under the adjec "rubbishy," teas that are not adulterated in any way, merely extremely poor. If so, they would ask you whet these come into the question at all. My Committee under the impression that tea, however poor, so long a is tea, and not unfit for human consumption, cannot stopped under present conditions, any more than it wo be in the absence of an import duty.

Your second objection is of course the more import and it covers more ground. Arguments supporting t objection are all based on the fact that as the duty of bears a greater proportion to the average cost of China in bond than it does to British-grown tea, reduction abolition of duty would amount to a larger percentage the case of the former than of the latter, and on the i that this relatively larger reduction would have an app ciable effect upon consumption, also relatively. It is mitted that reduction of duty in the past has tended increase consumption as a whole, and that further red tions would have similar effects. Why should the relat effects be different? The reduction of duty from 6*d.* 4*d.* did not check the progress of British-grown teas, a my Committee do not believe that a further reduct would do so. They cannot find anything in the histo of Indian and Ceylon tea in any country to support t assumption that a high or low duty affects the progress the of in relation to China tea. British tea has won its way far because it is a better article, and where known me better the public taste, and, in the opinion of my Co mittee, it will continue to hold its own in any field wh it has an equal chance. Therefore anything that tends increase the consumption of tea as a whole will be to t benefit of India and Ceylon. They further direct me point out that this argument has never yet been broug forward in any other connection. India and Ceylon ha never considered the question of duties when attacking n markets, but have spent money freely in countries whe tea was free, and where duties range from 1*d.* up to s 1*s.* 10*d.* per lb. In the United States there was no duty wh the joint campaign was begun there, nor did any one su gest that it would be advisable to attack Russia fi because she levied a one and ten penny duty. On t contrary the 10 cents duty levied by the United States consequence of the Spanish war was looked upon as misfortune, and India and Ceylon do not so far as my Co mittee know consider its imposition an advantage to them endeavouring to obtain an increased share of the Americ trade in tea. My Committee then contend not only that a experience bearing upon the subject is against the assum tions upon which the second argument is based, but th the policy of both Ceylon and India in capturing fre markets has hitherto ignored all considerations of the kin They think that the same principles may be applied endeavours to expand old markets as to the exploitation new ones.

With regard to the remarks made by your Chairman this connection about the blending of cheap common tea I am desired to say that, in the opinion of my Committe everything which tends to lessen the cost of deliveri good teas to consumers will tend to an increased use such teas in blends. The 'shilling canister' undoubtedl has a depressing effect upon wholesale prices, and you

hairman is no doubt correct in his description of the pre-nt tendency in blending, but my Committee think that ie best way of curing the evil is to make an honest shilling nister of British-grown tea possible.

The third point I have noted above is that the time for itating for the reduction of abolition of duty is not pro-tious. My Committee would certainly not advocate an itation which was not backed very strongly by proprie-rs and all interested in India and Ceylon tea as growers, it granting reasonable unanimity, which is the first thing be obtained, my Committee advocate agitation at every ossible opportunity. It is true that the British Govern-ent are meantime committed to an unprecedented rate of xpenditure and may be unable to forego immediately any xisting source of revenue, but a further expansion of reve-ue, or a change of policy, or of Government, may come ery soon, and sooner or later may certainly be expected. is very desirable, therefore, that Ceylon and India should me to one mind on this subject now, and be ready to take dvantage of every opportunity to strengthen the sentiment hich already exists in favour of a "Free Breakfast Table" the United Kingdom.

I now turn to a matter upon which my Committee lay onsiderable stress, but which is only hinted at by one of e correspondents quoted in the papers you sent to this ssociation. I mean the saving in London warehouse charges -now felt to be so grievous a burden—which would in-itably follow abolition of duty. A duty imposes upon ny trade affected, charges amounting to a considerable rcentage in addition to such duty. In the case of tea is percentage would be but a moiety of the saving which essrs. Walker, Lambe & Co. refer to when saying "the conditions under which teas must be entered and ware-housed and handled for the mere purpose of securing and collecting the duty are necessarily cumbersome and expensive." When added together all these charges rect, and incidental, must be very heavy indeed, whilst importers were freed from the necessity of going into Bond,' it is obvious that the field for warehousing would e extended, and the possibility of reducing such charges would still be incurred much increased. At present, as you are aware, the London Warehousing Companies refuse to consider any suggestion to reduce charges, and, under existing conditions, they have practically a monopoly. My Committee believe that abolition of the duty would weaken, if it did not destroy, this monopoly, and that a further reduction of the then remaining charges would be possible. These advantages would only accrue in the event of abolition, and this is why my Committee strongly advocate an agitation with this end in view in preference to asking merely for a reduction of duty.

In urging upon you these further reasons for agitating this question, my Committee would call attention to the fact that if the argument of what I may call relative effects upon the trade of British and China-grown teas holds good at all, it is good against a reduction of any charges that affect all teas imported into London and which are levied upon weight. This fact of itself seems to them to reduce the argument to an absurdity, and they trust your Committee will not be led to accept a theory which would logically debar any endeavour to reform any charges coming within the above category.

I regret that there has been so much delay in answering your letter, but my Committee thought that figures from Australia, where rates of duty have varied much, and are still variable, might throw some light on the discussion. Those from New South Wales are only just to hand. These figures, so far as they go, show that in Australia experience does not justify the fears expressed in regard to the future in England should the duty there be reduced or abolished. Abolition in New South Wales did not stop the decline of the China trade, nor reduction in Victoria a very largely increased share to British-grown teas in a trade of greater total volume, and the causes for variations from year to year in the relative progress of the rival Empires, must be sought for elsewhere than in alterations of duties.

I send copies of the statements received which relate to Victoria, New South Wales, and Queensland, for your information.

My Committee hope that you will see your way to join them in urging upon both the Associations in London the desirability of pressing for abolition.

STATEMENT A.

Return showing the quantity of Tea imported into New South Wales during the decennial period 1889—1898 *with the rate of duty imposed each year.*

Year Rate of Duty.	1889 3*d.* per lb.	1890 3*d.* per lb.	1891 3*d.* per lb.	1892 From 1st Mar. Free.	1893 Free.	1894 Free.	1895 Free.	1896 Free.	1897 Free.	1898 From 3rd November 1*d.* per lb.
Whence Imported.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
lia	318,170	345,578	718,255	504,895	1,100,317	1,132,048	2,148,599	1,741,635	2,753,476	2,760,375
ylon	231,065	544,555	826,166	1,261,320	1,889,735	2,118,460	2,635,691	3,246,240	3,980,670	4,393,257
ina	5,528,856	4,668,440	5,577,356	6,288,104	4,861,536	4,333,387	4,936,775	3,481,060	3,794,364	3,660,965
ng-Kong	690,480	438,112	792,803	1,407,556	1,397,441	1,720,994	930,134	228,828	90,511	59,093
ercolonial Ports, etc.	2,016,444	2,281,952	2,518,908	3,225,944	1,975,754	2,792,238	1,940,223	1,377,140	1,573,582	1,212,275
Total..	8,785,015	8,278,637	10,433,488	12,687,819	11,224,783	12,097,127	12,591,422	10,074,903	12,192,603	12,085,965

STATEMENT B.

Victoria.

Return shewing the Quantity, Country whence imported, and Rates of Duty of Tea imported into this Colony during the undermentioned years.

Country whence imported.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	189
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
United Kingdom	96,008	106,939	163,340	43,861	42,490	177,018	111,896	53,270	24,357	38
New South Wales	151,536	635,242	165,565	1,285,180	318,343	489,118	818,329	531,983	893,301	588
New Zealand	2,206	10,179	3,562	11,223	26,338	6,541	9,194	39,435	9,654	
Queensland	2,128	1,298	7,922	943	11,596	12,739	1,379	3,016	1,188	8
South Australia	30,183	16,724	24,717	33,658	38,258	35,353	61,063	38,639	47,359	26
Tasmania	7,216	7,859	3,085	5,854	3,462	704	1,979	8,021	1,368	2
Western Australia	..	..	..	2,055	..	10	606	5	3,509	
Fiji	207	287	247	671	..	32	50	480	..	
Cape Colony	..	..	..	..	..	..	..	..	..	
China	9,500,721	9,544,655	9,427,369	5,910,563	6,764,996	5,679,055	5,726,774	3,839,911	2,128,545	2,534
France	..	..	..	..	..	..	..	565	20	6
Germany	20	5,349	1,322	1,000	..	..	..	139	875	..
Hong-Kong	1,003,279	1,396,887	761,256	2,995,591	1,573,830	1,415,921	537,251	620,737	1,226,468	954
India— Bengal	1,803,679	2,707,457	2,850,032	2,756,889	3,077,734	2,735,153	2,305,032	2,658,601	2,122,543	2,685
,, — Bombay	160	88	3,598	..	..	..	..	..	..	
,, — Ceylon	385,962	877,273	1,198,017	1,986,041	2,340,888	2,482,725	2,728,888	3,171,720	4,181,361	4,911
,, — Madras	120	..	..	..	..	..	..	..	..	..
Japan	..	..	..	..	..	10	..	248	..	..
Natal	..	..	..	..	..	1,000	..	..	..	..
Straits Settlements	83	180	5,809	2,825	4,750	..	..	380	5,994	
United States East Coast ..	..	25	..	..	..	..	..	..	..	..
Totals..	12,983,508	15,310,442	14,615,841	15,036,354	14,202,685	13,035,379	12,302,391	10,967,150	10,646,542	11,752,

NOTE.—The earliest records available shew that in 1853 a duty of 3*d.* per lb. was in force. The following year the duty was raised to 6*d.* per lb., and alteration took place till 1865 when it was lowered to 3*d.* per lb. and remained so till the 31st December 1889. From the 1st January 1890 the d was reduced to 1*d.* per lb., but on the 13th July 1892 it was again raised to 3*d.* per lb. and has remained so ever since.

DEPARTMENT OF TRADE AND CUSTOMS,
Melbourne, June 28th, 1899.

H. V. P. WOLLASTON,
Secretary for Trade and Custo

STATEMENT C.

Return showing the quantity of Tea imported into the Colony of Queensland for ten years from 1889 to 1898 inclusive; also the amount of import duty levied thereon and the datea of the imposition of such duty.

YEAR.	QUANTITY lbs.	IMPORT DUTY per lb.	DATES WHEN IMPOSED.
1889	2,982,829	6*d* ..	30th November 1870.
1890	3,329,762	,, ..	,, ,, ,,
1891	3,142,850	,, ..	,, ,, ,,
1892	3,335,255	Bulk 6*d*. ..	,, ,, ,,
,,	82,203	Packet 8*d*. ..	4th October 1892.
1893	3,030,912	Bulk 6*d*. ..	30th November 1870.
,,	106,219	Packet 8*d*. ..	4th October 1892.
1894	3,133,897	Bulk 6*d*. ..	30th November 1870.
,,	124,402	Packet 8*d*. ..	4th October 1892.
1895	2,975,152	Bulk 6*c*. ..	30th November 1870.
,,	116,284	Packet 8*c*. ..	4th October 1892.
1896	3,060,689	Bulk 6*c*. ..	30th November 1870.
,,	104,362	Packet 8*c*. ..	4th October 1892.
1897	2,699,572	Bulk 6*c*. ..	30th November 1870.
,,	111,882	Packet 8*c*. ..	4th October 1892.
1898	3,281,767	Bulk 6*c*. ..	30th November 1870.
,,	97,651	Packet 8*c*. ..	4th October 1892.
Total..	31,715,688		

W. H. IRVING,
Collector of Customs.

CUSTOMS, BRISBANE,
5th July 1899.

TELEGRAPHIC QUOTATIONS.

LONDON.—	August	26	28	29	30
Bar Silver ...	...	27 1/2 *d.*	27 7/16 *d.*	27 3/8 *d.*	27 1/8 *d.*
Bank Rate ...	...	3 1/2 %	3 1/2 %	3 1/2 %	3 1/2 %
Coffee.					
Mysore av. (B) size.		...	...	51*s.*	...
Stock, tons ...		...	...	25,842	...
Ft'nt's landings ...		...	...	1,200	...
Do. deliveries ..		...	...	1,500	...
NEW YORK.—					
Coffee—Fair Rio ...		5 5/8	5 5/8	5 5/8	5 1/8
Futures, Sept. ...		5·85	5·83	5·76	5·69
Silver—Comml. Bars ...		60	59 3/4	59 3/4	59 1/8

NOTES.

Calcutta Tea Sales. The average of the tea sales 18th ultimo was As.5 p.10.

Liability of a Contractor. An interesting judgment of t Ceylon Court on this subject quoted elsewhere in our columns.

"Coffee Substitute." An American advertiser offers :- "Granulated and Powdered Chicor Coffee Essence, Red and Yellow Roll Chicory, *also* 4 *Kinds of Coffee substitute.*"

Kennel Club for Ceylon.

It is proposed to establish a Club, to be called "The Ceylon Kennel ub," which "shall endeavour in every way to promote e general improvement of dogs and dog shows."

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nicipal Coffee.

The *Rio News* states that the Municipality of Bariry, S. Paulo, s about five millions of coffee trees planted of various es. Its first crop will be gathered this year, which is timated at 150,000 arrobas of coffee.

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panese Tea Exports, 1898-99.

The export of tea from Japan to the United States and Canada during the season 1898-99 was as follows: om Yokohama 25,946,020 lbs.; from Kobe 13,985,219lbs: tal 39,931,239 lbs.

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dia and Ceylon.

A London correspondent, writing to the *Ceylon Observer*, expresses a pe that a permanent "Joint Committee" of the Indian d Ceylon Associations may be the outcome of the late ntest about the 1-lb. draft.

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ffee Prospects.

Remarking on the statistical position of Coffee, the *American Grocer* serves:—At present the world's crops are too largely in cess of requirements to make a "bull" speculation pro- sing. No doubt a sudden change will come, but the ery is, When?

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port Duty on Basic Slag removed.

The recommendation of the Madras Government—referred to at the Annual Meeting of the U. P. A. S. I.— s been promptly acted upon, and the last *Gazette of dia* contains an announcement that basic slag has been ded to the list of manures admitted into India duty-free.

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tistics of Tea Shipments.

Total shipmets of tea from Calicut and Beypore in 1898-99 (to June 30th) are as follows:—

	lbs.
From Calicut	675,572
„ Beypore	128,778

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ra Rubber.

A Zemindar at Amritsar relates in *Indian Gardening* how he was erred from post to pillar and pillar to post when he ght information from official quarters in regard to the tivation of Ceará Rubber. Our contemporary "passes n on," and we doubt if the poor man has got what he nts even yet.

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e of a Coffee Plantation in Brazil.

On 8th July the *fazenda* of Santa Joanna, valued at 160:000$, was sold for 10:000$, to Messrs. Raphael mpaio & Co., Araraquara is situated in the Rio Claro nch of the Paulista line. Before long, comments a azilian paper, we shall hear of plantations being given ay if things go on at this rate.

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nting in Perak.

The Administration Report for 1898 tells of the waning cultivation Liberian coffee in Perak, and planters there are said to be imitating the pluck of Ceylon planters in filling up with new products. An extensive scheme of irrigation is coming forward, and no less than 63,000 acres are to be benefited thereby.

Tea in the United States.

The *American Grocer* of 19th July reports:—Last Thursday's tea auction went off with more spirit than has been exhibited for a long time. It was not so much shown in the prices realized as the manner in which bids went in and the basis on which they started that the healthy underlying feeling declared itself better than it has been for months.

The "Salvation Army" as Tea-sellers.

It appears that the Salvation Army are working up a very fair trade in Canada and Australia as dealers in Ceylon Tea. In Australia they buy at the local auctions, and conduct the whole business on strictly commercial lines, except that they literally, as well as figuratively, sing the praises of Ceylon Tea.

The London Tea Market.

Calling on 24th ultimo, Messrs. Gow, Wilson and Stanton reported that buyers were operating very cautiously, and that, while the market for fine teas was dearer, that for teas for price was easier. Fair liquoring Ceylon Pekoe Souchong 6d. ($\frac{1}{4}$d. down) average 6$\frac{3}{4}$d. ($\frac{3}{8}$d. down). Reuter states that 38,000 packages were sold out of 41,000 offered. Of Indian 37,000 out of 44,000, the average being 8$\frac{3}{8}$d.

Calcutta Tea Sales, 25th August.

At the tea sales on the 25th ult., 21,000 packages were sold. There was a good demand throughout the sale, and the prices quoted were fully firm for all descriptions, except common broken pekoes, which were rather easier. A special strong enquiry existed for all leaf teas for price, which were eagerly competed for by buyers for outside markets. Good liquoring teas also show a slight advance.

Gray Blight in Tea.

The *Times of Ceylon* continues to impress upon its readers the importance of having this matter taken in hand. A Ceylon planter writes:—"I am afraid we can never hope to stamp it out now, as it is spreading all over the jungle; and unless something is done at once, we shall not be able to keep it in hand on the tea." It is to be hoped that no more time will be lost. Leaf-disease in Coffee gave Ceylon a lesson that should not have been forgotten by now.

Planting in Sarawak.

A large increase in exports of sago, pepper and gambier is reported. The only estates under European supervision are the Government coffee estates at Matang and Letap, and the large gambier plantations of the Borneo Company, Ld. Pepper and gambier gardens owned by Chinese squatters have increased considerably of late years. Coffee, it is observed, "has not hitherto been very successful."

A Board of Agriculture wanted.

A "communicated" paper from the *Ceylon Observer*, given on another page, shows very clearly the need for a Board of Agriculture or some other official body that will guard the country against the risk of abandoned estates covered with disease-smitten plants being left to breed disease for communication to their neighbours. On the principle that prevention is better than cure, we should like to see this matter taken in hand by the U. P. A. S. I.

The Issue of the Pound-Draft Contest.

The *Ceylon Observer* quotes the remark of a tea merchant at home:—"The fiasco about the 1-lb. Draft has collapsed and everyone considers the method of the attack was very badly arranged in not getting the unanimous support of importers before assailing such a long-standing custom of the trade. There must be heavy accumulations of tea and I fear there will be considerable loss before it is cleared off." There can be little room for doubt that the battle, though brief, has been very expensive.

Science and Planting.

The *Ceylon Observer*, referring to Dr. Lehmann and Mr. J. Cameron, says:—"The Mysore Government is to be congratulated upon its forward policy in appointing two such able scientfic men to help the planting industry and we only wish we were in a position to congratulate the Ceylon Government upon having in its service (or almost there!) the much-needed Cryptogamist." Both Ceylon and Madras—for that matter, the Government of India also—have a good deal to learn from Mysore in regard to enterprise of this kind.

Tea in Morocco.

The British Consul at Dar-al-Baida again calls attention to imports of tea, *viâ* Germany, remarking that the figures since 1896 show a decided increase. Total imports of Tea are given as follows:—

Into—	1897. £	1898. £
Rabat	6,675	7,953
Dai-al-Baida	18,065	23,392
Saffi	3,835	4,920
Mogador	10,794	22,978

The figures show a healthy and remarkable expansion of trade.

Tea Culture in the Philippines.

A Manila paper states:—"A Chino named Yee Ah Hing, said to be a wealthy tea merchant of Formosa, intends to see if tea culture can not be profitably carried on in the Philippines. Conditions for the successful growth of tea plant are said to be fully as favorable here as in Ceylon. It is claimed that Yee Ah Hing is negotiating for a large tract of land on the island of Negros and will go into the business of raising tea there on a big scale." Indian and Ceylon tea seedsmen should be on the alert to turn this new market to account.

The Coffee-Growers' Association, Cairns.

The Coffee-Growers' Association of Cairns is (observes *Figaro*) an ambitious body, and perfectly rightly so. At a recent meeting they discussed the problem of how the export of badly-cured coffee could be stopped. An idea was mooted that no coffee should be allowed to leave the district unless the Expert had passed it. was, of course, proposing an impossibility, as there many planters who do not belong to the Association. those who do may rest assured that he who sells bad w will soon find himself left.

Government Cinchona.

The report on Cinchona p tations in Bengal for 189 contains the following remark:—"The undefined natur the relationship of the Bengal and Madras factories, pectively, towards the bark market in Southern I rendered it advisable to expend only one-half of the g of Rs.50,000 provided for the purchase of bark. The Su intendent was, in connection with this subject, directe January 1899 to meet, in conference, the Superintenden Cinchona Cultivation in Madras. The result of this dep tion has been a definite understanding regarding fut purchases of bark in Southern India."

An excellent Example.

On another page we give a pa on the Prevention of Tea Pests Blights, by Mr. Oliver Collett. This paper was read meeting of the Ambagamuwa P. A. held on 21st ult and suggests the thought that the meeting of Plant Associations generally would be much more interesting well as more useful, if other planters would follow Collett's example. What is most needed in regard plant-diseases, pests, &c., is that sufferers should detail t experiences, so that the prospect of discovering remed may be increased by "a laying together of heads."

Science and Planting in Ceylon.

With reference to a resolut of the Northern Districts Plant Association in Ceylon request that Mr. Carruthers be engaged as Government Crypto mist to continue his investigations into cacao canker, p disease and tea-blights, the Lieutenant-Governor informed the Association that it is not contemplated present to appoint a Government Cryptogamist. Sho it, however, be shewn that Mr. Carruthers' enquiry not been complete, and might be completed by his furt employment for a limited period, the Government would prepared to consider a proposal, if made, for a contribut towards the cost of his engagement in the same manner was done last year.

Natal Tea.

At the Durban Agricultural sh on July 12th, prizes were offered tea and with regard to the single exhibit the *Natal M cury* says:—"The tea is disappointing, because only exhibitor has come forward—Mr. J. A. McMillan, of Bar dale, whose teas, however, are pronounced to be of fir class quality. Mr. McMillan secures two first prizes. is said that the conditions are in some respects rat stringent, and that this accounts for the absence of com tition. This rather enhances the value of the prizes w by Mr. McMillan, as he complied with the conditions, a has the satisfaction of knowing that his tea has been v favourably commented upon by those competent to judg

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Tea in Kumaon.

The Kumaon correspondent the *Planter* writes:—A friend in

terior has obligingly placed at my disposal some tabulated ures of the progress of the season on some half-dozen rdens. From this I gather that, although the weather rned miserably cold in April, and of that there was no ssible doubt here, too, and in spite of hail-storms, all rdens tabulated are well in advance of last year in manucture, one of the principal ones being roughly ten per nt. in advance, other gardens, likewise, are also in adnce of last year, so I conclude thus far (to end of July) e season on the whole has been a good one and August far has been from beginning to date absolutely ideal for a. But if the monsoon does not return, I fancy it will ll a tale in the autumn.

ıbber in Ceylon.

Reporting on the Western Province the Conservator of Forests, Ceylon, ys:—The rubber plantation in the Pasdun korale was ɔt extended further, as it did not prove to be a success. ıe plants, which had been put in at what was called above ɔod-level by villagers, were covered with water more than ıce, and those on higher ground or in poor sandy soil ɔt suited to rubber and exposed to wash. There are only ɔout 86 trees per acre still standing. The expenditure on ese plantations amounted to R841·78, or R24·57 per acre. ımples of soil of plantations in other parts of Ceylon here Pará rubber is grown successfully were sent home the Director of the Royal Botanic Gardens to be anased, and this analysis will no doubt be useful as a guide r future selections.

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ffee at S. Paulo.

The report of Dr. Mello Peixoto, Secretary of Agriculture of the S. ulo Government, states that there are in S. Paulo 15,075 antations, of which 11,234 have from 50,000 trees downards; 1,844 possess from 50,000 to 100,000; 999 between 0,000 and 200,000; 597 from 200,000 to 500,000 and ly 64 more than 500,000 trees. On these plantations 703 machines are to be found for cleaning coffee, 1,243 which are moved by steam and 460 by water. The registred mortgage debt on these plantations is 209,250:080$ 0 (at current exchange about £6,500,000) exclusive of beirão Preto, Cravinhos, S. José do Rio Pardo, Itapira, vré, Cajurú and other localities from which returns have ɔt been received, including these the mortgage debt may reckoned at 240,000:000$ or about £8,000,000. Other debtedness of planters is estimated at 160,000:000$ or ,000,000. The fall of prices caused a loss to planters timated at 239,574:068$ for the crop for 1898 compared th that of 1895.

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ay Blight in Ceylon.

The Times of Ceylon learns from Nuwara Eliya that there the ight has selected the blue-gum trees on which to feed d propagate. A resident in the premier planting district ites that he is at present free from the blight, but is nost girdled about with it on adjoining estates, and can rdly escape much longer. He adds:—"At the same ne I think that, on well-cultivated and cleanly-kept tates, its ravages are not likely to be more than troublesome; and it is wholesome to see how every man worth s salt is doing his best to wipe it out before it does re than initial damage." Another correspondent from askeliya admits that the blight is pretty widespread in his district, but he does not think it need be a cause for panic. He believes in high cultivation to fight it, and he is sure that tea that has been manured is not affected to the same extent as other tea, while the appearance of the blight in the jungle is a sign that it is *not a tea blight*, and Nature does not kill outforest trees by such means.

Conference on Hybridisation, Chiswick, July 11.

List of awards made by the Council of the Royal Horticultural Society on the report of a Committee of Experts:—

Gold Flora Medal.—To Messrs. Jas. Veitch, of Chelsea.

Good Medal.—To M. Duval, of Versailles; M. Maron, of Brunoy; Sir Trevor Lawrence, Bart., Burford Lodge; Leopold de Rothschild, Esq., Gunnersbury House; Messrs. H. B. May, of Edmonton.

Silver-gilt Flora Medal.—To M. Morel, of Lyons; Messrs. Jackman, of Woking.

Silver-gilt Banksian Medal.—To C. T. Druery, Esq., V. M. H., Acton.

Silver Banksian Medal.—To Professor Macfarlane, of Philadelphia; Herr Van Tubergen, of Haarlem; Dr. Wilson, of St. Andrews; Sir Frederick Wigan, Bart., East Sheen; De Barri Crawshay, Esq., of Sevenoaks; Messrs. Wallace, of Colchester; Messrs. Paul & Son, of Cheshunt.

Veitch Memorial Medal.—To M. Duval, of Versailles (Class No. 6).

Williams' Memorial Medal.—To Leopold de Rothschild (Class No. 9).

OTHER AWARDS.

First-class Certificate.—To Kalanchoe flammea, Royal Gardens, Kew.

Silver-gilt Flora Medal.—To a group of Kalanchoe flammea.

China's Tea Trade gradually disappearing.

The British Consul at Canton reports that the decaying tea trade has again diminished by over 500,000 lbs. A dry spring and an insurrection in June in close proximity to the tea districts may, to some extent, have affected the trade, but the real reason for the decline is the steady falling off in the demand for Canton scented capers on the London market. What demand there is more and more for low-priced teas for blending purposes, and a few more years will probably see even this small demand disappear The quality of the teas was fully up to the average standard, and they were exceptionally well-scented. Taken as a whole the year was a fairly profitable one, both to the foreign merchants and to the native dealers. Long leaf scented Orange Pekoe and Canton Congous seem to be going entirely out of consumption. The total export of tea for 1898 was 4,163,000 lbs., of which nearly three-quarters was sent by junk to Hong-Kong and does not appear in the tables at the end of this report, which are compiled from the Imperial Maritime Customs Returns.

Colombo Tea Sales.

At the public sales of tea at Colombo Chamber of Commerce Rooms on 23rd ultimo, about 10,097 packages=825,145 lbs. were offered, of which about 9,216 packages=753,765 lbs. were sold. Prices at the auction were much firmer than last week—many teas showing an advance—and competition throughout the sale was very keen. Among the best teas in the sale were, says the *Times of Ceylon*:—Agra Ouvah, Glassaugh, Tonacombe, Queensland, Silvakandy, and High Forest. By the way, Mr. A. O'Dell Figg proposed, and Mr. George Thomson seconded, the following motion, which was adopted:—"On account of samples and catalogues being often delivered to buyers as late as Tuesday for the next day's sale, there is no opportunity of giving such teas proper attention, and it is proposed to ask the Tea Traders' Association to call a general meeting to consider the advisability of passing a rule that no samples or catalogues be issued after noon on Monday." The existing rule is as follows:—"No teas to be catalogued

or samples issued after Monday night for the following Wednesday's sale."

Mocha Tea Company of Ceylon (Limited).

The report of the directors of this company states that the total quantity of Tea made on the company's estates was 366,558 lbs., which cost 31 87-100 cents per lb. delivered in Colombo (of which 4 89-100 cents was spent on manuring), whilst the net average price realised was 46 87-100 cents per lb. as compared with 45 45-100 cents per lb. last season. The net profit for the year (after deducting Rs.2,000, bonus to Superintendents and Rs.920·53 cost of extensions) is Rs.59,161·23, which is equal to over 14½ per cent. on the capital of the company. A dividend of 11% has been declared. Mr. J. D. Bois stated at the Annual General Meeting that on Mocha estate the cost without manuring was 24·35, the cost of manuring 3·63, total cost 27·98, sale average 47·98, profit 20 cents per lb. after paying for the manuring yield 345 per acre, profit per acre R69 and acreage in bearing 500. On Glentilt the cost without manuring was 26·23 (about two cents more than Mocha), the cost of manuring 5·67, total cost 31·90, sale average 45·90, profit 14, yield 366, profit per acre Rs.51·24, acreage in bearing 355. On Lanka the cost without manuring was 26·70, cost of manuring 6·97, total cost 33·67, sale average 45·90, profits 12·23, yield 319, profit per acre Rs.39, acreage in bearing 200. The total profit on tea was Mocha Rs.34,500, Glentilt Rs.18,190, and Lanka Rs.7,800—Total Rs.60,490.

Coffee Prices.

The following remarks from Brazil will appeal to many of our readers :—"The course of prices is not encouraging. As the crop continues and stocks commence to accumulate, prices drop abroad in sterling and here from the improvement of exchange as well. It is evident that the industry is now beginning to enter on the acute phase of the crisis which, it is to be hoped in the interest of all, will be sharp, short and decisive. A long drawn agony can benefit no one, not even the average consumer, who, in Europe at least, gets little advantage from the fall of prices. Things, indeed, have reached such a pass that, painful as it might and must be to many individual planters, we we are almost inclined to accept the idea that a sharp fall of prices, such as would drive one-third of existing plantations out of cultivation altogether, would, in the long run, be for the general benefit. If, for example, the United States took the fancy to put a tax on coffee, there can be no doubt whatever, in the present over-supplied state of the coffee markets, that it would provoke a heavy fall in prices here and that producers, not consumers, would really pay the piper. But in the long run, if the tax were heavy enough, the shrinkage of prices would inevitably drive an immense quantity of coffee out of cultivation with the result that supply would be insufficient to meet demand, and prices would rise again, and the tables being turned the consumer instead of the producer, be called upon to pay the tax. In the general interests of this country, apart from the private interests of a certain section of planters unfavourably situated, we believe that, at the present juncture, seeing the enormous difficulty there is in augmenting consumption in view of the fiscal difficulties thrown in the way, a good heavy tax of, say, 2 or 3 cents a pound clapped on by the United States would prove the saving of the country, and send up pr in a manner that would astonish the States themselv The remedy thus suggested by the *Brazilian Review* appear to be a curious one, but in times of panic stra ideas are strange no longer.

GENERAL ARTICLES.

PRODUCE AND PLANTING.

Sweet Contentment.—Planters who grow tea and experie many vicissitudes in the operation, must sometimes envy the g fortune of those who handle the product on this side. These g tlemen, who distribute tea to the eager consumer, may occasion have their "ups and downs," but, as a rule, they manage to c out on top. They are no doubt—we refer, of course, to the fo nate ones—clever men of business, and have the control of suffic capital for trade purposes, but even allowing that this is so, profits made by tea dealing on a large scale are so comforting t the grower, toiling on the garden, must often wish that his ener had been directed by Fate towards tea dealing. The influenc climate, exchange, and other ills which the planter is heir to, harmless on the dealer, who can bear even the rise in the ma with the equanimity of a stoic. At least, we gather so fro report of a meeting of shareholders in a thriving Manchester C pany held last week. The chairman told the well-satisfied sh holders that the tea market had gone against them to the tun about £3,000 for some time, but there was every indication that profits of the company would be still further increased during coming year. This is real business, and must be a source of p sure and profit to all concerned.

Regulating Supplies.—At a general meeting of the Tea Brok Association, held on Wednesday, unanimous approval was give the suggested rules for the regulation of supplies of Indian tea, a committee of five brokers was appointed to carry out as fa possible the objects in view. The brokers chosen were Mes Arthur Thompson, George Lloyd, F. S. Long, W. T. Wilson, Cumberlege. Particulars are to be sent in giving the teas wh importers wish to have sold at the first available opportunity.

The Settlement.—The grocery trade papers seem quite satis with the terms of settlement. The "Produce Markets' Revie says: "This question has at last been settled in a satisfactory fair manner to all concerned. The pound draft will still be ret ed on all packages weighing over 28 lbs. and the method of wei ing will not be altered. As regards taring, however, a sli change has been agreed to, and in the case of empty packa weighing, say, 26 lbs. and an odd number of ounces up to a h pound, the tare allowed will be 26 lbs; but where the odd our exceed the half-pound the tare will be called 27 lbs. Altogether, think the trade may be congratulated on the settlement of t question, the more so as we believe that, owing to the disconti ance of certain practices with regard to the odd ounces in the gr weight of bulked packages, the trade will practically suffer little no loss Now that the question of the pound draft is settled supply of Indian tea will no doubt largely increase, and a decid improved demand may be expected. The course of prices largely depend on the quantity of tea placed on the market in e week. If the accumulated stock should be forced on buyers in criminately, a lower range of value is almost inevitable; while the other hand, if the supply is regulated as propored, values for a time remain comparatively steady. That there will be an usually large quantity of tea shipped from Calcutta is certain, as the stock in the warehouses here is about equivalent to tha last year, ample supplies will be forthcoming to meet any rea able increase in the demand that may arise. The figures for do not compare favourably with those of the same month last y The imports amount to 8,750,000 lbs. against 6,147,000 lbs. while deliveries fall short by upwards of 300,000 lbs. the figures respectiv being 9,620,000 lbs. and 9,967,000 lbs., while the stock is 216,000 lbs. smaller."

Gracefully Assisted out of a Dilemma.—"*The Grocer*" takes the pportunity of descanting upon the unanimity of the tea trade, the ioral of the "solid phalanx" of course being that it would have een a bad thing for the growers and importers if they had not isely compromised in time, forgetful of the fact that the dilem-a would not have been on one side only. It says: "Much pa-ience and care in detail have been necessary to arrive at an rrangement. The negotiations have been long and tedious, and very credit is due to those who have brought them to a success-il issue, and at the meeting of buyers last Wednesday they ere not slow in emphasising this sentiment. As it was neces-ary that no soreness should exist after a settlement had been rrived at, it was thought proper by buyers not to take up too nyielding a disposition in the details that were to be dis-ussed. This conciliatory attitude has undoubtedly helped to mooth matters down, and by timely concessions on either side a air and equitable arrangement has been brought about. There re also some minor items respecting the treatment of bulked teas nd warehousing details, the adjustment of which, now attention as been directed to them, cannot fail to tend to the mutual advant-ge of all concerned. A general feeling of satisfaction is now pre-alent that affairs have thus been arranged. The dispute has pro-iced one significant feature—the complete unanimity existing mongst dealers and blenders alike. The whole trade have acted gether as one solid phalanx, and it has been this display of unity hat has considerably modified the attitude originally taken up by nporters. The latter were getting into an unenviable position, it have been gracefully assisted out of an awkward dilemma by ie tact and consideration shown them by buyers. Business lately id been more or less varying from stagnation to what would in dinary times be termed quiet. Brokers, however, have been sell-g privately on the old conditions, which suggests that, although nporters have not printed teas for public auction, they have never-eless been glad to sell in another way without showing their nds. Arrivals have accumulated materially, and the resources tea warehouses have been severely taxed, but with the early re-mption of business stocks will slowly get worked down, and reach normal level. The demand will be pretty equal to the occasion, t prices, after most buyers have satisfied urgent wants, are more an likely to droop, especially for common leafy grades. Should ere be any undue pressure to sell, notwithstanding the recent nely precautions of importers to avoid this, the market will turally be depressed, and for this merchants would have to ank themselves for disturbing so busy a trade as that of tea."

Tea and Paper.—At a meeting of Teetgen and Co., Limited, tea alers, held recently, a shareholder asked if it was the rule for the m to weigh paper with the tea. The Chairman (Mr. J. Hooke) id it had been stated that it was the custom of the trade from ne immemorial to sell a pound packet as a pound of tea. He uld not say what had been the custom of the trade in time im-emorial, but he had been in it for thirty-five years, and ring that time had been associated with a great many of the ding houses in the trade, and could only say that it had never en the custom during that period to weigh paper, string, and d and deliver it to the public as a pound packet of tea. They d a foreman there who had been in the employ of Teetgen and Co. r thirty or forty years, and he could vouch that it had always en their custom to weigh without the paper. The only people he d known of as doing it were the people who had come into the ndon trade in the last ten or fifteen years.

Tea and Coffee.—Apropos of some comments in our issue of June to the effect that advocates of temperance in America had stated t coffee was more economical than tea, "A tea producer," writ-g from Hewabata, July 19, says, "You say one gallon of coffee sts 2½d. with coffee selling at 5d. per lb. I don't know what sort coffee they drink in America, but I find that 2 oz. of coffee kes a pint of decent coffee. Of course, I speak of the pure icle—whereas 2oz. of Ceylon tea makes six pints of good tea for nking purposes. 1 lb. of coffee—8 pints good liquor. 1 lb. of tea 48 pints of good liquor."

Planting in Sarawak.—An interesting sketch of Borneo and rawak is contained in the report on the trade of those places our Consul there, Mr. Keyser, who says, All that remains of once vast territories of the Kingdom of Brunei is about 15,000 uare miles, with a population of some 45,000 people of various gin. The most important rivers and districts dependent upon them have been at different times ceded to the Governments of British North Borneo and Sarawak. The territory of Sarawak comprises an area of about 50,000 square miles, with a population of some 50,000 souls of various nationalities. Sarawak produces gold, silver, diamonds, antimony, quicksilver, coal, gutta-percha, indiarubber, bilian (hard wood), canes, rattans, camphor, beeswax, birdsnests, sago, tapioca, pepper, gambier, tea, coffee, and cutch. The climate is healthy for Europeans, and the general health is good. There is an efficient police force, and life and property are safe. The trade returns are not yet published, but there is a large increase in the export of all cultivated produce such as sago, pepper and gambier. The only estates under European supervision are the Government coffee estates at Matang and Letap, and the Borneo Company are planting gambier on a large scale. Pepper and gambier gardens owned by Chinese have increased considerably of late years, and represent a large area of cultivation, but the land is not held by grant, the planters being squatters only. No surveys have, therefore, been made, and the gardens are not registered. The cultivation of sago annually shows a marked increase; 257,764 piculs were exported in 1898. There are now ten sago factories in Kuching, and eighty schooners are employed in carrying there the raw sago for refining. Experimental tobacco planting by Government has so far failed to produce good results. Cocoanuts thrive on the coast, and has been planted extensively No statistics are kept as to labour, but it is apparently plentiful. The Government employ Indian coolies on the coffee estates and public roads. There is no lack of Chinese labour at reasonable prices, and the passage money from Singapore is only 1-dol. usually paid by the employer. Chinese coolies are engage on contracts similar to those in the federated Malay States. All transport to and from the interior is by means of rivers. The only roads is Sarawak are round Kuching, and the total mileage is forty.

Tea Samples for the United States.—An inquiry last week in the House of Commons elicited from Mr. Hanbury that under the Postal Union Convention, to which both this country and the States are parties, articles like tea subject to Customs duty are not entitled to be sent by post at all, and articles of saleable value are debarred from transmission by sample post. Sample packets of tea weighing over 8 oz are regarded here as of saleable value, and are not despatched in any mails from this country; but sample packets of tea not weighing over 8 oz. are received by the United States Post Office, as by most other countries. In the United States, if these packets contain more than 1 oz. of tea, the duty to which they are liable is exacted. If they do not contain 1 oz. they are allowed to pass duty free, even though the wrappage makes the packet weigh more than 1 oz.

Try Denmark.—The Danes have not hitherto been large consumers of tea, but their taste for it may increase if some attention is paid to the Danish market. The price paid at present in Copenhagen for "good tea" is about 4s. per lb., and freight is low, and considering that most of the Parkeston boats return in ballast there appears to be an excellent opening for pushing the trade.

Indian Tea at the Paris Exhibition.—It is good news that the Government of India has consented to guarantee a sum of about £4,000 sterling, and to afford various other facilities, for an adequate representation of the tea industry of the dependency at the forthcoming Paris Exhibition by the Indian Tea Association. The judicious expenditure of money at exhibitions is an effective method of increasing the consumption of British-grown tea in foreign countries.

"Coffee Statistics."—From a book entitled "Coffee Statistics," published by Messrs C. J. Leech and Co., 37, Mincing Lane, E.C., we gather that it is estimated that the output for the year ended June 30 last was 15,285,000 bags of 60 kilos each, which, with the exception of the 1897-98 crop, when 16,178,000 bags were produced is the largest yield since 1894. Compared with 1898-99 there is an increase of 1,920,000 bags, and the enlarged production is not limited to any one country, a larger quota being contributed by almost every producer. Santos returns 500,000 bags more than in 1898-99 Central America 100,000 more bags and Java raised her contribution by some 400,000 bags. Hayti is practically the only coffee grower which shows a decrease, her estimated crop being only 350,000 bags, as against 400,000 bags the previous year and 538,000 bags in 1894-95.—*H. & C. Mail.*

THE PRODUCTION OF COFFEE.

From various sources the Bureau of the American Republics has compiled a very instructive and interesting account of the production of coffee, from which we gather the following:

In America, outside of Brazil, coffee culture is being most rapidly developed in Mexico, Costa Rica, Colombia, and Venezuela. There is an unusually wide range in the cost of the raw coffee bean from 6 to 34 cents per pound. The higher prices are mainly due to the small supply of the sorts for which the people have decided preferences rather than to any difference in their intrinsic merit. For instance, there are fine varieties of Mexican, Central, Venezuelan, Ceylon, and Jamaican coffees which have body and flavor equal to the best East Indian sorts, though the latter are quoted at from 10 to 14 cents more.

Varieties indigenous to Africa and Southwestern Asia are: Mocha, Myrtle, Aden, and Bastard; Marron of Réunion, in Moorish coffee; coffee of Gàlon, from Monrovia; Laurine coffee, and yellow coffee (*café amarillo*), richest of all in caffeine. Other varieties quoted as bringing high prices are: Mandheling, Ceylon, Coban, Bogotá, Guatemala choice, La Guayra, Maracaibo, Peaberry, choice Mexican, and choice Santos. The common coffees of Brazil, Venezuela, Mexico, Colombia, Costa Rica, Guatemala, Nicaragua, and Salvador belong to a variety known as red coffee (*café vermelho*) The Yungas coffee of Bolivia and Paraguay appears to be in class by itself, and is much esteemed by those who have used it, but as the quantity produced is limited, it is not well known in the markets. It is therefore classed with the best Rio coffee. A variety raised in Guatemala is said to be almost identical with the "Yungas," and is much esteemed.

The best coffee of commerce is Mocha, and the next best is Java. They are known as "mild" coffees. The beans of the former are small and of a dark yellow color. Those of the Java and East Indian varieties are bigger and of a pale yellow. American coffees are generally of a bluish or greenish gray tint, owing to the difference in the soil and the moisture of the climate, and also to the fact that they are gathered while slightly green. Some Venezuelan varieties closely resemble Mocha, and are, no doubt, often sold as such. Mocha is grown in Yeman, Arabia, but much of the product of the East Indies is sent to Mocha, where it is reshipped as genuine Mocha. Some of the finer grades of the West Indian and of the Brazilian coffees are also sold under the Mocha name.

Java coffee is divided into "pale yellow"—the newest and cheapest—and "brown," which is the oldest and most esteemed. The principal markets for Java coffee are the United States and Holland.

COFFEE PRODUCTION.

Brazil is the greatest coffee-producing country in the world, and the coffee crop each year counts from July 1 to June 30. Mr. Julian Haugwitz, Vice-Consul of the United States at Santos, according to a recent Consular Report, says:

The history of coffee export from Brazil begins at Rio in the year 1817, when 63,986 bags of 132 pounds were shipped. In 1832 the figures stood at 478,950 bags; in 1840, 1,000,000 bags was reached; in 1851, the figures exceeded 2,000,000 bags, and kept at that average until 1875, when exports amounted to over 3,000,000 bags. In 1881 the highest mark was attained at 4,377,418 bags. In later years the number began to decline, owing to the exhaustion of the productive power of the trees in the old districts.

At Santos the records go back to 1850, when nearly 100,000 bags left the port. In 1871 the exports had grown to 500,000 bags; in 1877, to 1,000,000 bags; they increased, in 1884, to 2,000,000 bags; in 1890, to 3,000,000 bags; in 1897-98, to 6,000,000 bags, near which figure production in this district is likely to maintain itself, as long as the present economic conditions prevail, although the area available for coffee-planting in this State is practically inexhaustible, and no soil more appropriate for the purpose exists in the world.

The export tax levied in Brazil by the State Government is 11 per cent. *ad valorem*.

Venezuela ranks next to Brazil, and is second among the coffee-producing countries of America, if not of the world. The first coffee planted in the country was near Caracas, in 1784, and the first exportations were made in 1789 from the port of La Guayra. These amounted to 233 quintals, or a little more than 1 long ton. Large districts in the Republic are admirably suited for the growth of coffee, and the amount produced is increasing. The quality above the average of the red coffees with which it is classed. the New York market the coffees of Venezuela are known as "Guayra" and "Maracaibo." To the first class belong the coff of Caracas, Puerto Cabello, and Cumaná; and to the second cl of Cucuta, Trujillo, Mèrida, Tovar, Boconó, San Cristobol, other points of the interior.

Mexican coffee is considered to be milder, and, in some respe superior, to the product of a number of other American count making a speciality of the growing of coffee. In color, it is ge rally greener than the common coffees, but this charateristic attributed to the mineral composition of the soil on which i raised. The area of cultivation and the amount produced is creasing yearly. The United States takes two-thirds of the amo produced, but the product is esteemed both in England and Fra

The coffee plantations of the United States of Colombia are s to be remarkably free from the diseases that attack the tree other countries The equatorial situation of the country rend it easy to find localities where the temperature is just suited the growth and development of the tree. In the New York m ket, the coffees of Bogotá, Bocaramanga, and other localities the interior are classed as "Sabanilla" coffee, as they are ship from that port. Recently there has been great complaint cause of the low prices received. It is difficult to get statist with reference to the crop of 1898, but in the table accompany this article the total number of pounds is based on a newspa report that the crop was 90 per cent of the amount produced 1897. A recently published British report values the coffee ported from Colombia in 1898 at 1,384,184 pounds sterling. T would equal $6,732,670·97 in United States currency, or, at 11 c per pound, is equivalent to 61,206,100 pounds.

Costa Rica appears to be coming to the front as a coffee-pro ing nation. Coffee was first planted in this country in 1796. seed was brought from Havana by Francisco Xavier Navarro, planted by him at Cartago. Since gaining its independenc has been the undeviating policy of the Government to foster growing of coffee. The present Government is lending ac encouragement to this as it is to all other industries.

The production of coffee in Guatemala has been at a standstil has shown but a slight increase, during the past few years. U 1835, the coffee tree in this country was regarded as nothing m than an ornamental shrub, then its value became known and c vation commenced. German settlers in recent years have take the coffee lands to such an extent that now over one-fourth of plantations are reported to be in their hands.

In the Republic of Salvador, coffee is the principal articl export The exact figures as to the quantities produced are d cult to procure, but the estimates for 1898 and 1899 indicate b little more than one-fourth of the number of bags produced years ago. One difficulty to the planters is the lack of adeq means of transportation, but the greatest drawback is the scar of labor.

As in the other Central American States, the staple produc Nicaragua is coffee. Its product compares favorably with coffees of Mexico and Venezuela. Scarcity of labor and local ca have affected the diminution of the product.

The soil, surface, and climatic conditions of Honduras British Honduras (Belize) are similar to those of Guatemala, the quality of the coffee is abont the same. The want of labo the former country is a handicap to the gathering of a full c op to the setting out of new plantations.

The coffees of the Guianas, Ecuador, and Peru do not diff any appreciable respect from those of Brazil, and are comm classified and sold under the name of "Rio" or "Santos." coffees of Bolivia and Paraguay (the "Yungas") are mainly sumed at home; little is known of their merits in the ou markets, but the color and flavor are declared to be excellent.

In Haiti, San Domingo, Porto Rico, Cuba, and the British Dutch West Indies, coffee culture is of greater or less importa Though the products of these countries is considered superio the Brazilian varieties, in recent years the prices received fallen in the proportion that prices for the Brazilian coffees decreased and the producers generally are greatly discouraged

The United States and Holland are the only countries adm coffee free of duty. When the Congress of the United S repealed the duty on coffee, the Brazilian Government imm ately increased the provisional export duty to amount of cus

ouse duty formerly collected by the United States. All, or nearly l, the coffee-producing countries collect an export tax.

The following table will convey a fair impression of the production of coffee in the world in 1898, as ascertained from the estiates and reports of the several sources credited:

Countries.	Bags.	Authority.
Brazil	11,620,000	U. S. Consul.
Venezuela	881,877	Exports, October to October.
Guatemala	456,424	Native estimate.
Haiti	431,812	Duuring & Zoon.
Mexico	364,729	Official.
Costa Rica	267,889	Do.
Colombia	264,770	Estimated.
Porto Rico	200,000	Spanish estimate.
Salvador	125,000	Duuring & Zoon.
British West Indies ...	100,000	Do.
Ecuador	74,681	British report.
Peru	20,707	"El Comercio."
Santo Domingo ...	18,187	Belgian report.
Dutch West Indies ...	7,000	Estimated.
Hawaii	5,500	Partly official.
Honduras	4,640	British estimate.
Bolivia	3,750	Estimated.
Paraguay	2,602	U. S. Consul.
Dutch Guiana	1,660	British estimate.
Cuba	1,000	Estimated.
British Honduras (Belize). ...	1,000	Do.
Total America ...	14,853,228	
Java...	772,000	Duuring & Zoon.
Ceylon and British India ..	240,000	Do.
Padang	45,000	Do.
Celebes	45,000	Do.
Total Asia and Africa ...	1,102,000	
Grand total ...	*15,955,228	

According to a recent British Consular Report, the total coffee op for the fiscal year 1898 was estimated at 15,710,000 bags. In is, Brazil was credited with 11,110,000 bags, and the rest of the orld with 4,600,000.

Mr. Haugwitz, in his report, gives the estimates of Messrs. uuring & Zoon for the coffee crop of the fiscal year 1899, which ow a grand total of 1,638,120,000 pounds. The estimates for the cceeding year—1900—according to the same authority, indicate crop of 1,796,256,000 pounds.

HYBRIDISATION AND RETROGRESSION.

Mr. Henry Cannell writes in the *Gardeners' Chronicle*:—I am of e opinion, and there are numerous instances to support it, that en, and all fruits, flowers and vegetables, were more perfect, larger, d finer when first created than they are at present; but during the nturies when they have had to be reproduced in the wild state om the strongest, a survival of the fittest was only left for us, cording to Nature's laws. Naturally, they degenerated to what e found them, while many species have been probably totally lost. s men became more numerous and enlightened, they commenced ltivating, and those plants that showed the best properties were reserved, encouraged, and developed by cultivation. We see evience of this in the Strawberry, Potato, Pelargonium, and numeus other plants But why should they occasionally show improd forms or vary from their parent? This is, I think, satisfacrily explained as follows: because there is blood of the original ill in the plant showing itself when man or insect applies the pol-n, and gives the effect of impregnation from one that showed stinctness from the parents, and exhibited a tendency to revert the excellence of those first created for us; so we thus, now and en, by degrees obtain more and more the desired form, flavour prolificness. This is plainly shown during our own time in the rawberry, Pea, Potato, Dahlia, Chrysanthemum, Fuchsia, and Gloxinia. It is absurd to suppose that we can make a new constitution of any fruit, flower, or vegetable; we can unquestionably by selection obtain far better and more suitable varieties, and perhaps in time equal to those first created. To my mind, we have only to go on with our present cross-fertilising with the best and finest we possess, and select those most likely to meet with our requirements and approval, we shall in the course of time by perseverance obtain something like what, in my opinion, was first created. In fruits we are familiar with the sweetness and pleasant flavour of British Queen Strawberry, and Cox's Orange Pippin Apple. These important and agreeable acids must have existed strongly in the original varieties; if otherwise, it could not have shown itself now. It is absurd, in my opinion, to say we put sweetness into any plant; it must have existed in the imperfect ones we possess and it manifests itself whenever opportunity offers. The Pea is an example, and probably 300 years ago only the grey variety existed, so long had it been left to reproduce itself. Fuchsia Phenomenal, a variety with a very large sized rich purple-blue-coloured corolla, produced three separate branches, and on these came the one just mentioned, a rose coloured corolla, and a pure white corolla, the sepals in all being similar. This occurred on a plant in a cottage window, and from these three different and distinct colours, grown and flowered, wood was propagated and is now sold as three popular and lovely kinds. It must be understood these three colours came, grew, and flowered from one stem. I mention this fact to show that the colouring sap hidden in plants is capable of retaining and transmitting distinct features, in my opinion, from those of the earliest existence.

* Equivalent to 2,106,093,288 pounds.

THE TRANSPORT OF COFFEE.

Judgment was delivered to-day by Messrs. Justices Withers and Browne in the case from the Badulla District Court, in which Mr. G. H. Taylor, Manager and Superintendent of Nahavilla and Moragolla Estates, sued his cart contractor, Hendrick de Alvis, for damages for shortage and delays in delivering coffee. He filed an account showing the amounts due to and from the defendant, and claimed a sum of R582·47 with costs of suit. The defendant pleaded that his liability ceased when he delivered the coffee at the Bandarawela Railway Station. He admitted the other accounts, which, when struck out, left due to him R44·89, which he claimed in reconvention. The District Judge held that the defendant's liability ceased after delivery of the coffee at the Bandarawela Railway Station and gave judgment for the plaintiff for the sum of R188·72 only. The plaintiff having appealed against this judgment, the case was argued a few days ago, Mr. Dornhorst appearing for the appellant, and Mr. H. J. C. Perera, appearing for the defendant. The following are the judgments delivered:—

Mr. Justice Withers:—The point for decision is whether the defendant is liable for delays and shortage in the delivery of four consignments of coffee which he received from the plaintiff as a carrier. The dispute took this form at the trial. Did the defendand contract with the plaintiff to deliver the coffee at the Bandarawela station or at Colombo? The facts I understand to be these. According to the plaintiff he proposed to the defendant that the defendant should transport his coffee on the usual terms and the offer was accepted. So far as the cart-hire was concerned it seems to be admitted that 14 cents a bushel were the usual terms. When a consignment had to be dispatched, special terms put into the cart-note which was signed by defendant's agent. The note in all the essentials resembles another. The material parts are as follows:—"Received from .... (No.) carts (No.) bags of coffee, measuring (No.) bushels to be delivered in good order to *Messrs George Steuart & Co., Colombo*, or their order within six days, from this date or to forfeit R50 per cart for each day's delay .....deficiency to be paid for as usual R20 per bushel parchment coffee." It goes without saying that the parties understood that the coffee must be sent down by train to Colombo if it was to reach its destination within six days. The defendant tells us that it occupied two days to cart the coffee from the Demodera Stores, where it was loaded to the Bandarawela Railway Station, so that the time limited by the cart-note was ample. Now the defendant's contention appears to be this. The cart note does not require me

to deliver the coffee to Messrs. George Steuart & Co., at Colombo, but to Messrs. Geo. Steuart & Co, of Colombo. As a matter of fact I delivered the coffee to those gentlemen. at the Bandarawela station and that is all I contracted to do." But in my opinion the note on the face of it provides for delivery to Messrs. George Steuart & Co. at Colombo. That is what it says and it must be taken to mean what it says, unless it can be proved that it ought to be taken in the sense contended for by the defendant. Now what happened in the course of transit? The defendant's cartman, when he reached the Bandarawela station, delivered the coffee not to an agent of the plaintiff or of Messrs. George Steuart & Co., but to a Railway porter who gave his cartman a receipt and put the coffee into the goods train. C. S. Chitty, a carrying contractor for Messrs. G. Steuart & Co. and other firms, received the consignments of coffee at the Colombo Railway Station and conveyed them to Messrs. Geo. Steuart & Co.'s stores, where the coffee was measured out on arrival. It was the course of business for Messrs. George Steuart & Co. to pay the Railway fare and the hire of the transport from the Railway station at Colombo to their stores, and to send receipts to defendant for the coffee delivered to them. Receipts were not sent for the four consignments in question as there was found to be a deficiency on the contents of each cart-note being measured out. It was argued that as Messrs. George Steuart & Co. paid for the Railway fare and the hire for transport from the Colombo station, the conclusion to be drawn is that the Railway Department and Chitty were their agents for the carriage of the coffee from Bandarawela station and the Colombo station and not the defendant's agents. The District Judge who has upheld the defendant's contention relied on the condition that so much *per cart* was to be paid for the delay which in this case actually occurred and he argued from the circumstances that as carts must stop at Bandarawela station, it was the intention of the parties to confine the defendant's liability for delays to delay at Bandarawela. This, to my mind, is a strained argument, and I see in the circumstances no more than the adoption of a convenient form for stipulating for payment on account of delay. Nor do I think that the necessary conclusion to be drawn from the fact that Messrs. George Steuart & Co. defrayed the Railway hire is that the Railway Department were their agents exclusively. The train had to be used as a means of transport, if the defendant intended to bring the coffee to Colombo within the time prescribed. It may be a question whether Chitty should not be regarded as Messrs. George Steuart & Co.'s agent exclusively; but in view of the fact to which Mr. Taylor deposed that the defendant used to go to Colombo himself to give personal delivery of the coffee, I think that Chitty may be regarded as the agent of both parties, though he was paid by Messrs. George Steuart & Company. It might be very inconvenient for the defendant to accompany every consignment of coffee to Colombo and he might prefer to trust to the honesty and ability of the carriers employed by his consignees. But take it that Chitty should be regarded as the defendant's agent, there is no pretence that what Chitty received from the Railway Department was not duly delivered at the stores of Messrs. George Steuart & Company. If any part of the coffee was lost on the journey by rail, defendant, in my opinion, is accountable for it. The Railway Department was clearly his agent in the matter of these consignments. On the whole I think the judgment is wrong and that plaintiff should have judgment for the balance claimed by him.

Mr. JUSTICE BROWNE:—Old customs and forms die slowly. I regard the cart-notes, which here embodied the contract between plaintiff and defendant, as a survival of the old forms of contract, which existed over twenty years ago, when all such produce was so carried from Haputale to Colombo, either in carts the whole way or else with a break of transport into rail at Gampola or boat at Ratnapura. Where the contracts were not made only to those several places, I do not know that the liability of the carrier was ever limited to such termini. One would have expected that the modern contracts would have been altered in their wording to suit the new system, if it were only by express recital that the hires payable were to Bandarawela only, and that the consignees should defray rail freight and the transport charges in Colombo as in fact they do. But that such has not been expressly stipulated is, I consider, due to the contract being not merely to convey the coffee over so many miles of cart road, but to insure its safe carriage all along the line of route and delivering into the Wekanda Mills. For all intermediate risks, delay, damage, loss in bulk or weight, the carrier by his contract took the liability, and, as I said at the c ment, I would expect to find any claim for damages thereby it arose would be legally preferred by the carrier and not by consignor or consignee. I agree in my brother's views and judgment should be entered for plaintiff for the balance cla by him.—*Ceylon Observer*, 21st August.

VANILLA IN SOUTH SYLHET.

The South Sylhet correspondent of the *Indian Planters' Ga* writes:—A letter to hand tells me that the vanilla I have men ed before is doing well, and as the pods are about 9 to 10 in long they may be considered about full grown and will shortl showing signs of ripening. I notice "Hortus" in *Indian Ga ing* says he has a vanilla plant bearing several bunches of sized pods in Calcutta. Does "Hortus" know of any reason vanilla should not prove a profitable industry if taken proper hand? I believe some acres of vanilla were planted years ag Calcutta, but were abandoned when the property changed hand the occasion of the owner being invalided home. I think it is uncertainty of the Anglo-Indian's sojourn in this country w militates against the firmly establishing of such industries. start with, there are comparatively few Europeans versed in sin pursuits when they come to India. And when they come, t whole object is to make money as fast as possible, and clea would certainly say, and small blame to them either. By "Hortus" says it would appear that vanilla can be *naturally* f lized in South Sylhet. One would be apt to think so when, says, one of the species is indigenous to Manipur and South Ca If that species is indigenous there one would think that it mus naturally fertilized. But vanilla in its natural *habitat* in Brazils, although naturally fertilized, appears to be so only sparingly, sometimes although a plant may be covered with flo not one of them will be fertilized. It is mentioned in Dar "Fertilization of Orchids" that the frequency with which thro out the world members of various orchid tribes fail to have flowers fertilized, though these are excellently constructed for c fertilization, is a remarkable fact, and amongst those spec mentioned are the Vanilla, Acianthus formeatus, Calanthe ver folia, etc. etc. A peculiarity is attached to this "remark fact," and that is, as pointed out in the above work, the speci which there is most abundance have the least proportion of flowers fertilized, and those which are not nearly so common lize themselves in a great many instances and produce a ca for almost every flower. So it is just questionable if vanilla w be a commercial success in its native *habitat* unless it was artific fertilized; as, if left to itself, it would most likely not pro sufficient pods to make it a paying crop, although one ferti flowre per acre would be more than ample to supply sufficient to prevent the species disappearing altogether.—*Indian Garde*

THE 1899 ROSE-CROP IN BULGARIA.

A Special Correspondent of the *Chemist & Druggist* in Bul writes:—.

The distillation of this year's rose-crop, which ended about 20, lasted a little over three weeks. On account of the exce heat and drought, which prevailed throughout the whole cou during May, the rose-harvest was nearly a fortnight earlier, threatened at the outset to be a very poor one. It is tru prospects at first were most encouraging, and the yield of buds rich and abundant; but on account of the heat many of newly-formed buds withered and dropped as soon as they appe Furthermore, the absence of moisture in the air soon dried u flowers gathered in the morning, and consequently they yi less otto than usual. During the first eight days of the distillation it required fully 280 lbs. of rose-flowers to make 1 of otto. Fortunately, with the first fall of rain, at the end of the climatic conditions in the rose-district suddenly cha for the better, and delightfully cool and fresh weather se lasting throughout the greater part of June. This most t and favourable change extended the rose-distillation over a p of about twenty-four days, averted all dangers of a rose-fa

r at least of a very poor crop; and at the end the present rop turned out as good as last year's both in quality and quantity. ome justly assert that it is at least 5 per cent. better. The new rices will not be fixed for a few weeks yet. The last three weeks ave been chiefly devoted to the examination, verification, and stimation of this year's yield. The reports in circulation are ifferent, and. as usual, very conflicting. As a matter of course, l parties having old stock of deteriorated grade, and also exporters ho make a speciality of selling rectified geranium mixed up with little otto for extra fine or virgin otto of rose, try by every naginable ruse to minimise the crop to incredible smallness, and epresent it to the consuming-world abroad as a total failure. hese parties boldly affirm that the present crop is even 40 (forty) er cent. smaller. Their assertions, clearly enough, are not based n facts—they are only Oriental ways of making prefumers buy n haste, and without much regard to quality. Of course, in thus idiculously minimising the crop, they pretend to appear before ne producers as their well-wishers, aiming to raise the price of the tto. The present crop, in spite of reports to the contrary, is fully 0,000 T. oz. This does not include any old stock left over from st year, nor does it comprise any of the rose-rectified geraniums nd other adulterants, which some exporters are in the habit of sing, whenever the crop is under the average. The cost of pure ttothis year ranges from 18*s.* to 22*s.* per T. oz.

'EST REMEDIES AND PREVENTIVE MEASURES.

The following "notes on gray blight and the general situation" ave been "communicated" to the *Ceylon Observer*:—

I am very doubtful if any external application to the flushing ush in full leaf will prove useful, and the difficulties of application e great. There are also few substances which can be applied which ould not taste or injure the tea. It is no use to say that the ush would only appear so many days after application—to do od the kerosene oil or London purple would be still left on the ush, and the coolies' hands would be sure to be contaminated in ssing from bush to bush. We are reduced, then, to—

1. Plucking diseased leaves from tea in flushing and burning em as near the site of disease as possible. Men and boys would best for this work, as the women's skirts would help to spread e spores.

[*N.B.*—If the disease is so very diffusible, I don't think cooty cks of oiled cloth are necessary. The ordinary sack could be pped in disinfectant daily, or boiled.]

2. Pruning down where the disease is really bad. All prunings be burnt off clean. I don't think burying would be any use, nless the prunings were disinfected with quick (or chloride of) me. Fire is the cheapest disinfectant in this case.

3. No old leaves at all to be left on the bushes when pruning.

4. It might be worth while to whitewash each badly-affected ush with fresh-slaked lime, to which might be added bi-chloride mercury, carbolic acid, kerosene oil and soap, or some medicinal plication of the sort. This would do general good and avert other seases, even if no good for Gray Blight. Expense would be owever considerable, and the amount of coolie labour required ould make it impossible to do this during heavy flushing months. urative measures are, then, only possible from January to March, d July to September—say 120 days at the outside

5. Bearing in mind the cumulative nature of the disease, all runings should be burnt—even in healthy fields on affected tates—and all chronically sickly bushes cut clean out. In most rdens there are a large number of bushes, undersized and stunted, hich not only do not yield themselves, but are a focus of disease, d feed on nutriment stolen from their flush-producing neighurs. If one collar-pruning and manuring does not bring these ck to health, the sooner they are cut out altogether the better. hey are sure to fall a prey to some disease (if not Gray Blight) me day—then why should they cumber the ground?

In all cases will there be the danger that the man who takes ins to eradicate the pest will have his expenditure of time and oney rendered useless by the *fainéance* of his neighbours. He ay be next door to any one of the following types:—

1. The Sinhalese proprietor—who is not going to spend a cent cultivation, and who simply abandons his field so soon as it does t pay to pluck it, and leaves it as a plague-spot to breed spores d damage the cultivated bushes of his European neighbours.

2. The European who does not believe in scientific cultivation or in science. "Who did not come out for the benefit of his health —my boy!" He works by rule of thumb, spends as little as he can, and puts nothing back into the land. "What's the use of wasting money on chemicals?" he says. "It will either wipe us out, as leaf-disease did coffee. or it will go away of itself—and the man who has spent least on fiddling with it will have most money left. And that man is going to be *me*. They never did any good to leaf-disease with all their chemicals and carbolics, and sulphurs and limes, and they won't do any good to Gray Blight either."

3. The man who is willing to do all he can, but who hasn't the money. He may be a proprietor in debt, or he may be a Superintendent whose Company won't allow him to spend ——and so the disease romps on unchecked between his four boundaries.

Now these are the men that only a Board of Agriculture can touch by some such procedure as the following:—

1. An area is proclaimed infected. Round comes an Inspector; out comes the worst of the diseased patch; the rest is treated with the best-known remedy by a man who knows what he is about. A moderate and reasonable sum is paid to the owner by way of compensation for compulsory destruction; the spread of disease is checked and the; general community, as well as the original sufferer, are benefited out of all proportion to the sum expended and the area treated.

2. Importation of Indian seed should be stopped experimentally for a year at least, and local seed gardens inspected, and, if diseased, pruned down.

TEA, &c., COMPANIES.

The Amalgamated Tea Estates Co. Ld.—The third annual ordinary general meeting of the shareholders of the Amalgamated Tea Estates Company, Limited, was held on Monday last at the registered office of the company, 22, West Nile Street, Glasgow; Sir John Muir, Bart. presiding. The chairman said:—

We have pleasure in submitting for your adoption the accounts and directors' report for the year ended November 30, 1898. As these have been in your possession for the past week I presume we may take them as read. The season in Assam and Darjeeling has been fairly favourable for crop, and as the company's properties are mainly situated there, we have not suffered to any great extent from the severe drought in Cachar and Sylhet, which has so seriously affected those companies who hold properties solely or principally in these districts. During the year 2,506 acres have been put out, and the area under plant, at November 30 last, was 13,844 acres, viz: 4,760 acres in Assam; 5,590 acres in Darjeeling; 1,231 acres in Cachar and Sylhet; 1,195 acres tea in Ceylon; 1,068 acres cocoa and coconuts in Ceylon. It is proposed to plant a further area of 490 acres in 1899. Owing to scarcity of labour in Northern India, extensions in Assam and Darjeeling have had to be curtailed somewhat; and, in any case, we think it desirable to make extensions in the future on a more moderate scale than heretofore. While this scarcity of labour exists extensions will be small, and we will give our chief attention to the careful development of the large area of valuable young plant which is now possessed by the company. The company's investment in the Kanan Devan Company promises exceedingly well, and our opinion that the Kanan Devan Hills Estates are capable of producing fine teas has received ample confirmation during the year. Our tea maker reports as follows: "I consider your Travancore Estates are capable of producing teas of fine quality. Given the necessary machinery and careful manufacture, I think the teas will compare favourably with the best Ceylon marks." This report is extremely gratifying to us, as also the report on these teas by Messrs. Gow, Wilson and Stanton, the well known tea brokers in London, who write us as follows:—"Liquors are of brisk, pungent character, with nice flavour and good quality; they very much resemble some teas we have seen grown in the Nuwara Eliya district of Ceylon." The district of Nuwara Eliya referred to produces the finest teas in Ceylon. A Stock Exchange quotation for the shares of the company was secured on October 12th, 1898. The latest reports from the estates are generally satisfactory, and the quality of the invoices of new season's teas so far received, particularly those from the Darjeeling estates of the company, are above the average for the time of the year. As mentioned in the report of the directors, this company united with the Consolidated Tea and Lands Company, Limited, and the Kanan Devan Hills Produce Company, Limited, in the formation of the Anglo-American Direct Tea Trading Company,

Limited, and we hope that the Amalgamated Company's investment in the Anglo-American Company, which combines a growing and distributing business, will prove a profitable one. With regard to the consumption of Indian and Ceylon teas in new markets, the following comparative figures show that this is going on satisfactorily:—Consumption.—1897: America and Canada, 11,361,840 lb; Russia, 3,056,038 lb; Turkey, 1,997,757 lb. 1898: America and Canada, 13,608,696; Russia, 6,357,385 lb; Turkey, 3,296,352 lb I beg to move: "That the balance sheet and profit and loss account for the year ending November 30, 1898, with the auditor's certificate and directors' report thereon, be and the same are hereby received, approved and adopted; that the dividend on the preference shares of 5 per cent, less income tax, paid for the year to November 30, 1898, and the interim dividend of 5 per cent, less income tax, paid December 23, 1898, on £3 per share paid up on the ordinary shares of the company be and the same are hereby confirmed; and that a dividend of 7½ per cent, less income tax, for the half-year ending November 30, 1898, payable August 5, 1899, making 12½ per cent for the whole year, be now sanctioned and declared out of the balance of the profits of the year, on the amount paid up on the ordinary shares of the company, and the balance of £22,479, 5s 11d carried forward to next year."

Sir Robert D. Moncreiffe, Bart., seconded the motion, and the report was adopted.

The retiring director—Mr. P. R. Buchanan—was re-elected on the motion of the Chairman, seconded by Mr. W. A. Coats.

Messrs. Alexander Sloan & Co., C.A., were appointed auditors for the current year, and a vote of thanks having been passed to the Chairman for presiding the meeting separated.

The Glasgow Estate Co, Ltd.—An extraordinary general meeting of the share-holders in this Company was held at the office of Messrs. Whittall & Co., Colombo on the 16th at 10-45 a.m. Mr. W. H Figg, presided. The CHAIRMAN said that the meeting was merely to declare an interim dividend for the six months ending June 30th, 1899; and he would move that a dividend at the rate of 5 per cent on the paid-up capital of the Company be declared and paid forthwith.—Carried.

The Agra Ouvah Estates Co, Ltd.—Following the above, an extraordinary general meeting of the shareholders in the Agra Ouvah Estates Co., Ltd., was held at the same office at 11 a.m. Mr. G. H. Alston presided.

The Chairman said that the only business before the meeting was the declaration of a dividend. They considered that owing to the financial state of the accounts at the end of the year there was sufficient to recommend a dividend to the shareholders again of 7 per cent—the same as last year. Therefore, he would propose that an interim dividend of 7 per cent be declared for the half year ending the 30th June, 1899, and be paid forthwith.—Carried.

The Clunes Estates Company of Ceylon.—The annual ordinary general meeting of the above Company was held at Colombo (Messrs. Whittall & Co.), on 16th instant to receive the report of the Directors and accounts for the past year, to declare a dividend, and to transact any other business that may be duly brought before the meeting.—Mr. W. H. Figg (Director) presided.

The Report of the Directors said:—The crops secured amounted to 395,486 lbs. tea, as against 395,535 lbs. last year, being 4,514 short of the estimate. The nett average sale price was 34·29 cents per lb., the cost laid down in Colombo being 20·92 cents per lb., both of which figures the Directors consider may be deemed satisfactory — After providing for depreciation of buildings and machinery, the result of the year's working shews a nett profit of R38,142·30, equal to 11½ per cent. on the paid up capital of the Company. To this must be added a balance of R4,413·87 brought forward from last year making the total at credit of Profit and Loss Account Rs42,556·17.—Out of the above profit the Directors recommend that Rs12,500 be transferred to an Extension Fund Account to provide for the capital already spent in opening clearings, and extending factory accommodation, which has hitherto been financed by loans.—They further recommend that out of the balance then available a dividend be paid for the year of 8 per cent. on the paid up capital, which will absorb R26,560. leaving R3,496·17 to be carried forward to next year's account.

The Hapugahalande Tea Co., Ld.—Report of directors says :—Acreage :—Tea in full bearing 235 acres; new clearings 150 acres; jungle, &c., 369 acres I rood 3 perches; total estate 754 acres 1 rood 3 perches. The quantity of tea manufactured for the season (including estate and bought leaf, but exclusive of that manufactured for other estates) was 138,750 lbs. Estimating the unsold tea at a valuation, and excluding a surplus of R290·91 on previous crop nett amount realised for this product, totals R47,960·02, bein average of 34·57 cents per lb. After setting aside R2,641·2 depreciation on buildings and machinery, the sum available distribution (including R123·61 brought forward from last acc is 23,134·41. From this sum the Directors recommend payr of a dividend of 12 per cent, absorbing R20,400 and lea R2,734·41 to be carried forward.

The Wanarajah Tea Co., of Ceylon, Ld.—The seventh ordi general meeting of the shareholders of the above Company held at Colombo on the 14th instant to receive the Report of Directors and statement of accounts for the year ending 30th J 1899. Mr. Alex. Cantlay resided

Report of the directors says:—Acreage.—Tea in bearing, acres; tea planted in 1895, 72; 1896 12; 1898 20; total 1,060 in timber trees 20; forest 27; grass not available 27; grand 1,134 acres. . . . The crop harvested amounted to 336,692 of which quantity 228,420 lbs. have been sold in London to dat an average of 54·98 cents.

The amount at the credit of the profit and loss accoun R74,737·34, including a balance carried forward at the comme ment of the year of R21,678·40.

After payment of the interim dividend at 4 per cent there mains a sum of R58,861·34 available, which the directors re mend be applied as follows :—To a final dividend of 9 per c making a total of 13 per cent. per annum, R34,020·00; to be ca forward R24,841·34.

THE AMALGAMATED TEA ESTATES COMPANY

This is one of Finlay, Muir & Co's creations, and after peru the reports of such we always fear that our mental balance has disturbed. Everything, according to the directors, is so prospe in regard to these concerns, and they pay such high dividends, the gloomy surmises we can only draw from an examinatio their accounts seem sadly out of place. They, indeed, pro pictures of such brilliancy and deep shadow as to remind one o photographs, now so fashionable, taken by means of light obta by burning magnesium wire. All we can do then is to give untouched light and shade, and leave the public to judge future for its own woolly-pated self.

Taking first the directorial view, the high lights; we find the company has done better than in the past. The average obtained for its tea was 10·55d. per lb., against 9·35d. per lb. in The crop, too, was in reality larger, for although the quantity with, 2,440,869 lbs., was 690,602 lbs. less than in the previous the company had meantime sold its Hathibari and Boro Jali Estates, whose produce was not included, and the produce the Shabazpore and Kolobari properties, which were sold i previous year were also, for the first time, not included, the from these four estates representing approximately 869,680 lbs might be mentioned that the company's principal estates a Darjeeling and Assam, so that it was not materially affected b severe drought in Cachar and Sylhet. Including £20,708 bro forward, £10,583 for interest on investments, &c., including ad ment of suspense account, and £5,856 for profit onsale of land to the Anglo-American Direct Tea Trading Company, the profit was returned as £65,422. Out of this, £2,333 went as missions to various officials, and £1,671 in interest, leavin available balance of £61,417. Preference interest took £21,000 then 12½ per cent., or 2½ per cent. more than the preceding was distributed in dividends on the ordinary shares, which allo the balance forward to be increased £1,771 to a total of £23 Nothing was added to reserve, which stands at £10,000, or the total as two years back.

So much for the high lights of this kind of finance; now l look at the deep shadows that serve to throw them into relief the first place, although the company received £48,435 of share capital in the year, and sold properties valued at £66,0 indebtedness has increased £18,948, to the huge total of £ Of this sum £59,363 was offset by value of tea held and since and if this is deducted the debt stands at £313,057, compared £363,505 of paid-up capital. The uncalled capital upon the ordi shares is only £334,845, so that the net indebtedness is very to the company's last available shilling. And the burden o debt is really greater than it appears when merely measured a

re capital. because the properties stand in the books at only 56,411, the difference between that amount and the £958,971 ich represents the total of the assets being chiefly composed of 5,560 of "sundry investments," and £177,267 of "loans deposits Calcutta and Colombo, and advances at gardens," items that in opinion require a great deal of explanation. For all we can "sundry investments" may be represented by shares in the osidiary concerns, the Kanan Devan Hills Produce, the Hope-ll, and the Anglo-American Direct Tea Trading Companies, and dare not imagine why the second item should have risen £44,000 ring the year. It is all "finance" of the most dashing and ex-nsive description, and the extravagant management implied in ntirely prevents a clear view of the company's real position.

This lack of knowledge becomes a sense of mystery unfathomable en we knock against the fact that during the year £66,725 was led to the capital value of the estates for further expenditure reon and interest, or a sum £14,659 more than in 1897, although e estates were presumably reduced in extent by sales. This ange £66,725 was £1,283 more than the total profit claimed to earned by the company, and, until its origin is clearly explained, feel it utterly impossible to treat seriously the profit and loss ount shown by the company. We do not know, and cannot ss how much expenditure which other companies would put to enue is being carried to capital on the Finlay-Muir system. tensions are being carried out upon a slower scale now, but the rmous area of new cultivation established in previous years st now be maintained, and this is bound to lead to more demands capital. Thus the company labours on, selling or transferring assets on the one side and increasing its indebtedness on the er, with no apparent benefit to it, to anybody or thing, except agents. Unless, then, the tea-producing industry is altogether erent from other branches of trade, we are haunted by a boding d of fear lest the shareholders may have one day other surprises n increased dividends in store for them.—*Investors' Review.*

THE PROPOSED TEA CESS FOR INDIA.

The *Times of Ceylon* says :—

We welcome the advance effected at the Bangalore Conference this question, particularly because in Southern India the pro-tion of abstainers from the voluntary Tea Fund has hitherto, believe, been heavier than in Northern India. We do not over-k the dissent of Mr. Hodgson. the retiring Member of Council; he approved of the principle, and asked only for time, as the tter had not been considered by his District Association. If we y judge from what happened in Ceylon, there will be no active osition if all the planting leaders combine to push the project. nust be placed before the authorities in a whole-hearted manner; those who have hitherto benefited at the expense of existing tributors ought already to feel rather "cheap," and no single trict or section of planters would care to face the opprobrium ch the upsetting of so beneficial a reform would entail. If the ian Tea Association will, therefore, cordially embrace the pro-al, there is no reason why the whole matter should not be ar-ged during the present year, and be inaugurated at the begin-g of 1900. Some weeks ago we commented at considerable length the unfairness to Ceylon of the present method of Indian co-ration, carried on with insufficient funds, and with periodical ertainty as to the necessary means to sustain the allied propa-da. Our Madras contemporary challenged our contentions, and n advocated South India having a campaign all to itself; but idea was "sat on" from Calcutta. That journal takes a more lerate tone now, and, in an editorial on the Bangalore Confer-e generally, all it has to say on this special subject is—

While we are by no means convinced that its very progressive olution anent a compulsory tea cess was as wise as it was itious, we may at least record our sense of the vigorous, ghtened, and persistent policy that generally characterises the ociation.

We do not know whether the *Madras Mail* fears that Calcutta reject the proposal because its revival has occurred in the ighted Presidency. On no other ground can its wisdom be stioned. It is such good common-sense, and so practical, as lly to merit the term ambitious. There is no dangerous flight t it—only comprehensiveness and fairness—and, if Assam flippantly says "Can any good come out of Nazareth ?," let Travancore, Peermaad, and the Wynaad reply "Come and see." With the opening up of Europe during the Paris Exhibition. and afterwards, the need for a fund which can be safely counted upon is so great that the impediments which have hitherto prevented the establishment of the cess could not be surmounted at a more opportune time than the present. The General Committee of the Planters' Association of Ceylon has had the subject recently before it; and is anxious to supply all information, based on experience gained in actual working. as soon as the least desire to have it is shown by our neighbours on the Continent. Without wishing to dictate, it may be added that it is obvious that, to have an acceptable scheme, the Indian cess must be practically the same as that of Ceylon, which had to be raised from 10 cents to 20 cents per 100 lbs., and, with great care, now covers the field fairly well. If three annas per 100 lbs. are put on in India, Ceylon would doubtless agree to co-operate on even terms. Although the "turn of the scale" would be in favour of India—whose total contribution would not be quite up to that of Ceylon, in proportion to her larger export—our Thirty Committeee would not cavil at R4,000, which the difference between 20 cents and three annas represents on India's output.

ON THE PREVENTION OF TEA PESTS AND BLIGHTS.

The following paper by Mr. Oliver Collett was read before the Ambagamuwa Planters' Association on August 21st, 1899 :—

The Director of the Royal Botanic Gardens in his recently issued Circular on the subject of Tea Blights says :—"The immunity from disease that tea has enjoyed in so marked a manner for many years is now disappearing; many insect and fungus enemies, some of local origin, some introduced from Assam and elsewhere, are now attacking tea in many parts of the Island, and it behoves all interested in the cultivation to be upon the watch to recognise the signs of disease as soon as possible after they appear, and to at once attack and, as far as possible, eradicate the disease. The diseases are here, and all experience of cultivators in all ages and lands shows that such diseases come to stay; they cannot be completely eradicated, but they can be kept in check if taken in time."

Here is good and sound advice to which we are all, I am sure, prepared to give our best attention. At the same time many of us may not be inclined to fall in with the opinion of Mr. Willis, that the health of the tea-plant in Ceylon is now for the first time being seriously threatened by the attacks of fungus and insect-pests. On the contrary, I think, it is the experience of most of us that these pests have always been with us; and when we come to consider the fact that millions of insects and of parasitic fungi are daily brought into existence, apparently for the sole purpose of feeding upon the alimentary juices of plants, the wonder rather seems to be that plants which are kept under constantly cropping conditions—as in the case of tea—should be able, season after season, to retain their natural vigour and keep their foes at bay.

The test, of course, comes when an unusually unfavourable season occurs, and the resources of the plant are naturally tried to the utmost. If it is left, as not infrequently happens, in a weakened and impoverished condition, it becomes, according to a well-known law in nature, a ready prey to the attacks of disease. Thus, insect and fungus pests find the opportunity that they have been waiting for and they very soon make themselves known to us—both in our tea fields and in the columns of the public press.

Now, the present season (1899) has been, up-to-date, a distinctly *abnormal* one. We had a severe drought in the early part of the year, followed by an excessive rainfall in the months of May, June and July—just the sort of season in fact, which would be likely to do harm to our tea-bushes—and the consequence has been that they have been exposed to an outbreak of disease of unusual severity with a smaller chance of warding it off than has been the case in former years.

It is, therefore, our business to consider—and that very seriously—whether, in our general system of cultivation, we are doing all that is needed to help the bushes to preserve the necessary amount of strength and vigour that shall enable them, in an unfavourable season, to combat successfully with the attacks of disease.

It is, I believe, the opinion of Indian planters that we, in Ceylon, predispose our bushes to the attacks of enemies by our system of plucking from them all the year round, and of only allowing them a rest—if rest it be—during the time that they are pruned down. Now, it is possible that there may be more truth in this than we have hitherto supposed. You are aware that all plants under cultivation must have a resting season; and it is perhaps a question whether we ought not to be satisfied with a slightly diminished yield per acre, in order to allow our bushes to have a complete rest for a month or two, at the least, between each pruning. Certain it is that resting has an enormously beneficial effect upon tea under any circumstances; and I can quite conceive that the time will come when we shall find it ultimately profitable to allow a small proportion of our acreage—say one-eighth or one-tenth—to remain unplucked (but of course meanwhile weeded and cultivated) every season.

Again, there is much to be done in the way of systematically removing all lichenous growth and moss from the stems of our bushes after every pruning. I am aware that a great many planters regard this as an altogether unnecessary operation, but there can be no doubt whatever that the removal of this growth invigorates the bushes to a great extent; and that where it is left to grow upon the branches it affords a dangerous refuge and breeding place for all manner of fungus and insect pests.

There is one more point to which I should like to refer, and that is the question of the abandonment of fields of diseased and unprofitable tea in the midst of cultivated areas. A patch of tea once abandoned becomes a spore-nursery for every kind of disease, and a source of considerable danger to all estates in its immediate neighbourhood. It is possible that this question, which, in my opinion, involves more serious issues than any of those just discussed, may be one which the Planters' Association may not be sufficiently powerful to cope with. If so, our only resource will be to ask Government to introduce measures which shall render compulsory the destruction of all abandoned areas of tea by fire.

In these remarks, which have been hastily drawn up to be in time for this meeting, I have confined myself to a general consideration of what, in my experience, are likely to be the best methods of protecting our tea bushes against the attacks of disease. I have not attempted to discuss the nature and treatment of fungus and insect pests. The former are treated of by Mr. Willis, in the Circular already referred to; and the latter are fully described in the litte work by my friend Mr. E. E. Green, entitled "Insect Pests of the Tea Plant," with which most planters are already familiar.

TEA AND THE AMERICAN MARKET.

A YEAR'S EXPERIENCE OF THE WAR DUTY.

June 13th marked the end of the first year in which the 10 cents per pound duty has been collected on tea. At the time the duty was imposed it was confidently expected by the Government that the revenue derived therefrom would, at any rate, amount to $10,000,0 0 per annum, if not more, as it was estimated that 100,000,000 pounds of tea were annually consumed in this country. Statistics just to hand show how utterly futile was this estimate, inasmuch as the tea withdrawals from June 13th, 1898, to June 1st, 1899, only amounted to 43,000,000 pounds, which, from a revenue point of view, was unsatisfactory, and shows, without a doubt, that large stocks of old teas were forced into consumption. On April 30th, 1899, there were 32,536,332 pounds held in bonded warehouses, and the imports for the same period were 69,322,525 pounds. One would have thought that a year's experience of duty was sufficient to gauge the possibilities and future of the market, but apparently this has not been the case, and the tea trade is a long way from being in a settled or safe position. Time alone can adjust the differences and difficulties existing in this market, and it will in all probability be the early fall before the business will be transacted on a proper basis. No doubt by that time the old stocks will be entirely exhausted, and the dealers and country buyers will have overcome their diffidence and want of confidence, and start to buy in quantities adequate with the trade.

With but 21,000,000 lbs. of tea in stock in New York and but 7,000,000 more than that figure in the whole country, against quite double that amount a year ago, the market is not in any danger of being overburdened by excessive old stocks as has been the case for many years past This will help to give an impetus to trade just as soon as the new crops come in, so that by the beginning of September we may look forward to a very fair business being at the new figures. and, when the traders have become accusto to the new conditions, no doubt business will adjust itself i steady trade as in former years.

The trade are interested at the present time in an investig now being held at the appraiser's stores by a committee of inv gation sent by the Treasury at Washington, to inquire into working of the duty, etc., obtain information of any abuse o Act, and above all to endeavour to prevent the importatio impure teas. Nearly all the prominent tea importers have before the Committee and reported that they received the gre consideration at their hands. It is thoroughly believed that Committee are really aiming at the abolition of any abuse may exist. The only difficulty seems to be in the administra of the law, and little doubt is entertained but this will spe receive the attention of the Government just as the Comm return to Washington.

It has come to light that the trade as a unit are in favour o present law and duty, and few would like to see the law elimin but the majority do feel the administration of the law is at f and was to be carefully inquired into, and alterations and cha made where necessary, though there are no complaints on acc of the law itself.—*American Grocer* (New York).

INTIMATE STRANGERS.

Suppose a man to have lived fifty years without ever having the reflection of his own face. Now lead him before a mirror let him have a look. He will, of course, recognise the outline general appearance of his body; but his *features* will be as new strange to him as those of a person he has never before met. he has worn that mask all his life; has touched it with his h times beyond counting; has by means of it expressed the fee and passions of half a century; has heard its pecularities rema upon by others—yet, bone of his bone and flesh of his flesh as the glass presents it to his gaze as a novelty. Fortunately Na has so made us that we are commonly satisfied with our l otherwise this man might curse the hour he first beheld his countenance.

On a page of a book which lies on my table this bright morn a picture which—were it published without title or descripti probably the most of us would not understand; yet the origin vitally important to every human being. No mirror throws its structure to the eye, nor has the owner ever laid hands Nevertheless its name is daily on our lips, and on its faithful formance of duty largely depend our efficiency and happiness.

Still, people are continually alluding to it in words of wailing complaint. They find no end of fault with it when it goes w and when it goes right seldom pay it the compliment of doing work. "The way of the world," you remind me; "alas! the of the world."

For example here is one who says that in the early part of she began to suffer from a bad stomach and indigestion. the stomach tries to be good and not bad. It makes constan mighty efforts to accomplish its task and so furnish the rest body with health, strength, and beauty; but it often fails disa and then its owner characterises it as a "bad" stomach.

Now who, or what is accountable?

Continuing, our correspondent adds: "I had no relish for and after eating I had pain at the chest and sides. Whatever of food I took nothing agreed with me. I made use of va medicines in hopes of relief, but none of them did me any At last a neighbour, Mrs. Tyrell, told me how she had benefi having had the same complaint—by Mother Seigel's Syrup, an commended me to try it. Somewhat encouraged by what she I procured a bottle of this remedy, and soon found that it reli me as nothing else had done. I could eat better. all food a with me, and I felt better every way. Since that time—now years ago—I have kept well, taking an occasional dose of syrup when I seemed to need it. My daughter suffered from same trouble, and Mother Seigel's Syrup had the like effect in her case. You are at liberty to make any use you li this statement."—(Signed) Mrs. Elizabeth Naulty, Foresters' Inn, 96, Scouringburn, Dundee, July 2nd, 1897.

This lady's stomach did not become "bad" of "malice pr and aforethought," as the lawyers say of certain criminals. cause lay in the conditions of her life, her habits of eating, ma

th, possibly, inherited weakness. There are so many things, combinations of things, that tend to produce or develop dys-ia, it is hard to trace them in individual instances. The ptoms (or consequences), however, are more numerous, danger- and deceptive than the uninstructed imagine. It is for this on that so great a multitude of alleged "dyspepsia remedies" prepared.

ut the "bad" stomach having been slow to abandon duty strike work, does not respond to any and all sorts of drugs may be thrown hopefully into it. The cure must be exactly pted to the disease, and if there is a medicine which so per-ly meets this requirement as Mother Seigel's Syrup, the world not yet heard of it. The tired and inflamed organ receives it he genuine stimulus and healer that it is—and the "bad" nach is changed back into a good one.

ou now guess what that picture on my table represents—a ma-e in your body you will *never* see, but which in other ways you study and know more about.

MARKET REPORT.

Per Mail Advices of 11th August 1899.

COFFEE.

he *London Commercial Record* says:—The public market re-ned yesterday, when 5,139 bags, &c., were submitted to public petition, and with a fair but irregular demand the greater part disposed of. The bulk consisted of Colombian and Central erican descriptions, which chiefly sold at barely previous prices nary, but at steady rates for the better qualities. The small ply of East India met few offers and was nearly all withdrawn. ntation Ceylon realised steady prices. The market for "futures" fluctuated, and September Santos fell to 26s, but with un-urable weather reports the price advanced to 27s 6d, but subse-nt cables not confirming these advices, there was a partial tion, and the closing quotation is 27s per cwt.

don ...	... Santos ...	Sept. delivery	... 27s. 0d.
v York	... No. 7 Rio...	„ „	... 4·45 cents.
nburg...	... Santos ...	„ „	... 27¾ pf.
rre ...	... Santos ...	„ „	... 32¾ francs.
land ...	... Good ordinary Java ...	...	... 25¾ cents.

t the Dutch Trading Company's sale on Tuesday in Rotterdam ases 25,847 bags sold, good ordinary Java at 25¾c against 27½c. uation, and 26¾c last sale. The following are some of the ticulars:—

Lying in Rotterdam.

	Bags.	Valued at, Cents.	Result. Cents.
... ...	419	28½	27¾ @ ...
... ...	202	27½	27¾ „ ...
... ...	126	27½	27¾ „ ...
... ...	171	13	12 „ ...
... ...	518	26¾	26¼ „ ...
... ...	788	26½	25½ „ 26
... ...	341	35	33½ „ 33¾
... ...	144	37	35¾ „ 36¼
... ...	468	26	21 „ ...
... ...	273	25	20½ „ 20¾
... ...	834	27	25¼ „ 26
... ...	651	26	25 „ 25¼
... ...	152	38	31 „ 31¼
... ...	301	18	17½ „ ...
... ...	471	34	32¾ „ ...

nports, Deliveries and Stock of Coffee in London are as follows:—

	Stock. 1899. Tons.	Stock. 1898. Tons.	Imports. 1899. Tons.	Imports. 1898. Tons.
st India ...	840	537	1,346	1,563
lon ...	121	100	291	204
t India ...	6,055	2,276	9,728	5,378
ha ...	503	536	526	583
zil ...	4,724	3,204	2,374	2,345
er Foreign ...	13,636	12,819	22,362	24,506
Total ...	25,879	19,472	36,627	34,579

	Home Consumption. 1899. Tons.	Home Consumption. 1898. Tons.	Export. 1899. Tons.	Export. 1898. Tons.
West India ...	225	248	682	1,117
Ceylon ...	84	97	151	117
East India ...	1,699	1,678	2,899	2,530
Mocha ...	430	447	98	98
Brazil ...	523	637	784	1,475
Other Foreign ...	7,173	5,844	10,437	10,514
Total ...	10,134	8,951	15,051	15,849

The preceding figures exhibit—

	Tons.
In the Imports an increase this year of	... 2,048
In the Home Consumption an increase of	... 1,183
In the Export a decrease of	... 798
In the Stock an increase of	... 6,407

Yesterday's auctions passed off as follows:—

Ceylon.—11 casks 3 tierces 7 barrels 2 bags mostly sold, smalls 60s, low middling 93s, bold 101s

East India.—127 bags partly sold as follows: *Mysore*, smalls 32s 6d, low middling 39s, pea berry 41s.

Jamaica.—167 bags about half sold, ordinary brownish to fine ordinary greenish 24s 6d to 32s.

Costa Rica.—450 bags partly sold, smalls 23s, good ordinary 31s 6d to 32s, low middling 42s, middling dull colory 47s, bold 52s 6d, pea-berry 44s.

Guatemala.—198 bags sold, smalls 25s, good ordinary greenish foxy, sea-demaged bulked 31s to 32s, fine ordinary ditto 31s 6d to 34s, pea-perry 34s.

Nicaragua.—945 bags mostly sold, small 35s, ordinary dingy greenish 26s, ordinary to good ordinary green 29s to 31s, pea-berry 34s.

Mexican.—158 bags sold, smalls 26s, fine ordinary to low middling 34s 6d to 39s 6d, pea-berry 39s 6d.

Colombian.—Of 2,929 bags catalogued a good portion sold, smalls 25s to 40s, fine fine ordinary 36s, 6d, low middling to middling 39s to 45s, good to fine middling 46s to 63s 6d, good to fine hard blue bold 65s to 75s 6d, very fine 90s, pea-berry 43s to 80s 6d.

Salvador.—57 bags were bought in.

Receipts in Rio and Santos.

Since July 1	1899-1900. Bags.	1898-99. Bags.	1897-98. Bags.	1896-97. Bags.
Rio	479,000	359,000	560,000	477,000
Santos ...	1,047,000	720,000	933,000	713,000
Total ...	1,526,000	1,079,000	1,493,000	1,190,000
Crop		8,772,000	10,461,000	8,680,000

Rio Exchange.—8 3/16d.

Havre, *Aug.* 10.—Santos good average August opened quiet at 32¾f. and closed quiet at 32¾f., September opened at 32¾f. and closed at 32¾f.

Hamburg, *Aug.* 10.—Good average Santos August opened steady at 27½pf. and closed dull at 27½pf., September opened at 27¾pf. and closed at 27¾pf.

New York, *Aug.* 9.—Closing prices of No. 7 Rio were as follow:—

	Aug.	Sept.	Oct.	Nov.	Dec.
August 9 ...	4·45	4·50	4·55	4·60	5·00
August 8 ...	4·40	4·45	4·50	4·55	4·95

To-day's auctions offered 23 casks 5 tierces 15 barrels 2 bags Plantation Ceylon, 199 bags East India, 48 half-bales Mocha, 572 bags Guatemala, 811 bags Salvador, 224 bags Mexican, 111 bags Nicaragua, 808 bags Columbian, 782 bags Costa Rica, 193 bags Ecuador and 266 bags Washed Santos. The market has been very quiet to-day and all undesirable qualities were dull and inclined in buyers' favour.

TEA.

China.—This market re-opened yesterday with an offering of 1,960 packages, which experienced a poor enquiry, only a small proportion selling at about valuations—new make Congou 5d, Souchong 6¾d, broken leaf Keemun 4¾d, Panyong 6d to 6¾d per lb.

Indian.—811 packages sold without material change in value.

Travancore.—372 packages sold at fully valuations.

CEYLON.—Yesterday 17,260 packages were brought to the hammer. A strong tone prevailed for almost every class of tea. Souchongs for "price" ruled firmly, 6d to 6¼d being the quotation for good common tea; inferior liquoring Pekoes and Broken Pekoes showed no change, but the market for all good medium to fine was very strong, and all the best liquoring teas were strongly competed for at distinct advances.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated August 11th, 1899, says:—

QUANTITY BROUGHT TO AUCTION IN LONDON FROM 1ST JUNE TO DATE.

	Indian Pkgs.	Ceylon Pkgs.	Java Pkgs.
1899-1900	101,632	144,425	9,224
1898-1899	115,612	251,861	8,049

1,183 *pkgs.* INDIAN, 17,261 ,, CEYLON, — ,, JAVA } Total 18,444 packages were offered in public auction this week.

The Committee of five Brokers has now been formed for the purpose of putting into effect the scheme for offering the supplies of Tea at auction each week in reasonable and workable quantities. We understand that firms representing the control of some 80 to 90 million pounds of Indian Tea have already signified their intention of supporting the proposal, and it is to be hoped that the few others will do likewise in order to ensure success.

There is no doubt that a great deal of Tea was forced through the market last season without being properly seen by buyers, with the result that fairly good Tea was knocked down in November and December at about 5d. to 7d. per lb., which was shortly afterwards worth an advance in price of from 20% to 30%.

INDIAN.—The quantity offered was not sufficient to attract buyers who preferred to wait for the more important sales which are advertised for next week. An official telegram from Calcutta reports that in the districts of Assam, Cachar, Sylhet, Darjeeling, Dooars and Terai there is too much rain, and owing to generally unfavourable weather leaf is backward.

CEYLON.—Owing to the discretion which Importers are showing in offering their accumulated supplies, the Teas were well competed for, the demand being strong at prices fully up to those ruling at the end of June last, when the recent Trade dispute commenced.

For next week about 43,000 packages are catalogued, which is quiet sufficient. During the three months, September-November last year, the average quantity of Tea offered per week amounted to about 21,000 packages; should the arrivals this year be on a similar scale, there would be a good opportunity of spreading the accumulated stocks, and having sales of reasonable size to the ultimate benefit of the Producer.

Average for week 7·36d., against 7·44d. same period 1898.

Bank Rate 3½ per cent. Exchange on London three months sight:—Calcutta 1/4 5/32. Colombo 1/4 5/32.

IN AMERICA.

Bronson, Brown & Co., tea importers, of New York say: "While the home market is dull for invoices. there seems to be considerable demand from the interior for lines. No buyer is taking a large amount of goods, but the entire trade seem to be securing a little larger supply than purchases made sixty days ago. New Japan teas seem to be in fair demand. New crop Formosas, however, lack body for general use, and those on the market to date are not especially desirable; but summer teas will undoubtedly be offered in one month's time which will be superior to the very light-bodied Formosas shown to date. Greens only in fair jobbing demand and prices nominal for all other kinds of tea. Business seems to be improving."

COCOA.

No public auctions have been held this week, and private transactions are restricted to small lots at recent full values.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

	1899.	1898.	1897.	1896.
	Bags.	Bags.	Bags.	Bags
Imports, B P. ...	104,023	107,064	95,590	104,642
Foreign ...	49,611	77,520	49,852	48,318
Home Con., B.P. ...	53,853	67.289	54,675	46,063
Foreign ...	33,501	36,473	38,521	34,370
Exports, B P. ...	30,600	24,492	30,147	26,384
Foreign ...	17,098	19,709	25,982	17,508
Stock, B P. ...	65,153	75,322	88,444	98,049
Foreign ...	51,586	54,829	45,568	72,805

PEPPER.

BLACK Pepper is dearer with sales of about 175 tons Siz on the spot at 5⅜d to 5 13/32d short prompt, and September-No (s.) at 5⅝d to 5 11/16d per lb., with buyers over in both po Tellicherry in fair demand on the spot at 5 5/16d per lb.

WHITE Pepper is also dearer, Penang on the spot havin sold at 8d to 8 1/16d, and Singapore at 8 9/16d to 8⅝d. For arriv ang October-December (s.) has changed hands at 8½d. and Sin August-October, (s) has sellers at 8¾d per lb., with buyers figure for September-November (s.) Zanzibar Cloves opened but quiet, with sellers of October-December delivery at 3 1/16d. quently, when the market got over the holiday feeling, a stron developed, and January-March delivery sold at 3 3/32d to August-October 3 1/16d, and October-December, 3 5/32d to 3¼d, good spot trading at 3 1/16d to 3 3/32d per lb. cash less interest. for the week about 3,000 bales.

INDIA RUBBER.

There has been a large business in fine Para, most of old i hard cure at 4s 3d. About 100 tons have changed hands, son at 4s 2⅞d, Island soft, old at 4s 1d to 4s 1½d, ditto new and fc 4s 0½d to 4s 0¾d per lb. Negrohead neglected. In auctions demand was moderate, and good quality sold very well; i heated and mixed cheap.

PARA.—9 cases sold, hard fine part weak 4s 1½d to 4s 2¼d, fine at 4s 0¼d, scrappy negroheads at 3s 2d per lb.

PERUVIAN.—19 packages offered and 17 sold fine and entref 4s 1½d, sandy ball at 2s 11d, slab at 2s 5½d per lb.

MOLLENDO.—Sales of fine at 4s 1d. 15 packages offered sold, scrappy negroheads at 3s 1d per lb.

MANGABEIRA.—127 packages offered and 82 sold, good clean 2s 7d to 2s 7½d, pinky porous at 2s 2d to 2s 3d, foul mixed at per lb.

Columbian sells well. 231 packages offered and 90 sold, fine clean sheet 3s 4d to 3s 6d fair sheet part little mixed 3s 3s 3d, good grey scrap 3s 1½d to 3s 2d, ordinary scrap 2s 1 2s 11d.

Central American. Carthagena, &c.—184 packages offered a sold, fair to good scrap 3s to 3s 1d, white scrap 2s 10½d, dif ferior 2s 4½d, pressed strips, fair 2s 5d to 2s 6d, ditto 2s 0¼d to 2s 2d.

MADAGASCAR.—77 packages offered and 34 sold, middling at 3s 4¼d, good Majunga 2s 7¾d, East Cost Niggers, good 2s 4½d, ditto very common earthy 10½d, black coated slab 2s 2s 5¾d per lb.

MOZAMBIQUE.—356 bags offered and 78 sold, fair to good clea ball 3s 3¼d to 3s 5¼d, whitish ball fair little sandy 2s 8¾d, r soft white and little heated 2s 6d, sandy and heated pic 1s 9¼d; Lamu Ball, good 3s 1d to 3s 1½d, ditto mixed unripe 2

Ceylon sells well; 4 packages fair clean sold at 3s 0½d.

Pontianac quiet; 20 cases sold at £18 10s per ton.

5 packages Rangoon, 28 packages Penang, and 39 pac Borneo retired.

CINCHONA.

In addition to the quantities announced by us last week offered at the Amsterdam auctions on August 24 a further bales and 93 cases (192,726 kilos.) have been brought for This now brings the total to 7,564 bales and 276 cases (688,364 k The shipments from Ceylon for the week ending July 18 30,647 lbs., and from January 1 to July 18 they were:—

	1899.	1898.	1897.	1896.
Lbs. ...	277,336	277,755	304,311	193,398

Five brokers have declared auctions in London on August 17 total at present amounting to 1,132 packages, of which at leas are East Indian bark.

QUININE.

No business of importance has been done this week, an market is nominally unchanged at 1s. 2¼d. to 1s. 2½d. per oz in second hands, and December delivery at 1s. 3d. The ex from Java during May were 218 cases, all of which came to Lon From July 1, 1898, to May 31, 1899, the shipments have been cases, against 358 cases for the corresponding period of 1897-9

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

L. IV.] MADRAS, SATURDAY, SEPTEMBER 9, 1899. [No. 36.

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UBSCRIPTION.—Payable in Advance: Yearly, Fifteen Rupees; Half, rly, Eight Rupees; Quarterly, Five Rupees, and Monthly, Two Rupees- luding postage. Single Copies, Eight Annas.

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OMESTIC OCCURRENCE.—The fee for inserting a domestic urrence will be *One Rupee* for each insertion, payable in advance.

.B.—Remittance should be sent to E. C. Duff & Co., Proprietors, lanting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 15th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, *6th Sept.—Weather.*—Dull and rainy since Saturday last. Amounts of rain not large, 25—35 cents. One inch out East for the two days, Friday and Saturday last. Clouds appear to be drifting up from E. N.-E. Cyclone in Bay, perhaps (!) *Crops.*—Some ripe berries to be seen. February set of blossom will be soon maturing; but there is not much of it. *Plant-diseases.*—Coffee looking A-1. Leaf-disease seems to be passing off patches which were badly affected with it a short while ago. *Labour.*—Plentiful, and Canarese still arriving. *Health.*—Good.

Kotagiri.

7th September 1899.—Contrary to expectation, a sudden change in the weather, with the advent of September, has brought abundant rainfall:—

	Inches.
2nd	0·75
3rd	2·32
4th	1·37
5th	0·88
6th	2·62

Out to the Eastward the fall has been also very heavy, putting an end to the *fin de siècle* drought, which, let us hope, will not see its equal during our interest in the next century.

TEA IN THE UNITED STATES.

WE would call special attention to some interesting extracts from the *American Grocer* that are given in another part of our present issue. Our New York contemporary has obviously been at pains to study the position and prospects of Tea in the United States, and the information it furnishes may be of service to planters in India. On the authority of a leading dealer, it is stated that *quality* is receiving special consideration from tea-drinkers in the States, and that general interest is shown in official reports of examinations, rejections and withdrawals from bond. "Quality" is a very indefinite term, when applied to tea; but Mr. BROWN'S remarks on the point are, we think, sufficiently clear to show what he means when using the expression. He says that the introduction of the tea standard laws has been followed by an improvement in the lower grades of all kinds of teas, but that the medium and better grades have not improved. This is but natural, as teas to retail under 15d. per lb. have been practically shut out by these laws. As a matter of fact, the lowest standard is fixed too high. Mr. BROWN is by no means alone in saying that the new laws have the undesirable effect of shutting out certain grades of low, but absolutely *pure* tea. The members of the Standard Committee are said to believe that better teas can be produced by compelling more care in manipulation of leaf, without increasing the cost; but, although the belief may be reasonable, it is scarcely so that the American Government should thus attempt to control and direct the systems of manufacture of Indian, Ceylon, Chinese, and Japanese tea makers. From Mr. BROWN'S remarks we might almost infer that the laws have not acted according to the anticipations of the above Committee, but have produced unlooked-for effects, in causing retailers to push low-grade coffees in lieu of low-grade teas. This, of course, constitutes a fresh obstacle to the development of the tea trade in the United States.

It would seem from this that Ceylon and Indian planters would do well to try to get the tea-standard laws reconsidered—unless, indeed, they think that the low-grade teas excluded are not Indian or Ceylon leaf. Even were this so, the policy of "legislating against the poor man's pocket," as Mr. BROWN terms it, is unwise; and planters would be equally unwise not to endeavour, in every legitimate way, to push the lowest, as well as the finest qualities they produce. The America Stakes are well worth entering for. The predilections of the people would seem to lean towards Coffee; the effect of a conversion of coffee-drinking America into tea-drinking America would be very far-reaching. It is as much the duty of tea-planters to attack the American position as of coffee-planters to defend it, and we trust that "South Indians" representing both industries will help to fight the great battle, without in any way disturbing the harmony that at present exists between "tea" and "coffee" in this part of the world. "Every man for himself" is a just motto, and, if it is fairly applied, there is no room for complaint. Coffee-planters know the present value of the American market; tea-planters have now learnt to appreciate its potentialities. Our present remarks are specially addressed to the latter. Encouragement will be found in Mr. BROWN'S remarks and in those of Mr. THOMAS of the Montgomery Auction and Commission Company, also of New York. Encouragement should not be needed, however. Figures have already told their tale, and there should be no need to impress upon planters the desirability of pushing their into the American market in every legitimate way.

The present course of demand for this or that parti quality cannot be taken as a criterion for a whole year. it is well to note particularly Mr. BROWN'S remark that, the country is prosperous, the mass of shoppers are loo for a good article at a low price. Stocks of the lo grades of tea having been depleted, demand turns of n sity to the next lowest grade available, and it is added as the demand for months has continued so constantly teas at a price, the better grades, being neglected, lessened in value. This may appear to contradict prev allusions to the fact that *quality* is more thought of than formerly the case. But we take it that Mr. BROWN m that American buyers want good, and pure tea, not that e buyer wants the finest quality to be had! Naturally, a buyer, wholesale or retail, wants the best quality that ca had at the price he is willing to pay. On the whole gather from the reports before us that stocks of teas in A rica are healthily small, that demand has a tendenc expand rather than shrink, so long as a good article is off at reasonable figures, and that good medium qualities perhaps the safest. We are led also to think that the ma between wholesale and retail prices of coffee is much sm than is the case with regard to tea. This inference ma wrong, but we are induced to think that at the present coffee gains largely from the smallness of the cost of distr tion, and from the manner in which low sorts are use bring down prices. This is a matter to which the In Tea Association and the Planters' Association of Ce might devote a little attention. Reduction of cost of di bution is one of the chief factors to be considered w expansion of trade is the problem to be solved.

WAREHOUSE CHARGES AND THE WEIGHMI OF TEAS.

As one consequence of the great Tea Fight a flood of has been thrown on the subject of London Charges, and general feeling of planters will probably be found t that expressed by the *Ceylon Observer* in these words "Though the tea fight is over for the present the e settlement of the new trade conditions is yet far from attain At the outset, when the question of charges was raised, it difficult to ascertain exactly what these charges were. tain leading features, such as the 1-lb. draft, were known the trade generally, but a great deal of mystery obsc some other warehouse regulations. As importers are li to form an association of their own now, it is to be ho that these questions of weighment and warehouse charges soon be fully threshed out. They should be taken up, h ever, by importers and dealers jointly. There can be possible advantage derived in the long run from a strug between the two. What is wanted is a complete understa ing between them, and we are of opinion that both parties ready and willing to arrive at this on lines of justice. So of our readers may think they have heard enough about war already—"let the dead past bury its past." But a c ful study of some remarks from the *Investors' Review*, on another page, will convince most of our readers of value of a glance back over the history of the brief strug and of reflections over the blunders that were perpetra

ain, under the heading of "The Recent Tea Dispute," we te some interesting comments by importers on the pro- ed settlement that is expected to come into force on the l proximo. We cannot but feel that a careful study of the er in the light of the wise advice given in the former would efit all planters who intend still to move for a revision of ndon warehouse charges. Probably, importers have now lised some of the perils that attend a disorganization of rkets, and have learnt to regret having lately set in move- nt forces they were powerless to control. At any rate, y will be well advised if they now settle down to a careful dy of the situation, and when they have decided what nges are desirable, consult with dealers and try to gain ir aid in the attempt to bring such changes about.

IMPORTS OF COFFEE INTO THE UNITED STATES IN 1899.

The United States Bureau of Statistics reports the total orts, exports, and net imports of coffee for the past two rs, ending June 30, 1899, as follows :—

	1898.	1899.
orts	870,514,455	831,820,340
orts	18,823,371	30,070,195
Imports	851,690,084	801,750,145
ue	$62,674,181	$52,369 360
ue per pound	7.3-10c	6.5-10c

The imports are from the following countries :—

	Pounds.
zil	628,417,812
er South American Countries	90,332,351
tral America	45,298,800
ico	27,324,827
t Indies	11,701,201
t Indies	10,498,299
ted Kingdom	4,465,795
er Asia and Oceanica...	5,290,164
herlands	3,655,2~9
many	2,138,780
ca	642,003
ace and other Europe...	482,979
other Countries	1,572,041
Total ...	831,820,340

e above figures are not very encouraging to Indian plan- s. It appears that over 75% of the supply came from zil, and from all South America 86¼%. The "East Indies" tributed only 1¼% and the term includes the *Dutch* East lies. It is well known, indeed, that Java Coffee is, nomi- ly, a great favourite in the United States ; but, like the Mocha" of England the "Java" Coffee of American trade braces many varieties. There is in fact a world of sug- tion in the remarks of the *American Grocer* on the above ures :—"The East Indies supplied 1¼ per cent. of the l imports and yet good Java Coffee is sold in every gro- y store." As our contemporary observes, the statistics given icate that any shortage in the Brazil crops means a sudden ance in prices. Unfortunately, however, there is no pre- t indication of shortage. "A crop disaster is the contin- cy that will make a full market. It is not in sight for current crop year." Brazilian Coffee is something like zilian Paper Currency—burn a considerable percentage of and the value of the rest would probably rise sufficiently revent any loss from falling upon owners. But only when the verge of bankruptcy could Brazilian planters be expect- to resort to the drastic methods of currency reformers.

"MUTATO NOMINE."

The *Ceylon Observer* reads the Government of Ceylon a lecture on its apathy in regard to the scientific aspect of planting. Well might we turn upon the Government of Madras, say *mutato nomine de te fabula narratur*, and then declaim in like manner, and with emphasis. In Ceylon they have tea-pests in full bloom, so to speak ; they are feeling the effect. The present blights are, the *Observer* is informed, steadily spreading through the planting districts, and as our contemporary says, "if they get a firm hold, it will mean a great deal to the colony, and the Government as well as the planter will feel the sad effects." The ravages of leaf-disease in coffee in Ceylon have not been forgotten. The memory serves as a standing lesson as to the need for prompt action when pests and blights threaten in seeming force. In Madras also, many planters have suffered, and, although the Govern- ment has certainly assisted them to a small extent, it still refuses to give the agricultural industry the assistance of a permanent scientific expert. A botanist has been appointed, certainly, and from the fact that his main work hitherto has been with respect to sugarcane-diseases, we judge that he may, at some future time, be allowed to bestow some attention upon tea and coffee. But the appointment of one scientist is not enough for a Presidency like that of Madras, nor is the botany of the Presidency by any means the section that most urgently calls for scientific study. Financial difficulties are decreasing now, and we trust that the Government of Madras will shortly take into serious consideration the question of establishing a well-organized scientific department. There is an admirable model in the United States, and something of the same kind, on a reduced scale, would no doubt prove very valuable here.

THE STATISTICAL POSITION OF COFFEE.

Messrs. Enrique Cortes & Co., Ld., give, in their circular dated 4th ultimo, some interesting statistics regarding coffee. The total production of the world is shown as follows :—

	Bags.
1895-96	10,355,000
1896-97	13,605,000
1897-98	16,780,000
1898-99	13,365,000
1899-1900 (estimated)	15,285,000

This upward tendency of production is contrasted with the downward movement of prices, as instanced by the rates obtainable for Santos Coffee year by year in the month of June—

June 1895	95·25 francs per 50 kilos.
1896	75·00 „ „
1897	47·75 „ „
1898	37·50 „ „
1899	34·25 „ „

showing a fall of about 65 % in five years. Visible supply on the 30th June in each year is shown thus :—

	Tons.
1895	182·980
1896	150·320
1897	238·540
1898	324·720
1899	368·160

The steady accumulation of stocks has exercised a very strong influence on prices, as will be seen from the quotations

already given. Still, sales have also increased, though not as rapidly as supplies. Sales in the principal markets of Europe and the United States are given as follows :

	Europe.	U. S.	Total.
	Tons.	Tons.	Tons.
1895	400,320	260,880	661,200
1896	435,630	267,900	703,530
1897	468,710	318,170	786,880
1898	500,170	342,510	842,680
1899 (six months) .	235,260	187,260	422,520

It can only be concluded that a considerable portion of these sales was really *speculative*, and did not involve the passing of stocks into consumption.

BOARD OF TRADE RETURNS.

JULY, 1899.

The Board of Trade returns for July show, on the whole, further expansion of trade ; but the figures relating to the products in which our readers are chiefly interested, are not altogether satisfactory.

Cocoa (raw) was sent forward very largely, completely out-running the deliveries, and putting the stock in bond nearly on a level with that of last year.

In the first seven months.	1899.	1898.	1897.
Imports .. lbs	33,093,709	31,461,836	25,846,573
Home consumption ,,	21,483,215	18,945,205	16,755,850
Exports ,,	6.765,164	6,595,206	8,385,807
Stocks in bond ... ,,	20,655,000	20,692,000	24,857,000
Value of imports	£998,794	£965,285	£618,168
,, exports	211,772	211,447	221,684

Cocoa (prepared), on the contrary, came to hand and was distributed in stinted quantities, and the bonded stock remained scanty.

In the first seven months.	1899.	1898.	1897.
Imports ... lbs.	3,029,915	5,134,088	4,647,263
Home consumption ,,	3,249,579	3,568.854	4.263.499
Exports ... ,,	465,130	360,339	288,050
Stocks in bond ... ,,	635,000	1,602,000	177,000
Value of imports	£288,570	£369,002	£326,955
,, exports	50,390	39,394	32,840

Coffee.—The receipts were again rather heavy, and in the stock on the 31st ultimo there was an excess of 184,000 cwts.

In the first seven months.	1899.	1898.	1897.
Imports ... cwts.	831,880	742,500	611,408
Home consumption ,,	157,417	151,939	149,293
Exports ... ,,	341,919	334,967	258,302
Stocks in bond ... ,,	641,000	457,000	294,000
Value of imports	£2,928,853	£3,065,924	£2,836,744
,, exports	1,203,104	1,309,269	1,120,812

Chicory.—Here there was not much difference to [illegible] excepting that the stock fell away somewhat.

In the first seven months.	1899.	1898.	189
Imports ... cwts	53,331	56,315	5
Home consumption ,,	44,822	47,099	4
Exports ... ,,	316	327	
Stocks in bond ... ,,	16,000	17,000	1
Value of imports	£25,349	£24,049	£2
,, exports	362	327	

Tea.—Very considerable imports took place whils[t] clearances generally were at a diminished rate, and the [stock] was greatly enlarged.

In the first seven months.	1899.	1898.	189
Imports—China ... lbs.	14,055,264	10,900,711	11,11
,, British East India ,,	42,849,586	40,911,832	40,22
,, Ceylon ... ,,	61,632,343	60,553,288	63,19
,, Other countries ,,	5,811,770	4,731,726	4,31
Total imports ,,	124,348,963	117,097,557	118,84
Home consumption—China lbs	9,943,184	8,688,588	10,45
,, ,, B.E.I. ,,	77,388.906	76,127,862	71,85
,, ,, Ceylon ,,	46,598,588	48,079,216	48,22
,, ,, O.C. ,,	4,225,101	2,764,789	2,12
Total ,,	138,155.779	135,660,455	132,65
Exports—China ... lbs.	6,085,925	9,061,288	12,26
,, British East India ,,	3,433,508	3,769,971	3,02
,, Ceylon ... ,,	6.392,412	6,597,202	6,06
,, Other countries ,,	360,725	752,130	59
Total ,,	16.272,570	20,180.591	21.94
Stocks in bond ... lbs	69,026,000	61.027.000	65,28
Value of imports	£4,600,929	£4,525,144	£4,61
Of which British Indian ..	1,631,185	1,634,405	1,63
,, Ceylon... ...	2,250,006	2,312,516	2,42
Value of exports	718,838	824,469	88

TEA FROM SEED TO CUP IN SOUTHERN IN[DIA]

(BY THOMAS BROWN, GLENDALE, COONOOR.)

XII.

BUILDING MEMOS.

Estimate for Corrugated Iron Roof for 100 sq. ft.

	RS.	A.	P.
*2 c. ft. Kulkilinjee wood As. 8 @ (wood sawn on estate)	1	0	
Cwts. 1-0. 14 corrugated iron 24 G. @ 14	17	0	
Carpenter hire	2	8	
1,000 tiles delivered Coonoor	4	0	
Tiling Rs.1-8, chunam Rs.1/4	2	12	
Contractor's profit, screws, etc., etc.	5	12	
Total ...	33	0	

* For a single 100 feet, an extra c. ft will be needed

Estimate for Glazing a Verandah per sq. ft.: -

				RS.	A.	P.
¾ sq. ft. glass As. 5 @ per foot ...	...	..		0	3	0
¼ sq. ft. teakwood ½ inch thick ...	...	...		0	2	0
Carpenter hire ...	...	...	...	0	3	0
Putty, screws, etc., etc. ...	...	...		0	0	6
Contractor's profit ...	...	...		0	1	6
			Total ...	0	10	0

Estimate for Glazing a Verandah.

Articulars.	No.	Meas. L	B	H.	Contents.	Coonoor Estimate. Rate.	per	Total Amount.	Our Estimate. Rate.	per	Total Amount.
						R. A. P.		RS. A. P.	R. A. P.		RS. A. P.
om Wall —											
ırnt brick											
d mud ...	1	28¾	2¼	9"	48⅜	20 5 0	100	9 14 4	20 5 0	100	9 14 4
tering same											
th sides ...	2	28¾	2⅝	.	104¼	6 4 0	100	6 8 3	6 4 0	100	6 8 3
lled win-											
ws, doors,											
ss, etc. ...	1	28¼	5½	...	158⅛	1 4 0	1ft	197 10 6	0 10 0	1ft.	98 13 3
le varnish;											
tside paint.	...	...	...	...	445½	2 0 0	100	9 0 0	2 0 0	100	9 0 0
lries ...	.	...	...	...	...	... ..	...	0 14 11	... ...	...	... ...
Total...								224 0 0			124 3 10

Estimate for erecting a Covered Passage between two Buildings:—

Articulars.	No	Meas. L	B	H.	Contents.	Coonoor Estimate. Rate.	per	Total Amount.	Our Estimate. Rate.	per	Total Amount.
						R. A.		RS. A. P.	RS. A.		R. A. P.
vating											
ndation ...	1	10	1¼	1¾	22	... ...	...	... ...	... ..	...	... ...
Do. ...	2	5	1¼	1¾	22	... ...	...	... ...	... ...	...	... ...
Do. ...	1	11	1¼	1¾	24	... ...	...	... .	... .	...	... ...
					68	0 6	68	0 6 0	0 6	68	0 6 0
dation											
d & rough											
e) ..	1	31	1¼	1	40	6 4	100	2 8 0	4 0	100	1 9 6
nent ...											
ck and											
tar) ...	1	31	1¼		28	25 0	100	6 4 0	20 0	100	5 9 6
and posts,											
kilinjee											
ses											
ght and											
up ...					c.ft. 17-3-9	2 0	1c.ft.	34 9 6			
ng, corr.											
. tiles, etc.	1	14 ×		6	84	..	...	... ...			
)o. ...	1	10 ×		4½	45	...	...	... ...	30 0	100	53 6 6
)o. ...	1	13 ×		4½	49	...	...	... ...			
					178	35 0	100	62 4 0			
shing or											
ting ...					250	2 0	100	5 0 0	2 0	100	5 0 0
ries ...					...	...	...	1 12 6	...	...	1 12 6
Total...								112 12 0			67 12 0

THE PARIS EXHIBITION.

NO PACKET TEA.

It appears that the sale of packet teas at the Paris Exhibition is interdicted, on the theory, we believe, that sales would tend to deplete all courts, and there would be little left at the end of a few months. The authorities have no objection to the booking of orders at the exhibition, but they will not permit sales. It would appear easy so to arrange matters that depletion of stocks would be guarded against; but, if the authorities stand firm, nothing can be done in this direction. The Planters' Association of Ceylon is pressing the matter and has urged that it be pointed out, in applying for the concesssion of the privilege of selling tea in small packets at the Ceylon Tea House: (1) that the tea can be made up in packets on the Exhibition premises in view of the public; (2) that this arrangement will in no way deplete the court of its exhibits. Of course, unless packet teas are made up from actual exhibits, there will always be room for a doubt whether the packets contain the same quality as that exhibited. There are two courses open, however, *viz.*, (1) to see that every exhibitor provides for the prompt replacement of teas sold, and, (2) as an alternative, to allow sales to be made out of packages not included in the exhibit.

TELEGRAPHIC QUOTATIONS.

London.— September	2	4	5	6
Bar Silver	27 5/16 d.	27 3/8 d.	27 3/8 d.	27 5/16 d.
Bank Rate	3½%	3½%	3½%	3½%
Coffee.	[steady]	...	[quiet]	
Mysore av. (B) size.	51s.	51s.	51s.	
Cinchona ...	[steady]	...	...	
Price per unit	1 3/8 d.	...	...	
Stock, pkgs. ...	19,000	...	...	
New York.—				
Coffee—Fair Rio ...	5⅝	...	5⅝	5½
Futures, Dec. ...	5·98	...	6	6·12
Silver—Comml. Bars ...	59⅛	...	59⅜	59⅜

NOTES.

Calcutta Tea Sales—Average Price. The average price realised at the Calcutta auctions of 18th ultimo was 6 annas 1 pie.

Unprofitable Coffee. According to the *Straits Budget* the Penerang Coffee Co. has resolved to liquidate voluntarily.

Coffee or Tea the cheaper? The *American Grocer* votes for Coffee, saying:—Coffee is relatively the cheaper beverage, and simply on account of too high a standard and a 10-cent duty (for Tea).

The "Agricultural Ledger." No. 7 of 1899 (Veterinary Series No. 28) treats of "The cattle of Kumaon," and is a note by Vety.-Lt. G. K. Walker, Associate, Imperial Bacteriologist, Muktesar, N.-W. P.

The Settlement of the Draft Dispute. The petition to the authorities and the reply thereto are published in our present issue, and show exactly what is

to be done when the Treasury gives its consent. One or two points have still to be settled.

Coffee in Java. It goes worse and worse with the coffee prices, says the *Java Bode*. We must go back to 1885 for a comparison with the present price for good ordinary Java, and then the Government harvested at least 499,909 piculs, whilst it now has to content itself with 195,000, when it can get even that.

Rejected Tea in the U. S. The *American Grocer* states that the finding of the Board of General Appraisers is final in tea-rejection cases. The liquidation of entries covering rejected teas must be made on receipt of notification from the Board of the decision, and the refund of duty withheld until exportation or destruction of tea.

The London Tea Market. Cabling on 31st ultimo, Messrs. Gow, Wilson & Stanton reported a steady market ; fair liquoring Ceylon Pekoe Souchong 6d. ; average for the week 7d. (¼d. up). Of 38,000 packages Ceylon tea offered, 32,000 were sold. Of 41,000 Indians, 36,000 were sold the average being 8¾d.

Exports from Bahia. The following are comparative statistics of certain exports from Bahia in 1897 and 1898 :—

	1897.	1898.
Coffee, tons of 1,000 kilos.	17,836	22,796
Cocoa	7,784	9,087
India Rubber	234	248

A Record Ceylon Tea Average. The "average of the week" recently quoted from London at 6¾d. is said to be the lowest ever quoted for Ceylon Tea. It is pretty clear that the 1-lb. draft war has had at least one result, it has depressed prices very considerably. Planters are now asking themselves, when is the revival to come ?

Advice to American Retailers. Thus the *American Grocer* :—A first-class coffee trade can be secured and held, and a 50 per cent. profit secured, if retailers will get away from the notion of selling low-grade package coffee. Dealers can make their trade in that or any other line exactly what they seek and are willing to work for.

Pure Coffee. Many years ago, a leading London broker declared that an admixture of Chicory helped the sale of Coffee. Coupling this with the remarks of an American "chicory man," quoted on another page, we must admit that there is some doubt whether sales of pure coffee would necessarily lead to increased consumption of the bean.

Increasing Supplies of Coffee. The Brazil crop, 1898-99, totalled about 3,200,000 bags Rio and 5,550,000 Santos, together fully 8,750,000 bags. The general opinion regarding the new crop is that there will be 3½ to 4 million bags Rio and 5½ to 6½ million Santos, or, say, 10,000,000 bags, more or less, for both ports.

"Arabian Nights Coffee." This brand is being offered by a New York firm at 16½ cents per lb., so that the retailer may sell at 25 cents and make a handsome profit. It is "in the whole bean, roasted." The price is equivalent to about 77s. per cwt. of *roasted* coffee. If similar rates were generally charged in England, we might look for an increased consumption of coffee in that country.

Fancy Tea. At last week's sale in Colombo Mr. A. H. Barber, of Messrs. Forbes and Walker, put up for sale one box of Silver Tips containing 2 lbs. and one box of tips also containing 2 lbs. After some competition the Silver Tips were purchased by the Ceylon Produce Company at Rs.8. per lb., while the tips were knocked down to Messrs. Bois Brothers at Rs.7·50 per lb. Both the boxes of tea were from Bargany estate.

Plant Diseases. Mr. George Massee, F.L.S., of Kew, has published a Text-book of Plant Diseases caused by Cryptogamic Parasites, by George Massee, F.L.S., London : Duckworth & Co. The *Speaker* observes that "the English farmer and the West-Indian planter, the Florida orange-grower and the owner of tea-gardens in Assam, ought each and all to give a hearty welcome to a book full of sound science and helpful information."

The Pollination of Clover. An interesting experiment made in America recently goes to establish the soundness of the old theory that the bumble-bee is about the only insect that can perform the act of pollination for the common red clover plant, to any extent that could be considered of economic importance. At least it demonstrates that insects are necessary, and we know that bumble-bees are the principal workers in the pollination of clover blossoms.

Coffee in Queensland. The *Sidney Morning Herald* of 2nd ultimo states :—Mr. Newport, the Coffee Expert attached to the Department of Agriculture, arrived in Brisbane to-day from the north. He speaks very hopefully of the coffee prospects there. The area under cultivation has very greatly increased during the year, principally in small areas. Mr. Newport considers that hitherto it has been costing growers too much to produce coffee, 6d. to 6½d. per lb. instead of 4d.

The Sugar-Coffee War in the U. S. This still goes on, and the American Sugar Company with its "ally" (or subsidiary) the Woolson Spice Company continues to wage war against Arbuckle Brothers. Refiners are said to be making money rapidly, and there is no doubt that improved methods of distribution and enhanced competition have depressed retailers' prices and thus stimulated consumption. It would be a good thing if the British public could arrive at some similar end by pleasanter means.

Ceylon Tea Sale. At the Colombo sales last week about 10,435 packages=777,392 lbs. were offered, of which about 8,976 packages=676,314 lbs. were sold. The *Times of Ceylon* says : Owing chiefly, no doubt, to the better quality generally of teas offered at to-day's auction, prices were very firm and, in many instances showed an advance on previous offerings, competition being keen throughout for all grades. Good invoices were offered from Mansfield, Devonford, Monkswood, Middleton, High

Forest, Polatagama, Pallagodde, Dea Ella, Stamford Hill, Mocha, St. John's, Agra Ouvah, Glasgow, Warleigh, and Mount Vernon.

Brazilian Finance. Meeting a statement of the *Financial News* that Brazil "is a defaulting State," the *Brazilian Review* remarks:—The Republic has been obliged to default, that is, to suspend specie payments for a time in the hope and with the honest intention of sparing no effort to renew them at the stipulated date. It is and always will be a cause of regret and chagrin to a country that always carried out its engagements so faithfully until circumstances, partly, it is true, of its own contriving, made it impossible; but it is no more bankrupt than England was in 1797, nor less likely to honor all its engagements to the letter in the long run.

Coffee Roasting. Messrs. Van Leckwyck. *L'Encyclopedie contemporaine* recently had an interesting account of the great roasting business which sprung from small and humble beginnings in 1863 by dint of indomitable perseverance and enterprise, is now one of the most important in Europe. Some idea of the great scale on which this business must be carried on can be gathered from the engine which is 150 H. P. and moves machinery sufficient for treatment and roasting of 15,000 kilos *per diem*. At both of the last Antwerp Exhibitions Messrs. Leckwyck obtained gold medals in recognition of the excellent quality and aroma of their products.

The Consumption of Coffee. The following remarks of Messrs. Duuring and Zoon should be carefully pondered:—"Efforts are being made to stimulate consumption and to constitute an association to that purpose. It seems to us, that one might as well save the trouble and expense, there being but two ways, viz., good quality and low prices. We are not sure whether low prices will quite suit the promoters. It is no doubt a rightful wish, in which the trade shares, to see values more in accordance with the cost of production; but this can only be realised by curtailing production, if possible, but at any rate by not extending it, until overproduction should have disappeared. It is no good trying it otherwise.

Tea in the U. S. The Tea Association reports the statistical position of tea in the United States on June 30, 1899, as follows:—

	Pounds.
Imports, June 13 to December 31, 1898	47,260,196
Exports, June 1 to December 31, 1898	890,671
	46,369,525
Withdrawals	17,508,963
Amount of tea in warehouses December 31, 1898 ..	28,860,562
Imports, January to June, 1899	28,663,798
	57,524,360
Withdrawls, January to June, 1899	31,426,027
Stock in warehouses in U. S. June 30, 1899 ...	26,098,333
Stock in N. Y. bonded warehouses June 30, 1899 ..	19,089,363

Co-operative Buying! The leading wholesale grocers of Toronto, Hamilton, and London, (Ontario,) have united their forces and made application for a charter for a company that will act as a purchasing agency for the firms in the combination. The headquarters of the new company will be in Toronto, and the new company will act as brokers and agents in the purchase of goods for the wholesalers It is expected that the purchase of goods in immense quantities by one buyer, instead of in small quantities by each of the firms, as at present, will greatly reduce expenses. How excellent a thing it would be if producers could but bring about genuine co-operation in regard to sales—on a very large scale. But they cannot even work quite harmoniously together in respect of a pound of tea (draft).

Brazilian Coffee. In a report, dated 21st July 1899, the *Brazilian Review* observes:—"Entries at Rio and Santos for the week ending July 21 show a very heavy increase, being nearly double both of the previous weeks and for the corresponding week last year, the increase compared with last year being 107 5% at Rio and 92% at Santos. Allowing for one day more last year comparative entries for the new crop (since 1st July) are 400,730 greater than for the same period last year or more than seven times as great. Coffee may be expected down in an increasing quantity, as planters seem to have at last got it into their heads that, what with rising exchange and enormous stocks, there is no resisting the fall and orders are coming to sell at any price. The heavy traffic on the Leopoldina Railway which, on Friday last registered its record, is chiefly derived from coffee, all the stations of this line being stated to be full of coffee waiting to come down. The weather continues good and favourable for forwarding."

The Need of Scientific Aid. "Rambler" lately wrote to the *Ceylon Observer*:—I am not sure that sufficient prominence is given by the Press and by our public institutions to the prevalence of blights and the activity of insect pests on our tea fields, in urging on the Government the appointment of a Cryptogamist with special reference to the needs of cacao. The case for a permanent specialist is much stronger now than when Mr. Carruthers was first brought out to the island, or when the Government consented to bear half the cost of his investigations. Had there been a Ceylonese Association of any influence in existence, it would have pointed out that the natives are more largely interested in agriculture—both as regards acreage and value—than the European planter; and that cocoanuts and paddy are not exempt from agricultural ills. But the Government is supposed to be the special guardian of native agriculture, and should wake-up.

Queensland Coffee. The following paragraph is having a free ride round the world in newspaper columns:—"The cultivation of coffee on the northern coasts of Queensland is stated to be becoming an important industry. The Government of the colony have appointed an expert to give technical advice to the growers. His headquarters are at Cairns, the centre of the coffee-growing district, and he travels about visiting the settlers and assisting them in the growth of the plant and the preparation of coffee for the markets. Locally-grown coffee is very generally used in Queensland now, and an agitation has sprung-up for the imposition of an increased duty on the imported article. Growers are said to be making preparations to export to London coffee in a ground

and tinned condition." We need only add that one Queensland planter is said to have taken to adulterating the coffee he tins. We hope that, if the report be true, his example will not be followed.

Exchange in Brazil.

Reporting on 22nd July, the *Brazilian Review* said: Coffee is now commencing to come in in large quantities, the value of shipments during the week ending July 21 being nearly £213,000. The supply of bills is, therefore, surely rising and will for some months continue to do so and allow speculators to deliver. But, at the same time, it must be recollected that the market has been now "bulling" for some time past and that, although liquidations are effected from time to time, in nearly every instance new sales are simultaneously made. Consequently, a very heavy bull account must be accumulating, to be liquidated some day or another, and unless the resources of the market be supplemented by cover from Europe to be supplied by sale of the Sorocabana Railway or other properties, it is easy to foresee that a slump must come some day or another. When it will come no man can tell, and there seems no reason to expect it for some months, at least until the coffee bills begin to get scarce, and rubber has been thoroughly discounted. Otherwise the real factors are still, we believe, favourable for the time being. Imports seem to be increasing but very slowly and great activity to be shown in exports.

Green Manuring in the U. S.

Writing from an American standpoint, Professor William P. Brooks, of Massachusetts, says that amongst the legumes which may be useful for green manuring, the clovers undoubtedly are most valuable. Of these the most important kinds are the crimson clover, the common red, the mammoth red and the alsike. Among other crops which may be useful are lupines, vetches, the field pea, sweet clover, the cowpea, the horse bean and the soy bean. He also remarks:—Those crops which possess the ability, when grown under the proper conditions, to take free nitrogen from the air will be found much more useful for green manuring than crops not having this capacity. The only crops which possess this ability are the legumes (clovers, peas, beans, vetches, etc). The other crops sometimes used for green manuring have no capacity actually to increase the store of plant-food in the soil. They may conserve or, in other words, prevent in some measure the loss of soil nitrogen, may increase the store of humus in the soil, and make the stock of plant-food therein more available. They cannot increase by a fraction of an ounce the total amount of either nitrogen, phosphoric acid, or potash.

New Ceylon Tea Companies.

The *Galkandewatte Tea Co.* was registered on August 2nd, with a capital of £21,000 in £1 shares, to acquire lands and buildings in Ceylon or elsewhere, and in particular the Galkandewatte Estate, in the Dimbula District, to adopt an agreement with J. Tilly and J. D. Ellershaw, and to carry on the business of planters and growers of tea, coffee, cocoa, and other crops. The number of Directors is not to be less than 2 nor more than 5; the first are J. Tilly and J. Ellershaw, senior; qualification, £500; remuneration, £50 per annum dividend, Registered office, Howard Chambers, Mill Street, Bedford. The prospectus of the *Henford Tea Company, Ld.*, the formation of which has just been announced, states that the first Directors are Messrs. C. W. Wallace, J. L. Shand, Eric S. Anderson and Wm. J. Keymer; and it adds that Mr. George Beck, the Vendor, desires to retire after his residence of thirty-eight years in Ceylon, but the present local management of the tea estates will be retained, and the Hon. J. N. Campbell will continue to be visiting agent and local auditor to the estates as before. The profit last year, in spite of unfavourable weather, would still have been sufficient to pay the cumulative preference dividend and seven per cent. on the ordinary shares, after allowing for all expenses, including directors' fees and depreciation on building. The certified profits for the three years have averaged £5,875.

Tea in the United States.

Mr. Davis, of the firm of Messrs. Russell & Co., tea importers and dealers, was interviewed in regard to the present position of the tea trade, and, as they are doing a very large country and out-of-town business, it is thought that they are perfectly qualified to speak on the business of the tea trade in general. "With perfect fairness to the trade I may say that we are experiencing a fair demand for teas," said Mr. Davis, "though the fourth and the surrounding holiday did certainly stagnate business for a few days. This inactivity has, however, now passed away, and what, with the impending sale, which, I must say, will, I think, be fully attended, and the general outside demand for new crops has put quite a little vitality into the tea market. I think that the new Formosa samples now on the market show somewhat an improvement in quality and style over last year, though the year before displayed better quality over most production, with the exception of the year 1898, which was an exceptional crop. So far as English breakfast teas are concerned, I can say little about them, with the exception that they are not selling so freely on this market as they are in the East, as there are many buyers on the spot waiting any break in prices to snap up any stock offered at lower prices; therefore, it is feasible to suppose that these will be held pretty firm for some time to come. Pingsueys, Japans, and Country Greens are being firmly held, and prices for these are continuing firm, and the manner in which they are being held seems to demonstrate the fact that an advance is possible in the near future. Altogether I would say that the position of the leading lines is extremely bright, and the day is not far distant when we may see a considerable increase both in business and prices."

GENERAL ARTICLES.

CHICORY IN AMERICA.

The demand for Chicory during the last sixty days has increased to such an extent that the price for the manufactured article has advanced from 3¼ cents to 4¼ cents @ 4½ cents, and manufacturers are unable to cope with the orders daily coming to hand even at the higher figures. This is due to the scarcity of the raw material. Mr F. E. Blume, the New York representative of the American Chicory Company of Omaha, says: "Our Company are now about 150,000 pounds behind our orders for the eastern markets alone, and additional orders are being accepted daily with the proviso that buyers will receive goods only per ratio. This points strongly to the possibility that the coming season will be a record one which in itself is very surprising considering the present price of pure coffee. I attribute this to the fact that habit has become

the better part of nature in many people who have for years mixed chicory with coffee, so that now they would not consider pure coffee as good as that mixed with chicory. It simply suits the palate of the people and this can be further demonstrated by the fact that most of these dealers who have used the goods of the American Chicory Company are loth to change to any other make. Though this Company have only been operating in the east for a little more than a year and previously were quite unknown in the eastern market, it is somewhat a credit to myself and my Company when I can say, without question of contradiction, that close upon one million pounds of the American Chicory Company's productions has been sold right here in New York during the last year. In fact the demands of the east have been so large that my Company have been obliged to erect other premises and put in additional machinery of the newest kind in order to cope with the orders now in hand and those expected."

"This letter just received from the west says that the coming crop of chicory root which will be harvested in the latter part of October shows that it will be very inferior. Unfortunately the crop was not planted until three weeks after the usual time, April 1st, owing to the very severe weather, therefore the lateness of the planting together with the extreme dryness of the season it is predicted the output will be extremely small and in poor shape." —*American Grocer.*

THE RECENT TEA DISPUTE.

Comments, by some importers of Ceylon teas, on proposed settlement of tea dispute, as given in the Joint Committee's Circular No. 17, dated 2nd August, announcing an "agreement with the Buyers' Association" as a settlement of the question of the abolition of the 1-lb. draft on tea, to come into force 2nd October.

No. 1.—1-lb. Draft to be allowed as heretofore—the first stipulation!

No. 2.—Gross weights to be taken and recorded as at present.

That is, ounces above a number of pounds to be ignored; *e.g.*, 77 lbs. 14 oz. gross will still be recorded as 77 lbs. only.

Alteration in weight of tares as follows:—

Clause a.—If the empty package weighs the even pound it is to be entered as such.

Clause b.—If it weighs the even half-pound or over, it is to be entered as the next pound above.

Clause c.—If it weighs below the half-pound, it is to be entered as the pound below.

This will be a gain to some growers to the extent of, perhaps, ¼ lb., as hitherto 1 oz. extra has counted as an additional pound in tare weights.

Clause d.—No "overtakers." No explanation of this Clause.

Clause e.—Boxes to be weighed and tared as heretofore to the pound weight.

Clause f.—Increase of number of tarers for factory bulked Teas as agreed upon.

Any increase of number of tarers (at present it is 1 in 10, or 10%) means increased cost of turning out additional packages and increased risk of the tares taken varying more than the Customs, limit of 2 lbs., necessitating the whole break being tared separately.

The Joint Committee might have said who called for the change, and in whose interests. It seems only in the interests of the warehouses.

Clause g.—If parcels are bulked in London separate tare must be taken of each package.

At present "Average Tares" taken are allowed to stand, even though the teas be afterwards bulked.

The change will put an end to the advantage gained by having average tares taken of London bulked teas, and will increase the charges considerably.

Teas which are not estate bulked or are insufficiently bulked on the estate and require bulking here will, in future, under the new regulations, incur an extra charge of 5d for chests and 4d for half-chests, for cost of separate taring, thus increasing warehouse charges 10 per cent., and costing the garden extra about ⅝ per cent. on value of tea

No reason or explanation is given for this new heavy charge, or any hint why the change is made. It seems made in mere wantonness or in crass ignorance of the trade. The tea buyers will not gain; the tea producer certainly loses; but it will put money into the pockets of the warehouse-keepers. It is, at all events, difficult to see why "the Joint Committee," supposed to be acting in the interests of tea producers, should now insist on a separate tare being taken of each package (*e.g.*, in a case of a tea shipment in Venesta or other packages running even and weighing exactly the same), except to increase warehouse charges. The estate proprietor, to avoid the increased charge, will have to bulk on his estate, whether he considers that desirable or undesirable, and in many cases will have to increase his factory accommodation at some cost. It will fall heaviest on those who can least afford it; and after the outlay has been incurred to enable factory bulking to be carried out. Tea buyers who have paid too much may dispute the factory bulking; and the cost of bulking and taring will still fall on the tea producer.

The questions arise—who is this Joint Committee, and who appointed it to deal with the alteration in weight of tares?—and as there is a Tea and Produce Committee of the Ceylon Association, why was not that called together to discuss a matter so affecting it, and, further, is this agreement binding in any way or degree on Importers of Ceylon Teas?

If the Ceylon portion of the Joint Committee are now in some way authorised to bind Importers of Ceylon Produce, without consultation or asking their assent, cannot the Ceylon Association be at once called together to withdraw the authority before the Committee perpetrate further mischief on the Ceylon Trade.—*Ceylon Observer.*

TEA AND COFFEE IN SYDNEY, N. S. W.

A correspondent remarks in the course of a letter to the *Ceylon Observer* from Sydney:—

To-day I also saw the manager of Messrs. Augustus Morris & Co, of Bridge St., who are the agents for

COOMBEWOOD ESTATE,

though, of course, they deal in other teas as well. That gentleman informed me that for the last four years Ceylon tea had fetched a higher price and for that reason they had to go back on Chinas for blends, though for blends of quality they would always want Ceylon tea. The best tea could be purchased retail for 2s, but the more popular prices were from 1s 3d to 1s 6d. His firm bought tea both in Sydney and direct from Ceylon, which they shipped by the Orient and P. & O. boats, but he could not find anything better than Coombewood on the Sydney market. The duty at present was 1d per lb., but he would be pleased to see it at 3d, as they could then charge it direct to the consumers, and such a duty would be a restriction on hawkers, who at present buy tea and sell it up and down the country. He attributed the heavy demand upon Ceylon tea at present to the large supply that was being sent to Russia, and told me that what he paid 6d for two years ago, he could not now get for 8d. Ceylon teas were sold by auction every fortnight, but Chinas only about once a year, when the new teas came in, and there happened to be one that day.

I asked whether the Ceylon planters made the tea as the Australian public wanted it and he replied: "You cannot imitate any one, but everybody is imitating you. China is now adopting your methods with regard to machinery." I asked whether he thought it likely that China would again get hold of the market, and he replied that Ceylon teas would always be the favourites and would be required for general purposes as people now were looking for them.

They were all black teas on the Sydney market, and they got up to a certain standard but did not get the highest grades as they could not pay the high prices the English market did.

I then accompanied my friend to the tea sales at Messrs. Fraser, Uther & Co., and on the way he told me he had been connected with the tea trade for eight years. There was a good deal of competition, and the middleman did not make the profits, which are sometimes attributed to him, besides having to bear expenses incident to his branch of the trade.

While waiting for the auction to begin, I was introduced to Mr. Black, a broker, as one who knew something about the tea market. He endorsed the views Messrs. Morris & Co.'s manager held respecting Ceylon, and said that even Indians would not come up to their standard. Very little was done with the latter in Sydney. There was a strong body in their tea, but it could only be used for

blending with Ceylon, though he made an exception of Darjeelings, which he said was the best Indian tea, and had a soft flavour

I asked him to mention the best Ceylons, and he singled out Naseby, Agra Ouvah (though it was too expensive for this market the price being 1s 2d and very few firms will pay that price) and Glasgow. In fact, said Mr. Black, the public are being brought round more and more to Ceylon teas every year, and do not care about China, and I really think that before long fine Ceylon teas will be pretty well the only teas sold in Australia.

Mr. Black was also favourable to a duty of 3d or 4d. which would keep rubbish out of the country. Poor quality tea was at present bought as the profit was greater on blends with it, than if confined to fine teas only, but he did not think there was much rubbishy tea sold now.

CEYLON COFFEE TOO DEAR.

Mr. Black also deals a little in coffee, but, according to his view, Ceylon coffee could not compete in price with the South America Guatemala coffee, cheap grades of which could be purchased at 6d per lb. and the best could be got at 10d and 11d., whereas Ceylon coffee went up to 1s and 1s 1d.

THE PUBLIC SALES.

There seemed to be a larger gathering of the trade, but there was not very much business done, only 2,057 out of 4,316 packages being disposed of, the better teas not being sold. Panyongs realised from 6d to 7d, and Panyong bids 6¾d to 9d. At the end of the sale 170 chests of Ceylons were sold, the prices being, pekoe souchong 7d, pekoes 7¾ and broken pekoes 8d to 9¼d. I learn that Messrs. W. H. Carey & Co. also had a sale at which they disposed of 962 packages of Panyong congous at from 5¾ to 7d. Thirty-two chests of Ceylons also changed hands.

TEA TRADE SQUABBLES AND PERILS.

The struggle in the tea trade over the "draft" question is really one that does not concern outsiders. Buyers and sellers in a particular trade are quite at liberty to settle the terms upon which their transfers shall be conducted, and a great deal of the frothy talk in the papers over this subject is quite uncalled-for. We, therefore, apologise for dealing with the matter upon the ground that the effects of the dispute are likely to gravely affect a mass of British capital sunk in the tea industry. First, we ought to say that in any change of dealing it is advisable that some mode of agreement be arrived at before a move is attempted. Markets are more delicate organisms than many people imagine, and once let the mechanisms of a big trade be disorganised, there is no knowing how things will be twisted before work is resumed. Unfortunately, there was nothing like judicial treatment visible in the events that led up to the dispute in the tea trade. The producers of tea silently banded together, very closely for a body of this kind, and then suddenly presented their ultimatum to the buyers in the shape of an announcement that the "draft" would be abandoned at once. No previous negotiations, so far as we can discover, had been entered upon. The buyers were just informed that if they would not buy without the usual "draft" they must go without British-grown tea, for all the Ceylon and Indian growers were included in the combination. Heroic as this policy may appear to be in the abstract, it does not seem practical business. Doubtless the tea-sellers had some grievances, especially against the big tea-distributing companies, who may have shown a desire to "cut" prices fine as such people "cut" everything they touch or handle. But after all the tea-grower owes much to these shrewd men—and drivers of hard bargains—who have so carried on their business that the consumption of British-grown tea has during recent years progressed more rapidly in this country than at any previous time in our history. Let anyone take thought of what the tea trade was fifteen years ago, when the eminently respectable, but slow and methodical, tea-distributing firms doled out a few pounds of tea to each retail grocer, and left said grocer to do the advertising if he chose; and contrast it with the position to-day of many pushing advertisers, who, under the title of tea companies, insistently set before the public the virtues of their particular articles—always British-grown teas. Who gains by all this shouting and Cheap-Jack literature? Certainly not the retail grocer, who has been forced to buy these very teas to please his customers, and neither, perhaps, has the consumer gained all he imagined; but to the tea-grower all this "bill posting" of the United Kingdom with the marvellous qualities of British-grown tea, and its cheapness, must have brought a larger consumption. His gain is therefore unquestionable.

These considerations, however, do not seem to have had any weight, and the producer has evidently sat down and planned how he could "go for" the distributor. Now there have been two standing grievances, or so-called grievances, with the producer, one of which was indeterminate but real, and the other definite enough, but, as we think, no grievance at all. The first was in the system of weighing adopted by the Custom House, which ignored any weight short of a pound. This fraction was all the more valuable as it escaped duty, and eight ounces thus left was, therefore, equal to a full pound of tea measured by duty paid value. To the tea industry as a whole the action of the Custom House was magnanimous, but to the producer of tea it meant some loss, as a portion of his production went to the buyer for nothing. And this portion being an indefinite quantity, it probably was never allowed for in the price, since the buyer would naturally say that he might only get the exact weight he was buying. The second matter, that of the "draft," was a fixed quantity in so far as it was an allowance of 1 lb. of tea on every package, a deduction experts in the trade consider to average about 1¼ lbs. per 100 lbs., and thus could be exactly gauged in buying. This allowance has been the custom of the trade from the time when tea commanded double or treble its present price, and every buyer who came into the market knew with certainty that when he nominally bought 100 lbs. of tea he received 101¼ lbs. If this "draft" was required to make up loss from "weeping" and other contingencies, the buyer in reality obtained only 100 lbs. of saleable tea, but if it was not needed on that account, he knew that he obtained this fixed advantage, and consequently it would enter into his calculations when he bid for the tea. In either case, the effect flowing from an abolition of the "draft" must be a depression of the price of tea. If the "draft" were actually needed to make up loss in handling, the buyer would henceforth get only 98¾ lbs. of saleable tea per 100 lbs., while, if it were not needed, he would still have 1¼ lb. less of saleable tea than before. Strangely enough, the committee that rules the growers fixed upon this determinate "draft" for their operations, leaving severely alone the undefinable advantage from weighing. Their real complaint, we believe, is that the buyers are too strong; and yet, admitting this fact they put a weapon in the hands of these buyers that will infallibly lead to a further decline in the price of tea.

After all is said and done the chief difficulty of the tea-growers is that more tea is produced than an outlet can be found for without the stimulus of lower prices. For years past the British tea-grower has been adding vast areas to his acreage under tea plants, and he is now reaping the harvest that so laboriously and so heedlessly prepared for. Never before has it been more difficult, when India promises to produce a "bumper" crop, to foresee a return to higher prices for tea; and yet at this very moment the tea-growers as a body have turned the market upside down with their suggested "reforms."

Since the struggle began tea has been arriving from India and Ceylon in larger quantities than were ever known before, and the consequence is that the few weeks of idleness resulting from the struggle has heaped up a stock that will tax the energies of the producers to market without a collapse in prices. So keenly is this recognised that the "presiding genius" of a committee, which has been managing the affairs of the growers, has now gone a step further in the downward path, and gravely proposes that the sales of Indian tea shall be regulated throughout the year. It is a fact that Indian tea chiefly comes to the market between June and January, and it might perhaps be better, in a trade-mill sense, if the sales of Indian tea were spread evenly over the year. Accordingly, the proposal now made is that a committee of brokers—it is always a committee with these gentlemen—be appointed, who shall virtually regulate all the sales of Indian tea, compelling sellers to hold back their tea should the maximum quantity ready for offer of both Indian and Ceylon teas be more than between 65,000 and 75,000 chests in a week. Ceylon teas come in regularly throughout the year, and so this committee that is to be does not claim to control the sales of these as a rule; but just now, owing to the huge stocks, the schemers think it ought to do even that until the block has been removed.

Was there ever more narrow-minded and short-sighted proposal? A big trade like the tea trade cannot be swaddled and rock-

ed in its cradle like a puny infant. With but our slight knowledge of the industry we can imagine thousands of difficulties that would arise from such a policy. And does not the irregularity of the arrivals of tea work as a double-edged tool, as all such circumstances do? If the buyer obtains an advantage from the heavy offerings in the summer months, ought not the seller to obtain an equal advantage from the smaller offerings in the spring? Yet we seldom hear of prices being so much better than that in summer, which shows that this tea trade is borne down by overproduction. A far greater evil is the bad finance of the tea-growing companies, whose balance sheets are so devoid of liquid resources that they have to raise money on every pound of their tea before it is sold. If there were any solid foundation in this last suggestion of the fighting committee, the companies ought to regulate their own shipments so as to prevent this uneven offering of tea. But we know that financial considerations will not allow them to do this and no doubt there are other cogent reasons against such a policy. Still, if the thing is to be done at all, it ought to be done by the companies themselves, for the most Solomon-like of committees could never work such a system of selling without arousing numberless jealousies and heart burnings in an industry that is notoriously subject to such. We write plainly from the point of view of an outsider, but with a strong feeling that this whole agitation is fraught with serious consequences to the tea-growing industry itself. That industry is quite at liberty to arrange its own terms with buyers, but on doing so it ought not to forget that a market is composed of both buyers and sellers, and the less these two bodies are interfered with by regulations of committees, however eminent in their combined talents, the better in the end for all concerned.—*Investors' Review.*

THE NEW LONDON CUSTOMS WEIGHMENT OF TEA.

Mr. H. Drummond Deane writes to the *Times of Ceylon*:—

I would add a few words to my remarks of the 20th instant *re* proposed new weighing. If I understand the new regulations rightly, as per Messrs. Wilson and Smithett's circular, it seems to me more trouble than ever must be taken to *ensure* the tare being *under* the half pound— for instance if it were

	lbs.	oz.
over, say	... 26	10
and tea added	... 100	2
	126	12

as I understand the new system, the unfortunate producer will be debited with a 27 lbs. tare and credited with only 126 lbs. gross?—in this case a loss of 1 lb. 2 oz. to the producer. If the same package is tared properly, say, 26 *lbs* 8 *oz.* or *under*, the tare would be called 26 lbs. the gross 126 lbs. and the nett loss only the tea put in, say, 2 oz. So far so good, but what are we to do with packages over the 8 oz.? They will each have to be planed down at considerable trouble, and in some cases this will mean an inch in difference of size of package, as the discrepancy cannot be made up by an ounce or so of tea *as in the old system*. Again I fear also that our teas will not be accepted as bulked, but all will be turned out to ascertain the tare. This for the eye of Messrs. Wilson and Smithett and London firms in general, in the hopes some arrangement will be made for only taring a small percentage, and if found in order, passing the lot at the invoice nett weight.

Will it be correct and in order if the tea is *packed short* as per the following example, which seems to me correct and in order according to Messrs. Wilson and Smithett's circular:—

Example.	lbs	oz.		Now regulations lbs.
1 chest tare	26	6	=	26
tea	99	10		
	126		=	126 gross
take from the gross				26 tare
and we have				100 lbs. tea.

when only 99 lbs 10 oz. was packed. If there is an error here, I shall be obliged if some one will point it out. If I am right, of course, producers may gain a few oz. on every chest by short packing—which will be a boon to the unfortunate Sir Thomas so lately deprived of his paper monopoly.

THE SETTLEMENT OF THE DRAFT DISPUTE.

The following petition was addressed to the Board of H. M. Customs by the Secretaries of the Indian Tea Association (London), the Ceylon Association in London, and the Tea Buyers' Association:

Ceylon Association in London, 61 and 62, Gracechurch Street August 4, 1899.

To the Honorable Board of Her Majesty's Board of Customs.

GENTLEMEN, We the undersigned, representing the importers of Indian and Ceylon tea, and also the tea buyers of the City of London, ask your kind and favourable consideration of the following petition:—

You are doubtless aware of a dispute between importers and buyers of tea at present unhappily existing in the Port of London.

The importers having given notice of the withdrawal of the usual pound draft, and the trade having refused to buy their tea without the allowance, representatives from both sides have met and have arrived at a settlement, which, if it be accepted by your Honourable Board will terminate the dispute.

The settlement agreed upon consists in a modification of the system of weighment of tares.

We do not petition for any alteration in Her Majesty's Customs present method of gross-weighing packages of tea on arrival, but we do petition for an alteration in the method of taring packages with the exception of boxes weighing 28 lbs. gross or under.

We petition your Honourable Board to take the tare with a half-pound weight in the scale, giving buyer the tare as heretofore, on the half pound or any fraction between that and the pound above, and *per contra*, if the scale does not lift on the weight side, showing that there are only, say, from one to seven and three-quarter ounces over the pound, we petition your Board to take the tare at the lower pound weight.

Thus:—

26 lbs. and up to 26 lbs. 7¾ oz. to be called tare 26 lbs.
26 lbs. 8 oz. and up to 27 lbs. to be called tare 27 lbs.

Under your Honourable Board's orders, parcels of tea are allowed to be tared on an average tare if the parcel does not vary more than 2 lbs in weight.

In order that these average tares may be arrived at with greater precision, we petition that your Honourable Board will order the number of packages to be taken for ascertaining the average tare in various parcels to be raised, and that the packages be selected fairly by your officer and not by the warehouse foreman.

Present arrangements:—

From 1 to 10 packages	... 1 tarer
From 11 to 40 packages	... 3 tarers
From 41 to 120 packages	... 5 tarers
From 121 packages up	... 7 tarers

We propose the following alterations:—

Up to 20 packages	... 3 tarers
From 21 to 60 packages	... 5 tarers
From 61 to 120 packages	... 7 tarers
From 121 packages up	... 9 tarers

To arrive at the average tare, we suggest the following method of dealing with the fractions of a pound, viz.:—

Lbs.		Lbs.	
22		23	
23		23	
24	117 divided by	24	118 divided by
24	5 equals	24	5 equals
24	23 2-5.	24	23 3-5.
—	Tare 23.	—	Tare 24.
117		118	

We also petition that your Honourable Board will order each package in every parcel of tea bulked in London to be tared separately, and that you will instruct your officers to see that the entire bulk of tea, as landed including overweight, is replaced in the packages.

The reason we accept boxes of 28 lbs. gross and under is that there is no trade draft on them, and it is likely that they would be made habitually to tare below the half-pound, and the buyer would in such case not get full weight.

If, on consideration, your Honourable Board can see their way to accede to our petition, we shall be glad if you will issue an order to that effect, as dated from October 2, 1899.

Awaiting the reply of your Honorable Board, We remain, gentlemen, yours faithfully,

Indian Tea Association (London),
(Signed) EARNEST TYE, *Secretary.*
Ceylon Association in London,
(Signed) WM. MARTIN LEAKE, *Secretary.*
Tea Buyers Association,
(Signed) A. JACKSON, *Honorary Secretary.*

The following reply was received by the Secretaries of the Associations :—

Custom House, London, August 14

GENTLEMEN,—The Commissioners of Customs direct me to acknowledge receipt of your letter of the 4th instant, and to express their hearty satisfaction at the prospect you hold out of a termination of the dispute between the importers and buyers of tea in London through the adoption of special arrangements for taring on the part of this dspartment.

1. The proposal to tare to the half-pound instead of the pound as heretofore), rounding up if the fraction be an exact half-pound or over, and rounding down if the fraction be less than half a pound. will be gladly accepted by the Board of Customs, subject to the concurrence of the Treasury.

2. As regards the method of striking the average tare, the Board see no objection to your proposal that a larger proportion of packages be selected for taring, viz. :—

3 out of 20 or less.
5 out of from 21 to 60.
7 out of from 61 to 120.
9 out of 121 or more.

The method of calculating the average seems to be practically that now in force.

The selection of the packages will rest on the responsibility of Customs officers, as at present.

3. Your request that each package in every parcel of tea bulked in London should be tared separately, instead of leaving separate taring to be optional, as prescribed by general order 102/1894, does not seem to command the support of all the importers, as you will see from the enclosed copy of a letter, dated the 9th instant from Messrs. Hadden and Co., and the Board suggest that you should give it further consideration before pressing it.

4. Your concluding proposal is that the officers of this department should insist on the entire bulk of tea as landed, including overweight, being replaced in the packages, instead of allowing the use of "overtakers," as at present. The Board regret to say that they would not be justified in imposing on their officers so heavy and novel a responsibility as would be involved in the suggested arrangement. Customs officers are answerable for the security of the revenue derivable from goods in a bonded warehouse but not for the custody of the goods themselves, and could not keep guard over every package of tea, after taring, until it had been nailed down.

If importers and buyers are agreed upon a certain way of treating overweight, after bulking, they should adopt their own precautions for ensuring that this method is duly carried out.—I am, gentlemen, your obedient servant,

(Signed) JOHN COURROUX.

The Indian, Ceylon, and Tea Buyers' Associations in London, 61 and 62, Gracechurch Street, E. C.

The letter from Messrs Hadden & Co., referred to in the foregoing reply, is as follows:—

25, Fenchurch Street,
London, E. C. August 6, 1899.

The Hon. the Commissioners of Her Majesty's Board of Customs.

HON. SIRS,—General Order, 102/1894.

As importers of Ceylon tea, ourselves benefited, and acting for others benefited by the above order, we humbly pray that there be no alteration with regard to it.

We are led to this petition hearing to-day that there has been a petition, dated 4th instant sent to your Honourable Board requesting that the order may be cancelled, which petition has been signed by the Secretary of the Ceylon Association in London jointly with the Secretary of the Indian Association, and we are convinced that the petition has been signed without proper thought.

The members of our firm belong to the Ceylon Association— have belonged to it from its commencement—and in it there is a special Tea and Produce Committee (of which they are also members), for the purpose of considering such questions as these. The matter has not been directly brought before this Association or its Committee. Had it been brought before them, we are sure the request to have separate tares taken of London bulked teas would never have been made.

Under your general order of December 22nd 1894, a practice has sprung up in Ceylon of packing teas on the day they are made, and leaving any bulking that may be required to be done in the warehouse here. If such teas are separately tared, the warehouse charges will be increased some 10 per cent. and the proprietors of the tea plantations will suffer accordingly. Probably they will have to abandon their present practice and, as many of them will consider, to the injury of their tea, and do all the bulking on the estates, and this will require enlargement of factories. It is a serious question to some planters.

If you cannot refuse that portion of the petition that refers to the separate taring of London bulked teas, we humbly beg that you will postpone your assent to it for some months. Apparently all those connected with the little-considered petition to you of August 4th are now out of town holiday-making. Your very obedient servants. (Signed) JAMES A. HADDEN & Co.—*H. & C. Mail*, August 18th.

THE POSITION OF TEA.

The *American Grocer* publishes the following interview with Mr. John B. Brown, of Bronson, Brown & Co. :—

From the per capita statistics given in the columns of the *American Grocer* from week to week it is evident the American nation is not what could be called a tea-drinking one ; but those who are drinkers of tea give considerable more thought than formerly to the question of quality, and general interest is shown in the reports issued by the Treasury Department regarding examinations, rejections, and withdrawals from bond. The large emigration in recent years of a people unused to tea in their mother country has had considerable to do with the apparent shrinkage of tea consumption judged by the per capita scale.

The quality of the lower grades of all kinds of teas have materially advanced since the strict enforcement of the tea standard laws, but the medium and better grades have not improved. While the word "quality" is subject to different interpretations by members of the trade, it is evident the American grocers are paying for higher quality in the lower grades, simply because they have been unconsciously legislated into the use of better kinds than are really needed for good common tea, which has practically done away with tea at retail under 30 cents per pound, and even at this price no legitimate profit can be made. Dealers who will persist in selling teas at less than 30 cents retail must submit to a loss, and this seems unnecessary. The price of tea retailing at 40 cents and under has not advanced in proportion to the higher rates ruling in first hands, save but in few instances. An advance would be legitimate, and a combined attempt should be made to sell the lowest grade at not less than 35 to 40 cents.

The quality of teas sold at 40 to 50 cents at retail are not better than has been distributed at these prices for some years. The tea standards in some instances are a trifle too high, as they are above in quality what pure tea represents. The mere fact that a few standards are in quality 2 cents upward per pound higher than occasion demands to sustain the pure tea act keeps from our market several million pounds, which, if offered on sale, would create a lower grade than exists, so that a 30 cent retail grade could be offered the public which would show a fair profit to the retailer. It is due to the members of the Standard Committee to state that they are of the belief that better teas can be produced by compelling more care in manipulation of leaf without increasing the cost. This belief is reasonable, and was generally accepted for two seasons, to wit, those of 1897-98 and 1898-99, and all seemed agreed to abide willingly by the committee's opinion and await the result. Since the duty has been imposed, many retailers are impatient, and oppose restrictions which change their price lists; but as general grocers handle coffees as well as teas, the custom lost by increased prices of low grade teas or economizing exercised by consumers in the eliminating of lower grades of tea, simply change the consumers' demand from low grade tea to coffee ; so that the dealer in the end is just as well compensated, even though some few consumers are using less tea and more coffee instead. This change, however, will not be continual, as those who are fond of tea will be willing to pay the advance for an occasional brewing, though it is admitted

that considerable economy has been and is being exercised by housekeepers in the use of higher cost tea, and the kettle is not kept constantly on the stove as in the days when teas were considerably cheaper.

The only hope for a change of standards is in the possibility of Congress demanding that the United States Government standards be not of a higher grade than actual pure and unadulterated tea; and each dealer can, if he chooses, instruct his Congressman as to the true facts, and correct the evil, which cannot be rectified within one year at the earliest. In the meantime, no other alternative than to abide willingly by the law is in sight. The law should be upheld, and if it is unjust, correct it. For the present, retailers cannot expect a living profit on teas sold at less than 40 cents.

Many dealers argue that they do not care to sell the lower grades. But if they could procure a pure and sweet tea which will show a profit by lowering the standards, why legislate against a poor man's pocket? The Committees appointed by the Treasury Department are to blame for providing standards of a higher grade than is necessary, or, in other words, higher than what pure and unadulterated tea actually is; thereby, in the past, causing a ready market for teas inferior to the standards, and finally, by a continuation of short supply, made it possible for old high cost teas, carried for months, to become marketable without loss to owners. Stocks of old teas are now about entirely exhausted, and what little remains is held in price to within a cent or two per pound of the same grade of new season's stock. In the past few months retailers have hoped to procure from some source a fair drawing old crop tea to fill their requirements for the cheaper grades, but this persistent looking for merchandise at far less than its worth seems useless. There is no stock which has escaped a duty to be had only at full market rates. More freedom is shown by the trade in ordering goods from reliable importing jobbing firms, which is evidence that each and every source has been tried, and of late unsuccessfully, to secure stock at 70 cents on the dollar from strangers, and buying is assuming its old-time methods, and dealings are more frequent between retailers and jobbers who have traded satisfactorily with each other in the past, paying the market price and receiving an honest value in return. The consumption of tea has not materially lessened, notwithstanding the effect of higher standards and a duty combined, as is shown by the withdrawals from bond. During June nearly 6,000,000 pounds were withdrawn for immediate use.

While the country is prosperous, the mass of shoppers are looking for a good article at a low price, and this has had the effect of depleting the stocks of wholesale and retail traders alike of lowest grades of teas. The lowest obtainable tea being sold, the next most available low grade was purchased to take its place; and as the demand for months has continued so constantly for teas at a price, the better grades, being neglected, have gradually lessened in value, until the price of good second Young Hysons would be but a cent above cargo grade, and regular firsts but 2 cents per pound over seconds. The same conditions exist with Gunpowders and Imperials.

With Japans, mediums and good medium teas have sold at but one cent difference. Every cent per pound more a buyer would be willing to pay—a real value of three cents more could be obtained, "quality" considered.

Present stocks of teas in warehouses are not large and the owners are abundantly able to carry them without forcing sales for want of money. This is plainly seen in the manner teas are shown. Holders demand from brokers an estimate of their values before admitting a willingness to have invoices offered on sale. The stocks abroad in hands of growers are firmly held on an average fully 10 per cent. over the ruling prices on our home market, and this should be another evidence of the folly of expecting any further depreciation of the limited stocks now on offer. There may not be any material advance in Japans, but offerings of first crop are being taken as a good investment as they will be needed. A steady and slightly increasing market value is looked for in Oolongs and Greens. Purchases at Yokohama and Kobe have been on a more liberal scale than for several seasons. First crop is now exhausted. Quality of the second crop now offering draws a darker water. The leaf does not make up well, contains too many flat leaves. Quantity and quality of second picking will be about the same as last season. No decline in price expected as demand is in keeping with supplies of desirable kinds. Stocks of undesirable leaf accumulating and a lower range of values may occur in dark liquored second crops from 28½ cents upwards, duty paid.

The course of the markets in Japan have been somewhat of a surprise, as all American and Canadian buyers had looked for lower rates and less demand than has been the case. Early in June the Japan markets were higher than ruling on June 1st by two Yen per picul on teas grading at $25.00 to $26. 0 per picul. When it became evident a low range of values would not exist many orders were rushed to Japan with limits advanced or quality reduced to suit the desired laid down costs.

Freights ¾ cents Suez. Total export from Japan to July 6th being 8,601,798 pounds.

Advices from Ceylon state the quality of the teas offering generally show improvement with exception of Dooars and Terais which have the rainy flavor and lack color and strength. Very little really fine tea on offer, but some expected by the latest musters from gardens. Considerable demand from colonial and outside parts and large quantities of teas going in these directions. Weather reports in the growing districts show heavy rains in Cachar and Sylhet, while in Darjeeling and Dooars it has rained heavily and been cold.

Congous. The bulk of the business as far as buying for England and United States is over for the first pickings. Both Hankou and Kiukiang have yielded good useful teas at a fair cost. Demand from Russia on medium and lower qualities has ruled strong.

Green Teas. The firm adherence to the United States standards maintained by the New York inspector has convinced the Chinaman that the law is not to be trifled with and as a consequence a very fine crop of Ping Suey is expected. Wenchows offered in liberal quantities. Quality good. Fychows and Tenkais just being offered at Shanghai. Moyunes will arrive about August 1.

Oolongs.—Offered sparingly. Prices some 2 to 3 cents above New York basis. Quality improving.

THE TEA MARKETS.

The following is a report of an interwiew with Mr. Thomas, of the Montgomery Auction and Commission Company :—

In the tea market the month of July was phenomenally a dull time, and this state of things was reflected in the last auction sale, when only 4,000 packages were offered. The sale showed a slight improvement in prices, due chiefly to the fact that many buyers were short in certain grades, and the sale gave them an opportunity of filling in.

The advance in price showed particularly in Gunpowders, while small-leaf Pingsueys were firm, and Japans maintained the figures of the previous sale. Congous showed a slight improvement for extremely low grades, while India and Ceylons of better grades were eagerly competed for, and delayed a rather larger market. As has been the case for some months past, Fow Chows were very much neglected, and sold at ridiculously low prices. When the style of the leaf of this tea is considered, we cannot help thinking that the lowest price has been reached for this year's market.

The offering of Formosas of the fine grading and those of the high grades showed an advance compared with previous sales, but the prices realized must show a sharp loss to importers. The balance of Formosas sold on the basis of previous sale.

The new Japan teas are arriving in quantity; also small lots of new Formosas and Congous will reach here about the beginning of the month The Formosas and Congous are said to be of unattractive quality, and are merely being rushed here to be first in the market; therefore very little interest is being taken in them by dealers, many of whom prefer the old teas of cup quality, rather than take the new teas with so poor an appearance and flavor.

The next auction sale will take place August 9, and it is believed the catalogue will include quite an attractive lot of new season's teas.

JAVA CINCHONA-PLANTERS CO-OPERATE.

The *Chemist & Druggist* says :—

The meeting between the Java cinchona-planters and the directors of the Bandong Quinine-works, to which we briefly referred a fortnight ago, was attended by some twenty-three planters and other interested persons. The chairman, Mr. Mundt, said when the works were started the output capacity was very limited and the bark supplied could not all be dealt with promptly. But now everything was working smoothly, and the only difficulty was that not enough bark was supplied to the works. From the discussion

which followed, it appeared that the main grievance against the factory was the delay in the payments to the planters, but it was stated that with the present capacity of the works, when about 150 tons of 4 per cent. bark can be dealt with per month, no such delays would occur in future. On the other hand, the supply of bark should be regular and reliable: it might be of a lower percentage than 4 per cent.—even down to 2 per cent.—but there should be a sufficient supply to keep the factory well employed. The proposal to establish a market for quinine in Batavia was also discussed and generally approved of, and a committee of five (Messrs. Dinger, Sythoff. Bingley, Van Vloten and Mauren-Crecher) was appointed to proceed in the matter. It was pointed out that one of the advantages of the Batavia market would be that the planters would be able to receive payment for the bark in two or three months after supplying it. Local opinion appears to be strongly in favour of the scheme, and we may doubtless soon hear that the proposal has taken a definite form.

Since the above was put in type we hear that on June 29 a further meeting was held by those interested in cinchona and quinine in Batavia Those present were chiefly connected with banking and export trade, the planters, although largely in sympathy with the object of the meeting, having purposely abstained from attending.

The President of the Commercial Association (Mr. Schmiedell) was in the chair, and after pointing out that it was the low price of quinine that had led to the establishment of the Bandong works, urged the necessity of seconding the efforts of that factory, and of liberating the cinchona-trade from the dictation of the European makers. He therefore proposed that a quinine-market should be established in Java. A long and interesting discussion followed, the first point raised being as to whether the proposed sale should be by auction, as in England, or by secret tenders, which are to be opened at a given day, and of which the highest is to be accepted. The second plan is the one resorted to in most sales in Holland. This question was ultimately decided in favour of public auctions, and it was pointed out that the official taxes on produce-auctions had recently been reduced to $\frac{1}{2}$ per cent., *plus* $\frac{1}{10}$ per cent., the latter amount going towards the support of the poor-rates.

It was decided that the first auction shall be held on January 1, 1900, when 10,000 kilos. (about 350,000 oz.) of quinine are to be offered. This quinine is all to be made by the Bandong factory, and is to consist of several qualities, from the high standard of the third edition of the Dutch Pharmacopœia down to the more commercial grades. Samples of 25 grammes each are to be available gratuitously on September 30. They will be supplied, however, only on application, except in the case of some large European buyers, to whom they will be sent. The idea is to make the lots as small as possible, in order to enable pharmacists and other small buyers to compete. Each lot has therefore been fixed at 25 kilos. net, to be packed in cases containing 25 tins of 1 kilo. net each.

The Bandong factory is to guarantee the quality according to sample, and regulations with regard to the settlement of claims are to be drawn up and published shortly Payment is to be made one month after the sale, and two months are to be allowed for delivery, which will be made either at Batavia or at the shipping port of Tandjong Priok. A committee of three commercial men and one chemist was appointed to settle the details.

It was further announced that the directors of the Bandong factory intend to give to those planters who will enter into a contract to supply them regularly with bark a share of 50 per cent. in the net profits above 6 per cent.

TEA, &c., COMPANIES.

The Directors of the undermentioned Companies have declared the following *interim* dividends to the 30th June 1899 :—

The High Forests Estates Co., Ld.—2 per cent.
The Kalutara Co., Ld.—2 per cent.
The Kirklees Estate Co., Ld.—3 per cent.

St. Helier Tea Co, Ld. (Ceylon.)—The seventh Annual Ordinary General Meeting of this company was held at Colombo on the 31st ultimo. Mr. W. Sandys Thomas occupied the chair. From the Director's report we gather that the crop, which was estimated at 95,000 lbs. of made tea to 30th June, has turned out only 89,973 lbs. and has realised an average price of 38·69 cents per lb., against 36·21 last year. The cost of the tea in Colombo, exclusive of the sum of R2,438·74 expended on Capital Account, works out at 25·56 cents per lb. as against 25·24 cents per lb. last season. The balance at credit of Profit and Loss Account, after writing off the sum of Rs. 1,618·42 for depreciation of buildings and machinery, but including the sum of Rs.1,203·11 brought forward from last year, amounts to Rs.5,205·42; and out of this sum a dividend of 9 per cent. has been declared, absorbing Rs.4,500·00, leaving the sum of Rs.725·42 to be carried forward to next year.

THE COFFEE TRADE IN AMERICA—YEAR 1898-99.

It is somewhat surprising, says the *American Grocer*, that the deliveries of coffee in the United States for the year ending June 30, were only 353,675 bags behind the remarkable record of the previous year, when the withdrawals from licensed warehouses in anticipation of the duty, made the consumption appear larger than it was in reality. It indicates a very active and increasing use of coffee as a beverage. Since 1896, the deliveries have increased over 30 per cent.

The general movement is shown by the following table :—

	Bags.	Bags.
Stocks in Europe, July 1, 1898	3,445,093	4,422,974
Stocks in United States, July 1, 1898 ...	977,881	
Arrivals in Europe	8,136,306	14,156,943
Arrivals in United States	6,020,637	
Total supply ...		18,579,917
Less stocks in Europe, July 1, 1899	3,783,131	5,099,013
Less stocks in U. S., July 1, 1899	1,315,882	
Deliveries in Europe	7,798,268	13,480,904
Deliveries in United States ...	5,682,636	
Deliveries in 1897-98		14,571,902
Deliveries in 1896-97		12,244,204
Deliveries in 1895-96		11,142,813
Decrease in 1898-99 below 1897-98		1,090,998

The visible supply of the world on July 1, 1899 was 6,200,013 bags—an increase over July 1, 1898 of 764,039 bags, and 2,224,133 bags over July 1, 1897.

In this connection we print below a comparative table of deliveries in Europe and the United States, from which it will be seen that they were very irregular in both countries, varying in the United States from a minimum of 316,486 bags in July, 1898, to a

A SPECIAL LINE TO PLANTERS.

P. S. A. C. Hard-wood Pulleys to fit any size of Shafting, Bushes being interchangeable. Lighter, Stronger, Cheaper than Iron or Steel, 6 to 60 inches diameter.

PLANTERS' STORES & AGENCY CO., LD., CALCUTTA.

[w. 15-4-99—t.f.o.]

Price List on Application.

maximum of 673,133 bags in March, 1899, as against a monthly average for the year of 473,553 bags. In Europe the minimum was 505,964 bags in July, 1898, and the maximum 759,764 bags in May, 1899, against a monthly average of 649,856 bags.

DELIVERIES AT EIGHT PRINCIPAL PORTS OF EUROPE.

	1898-99.	1897-98.	1896-97.
	Bags.	Bags.	Bags.
July	505,964	577,286	437,940
August	592,888	651,270	563,767
September	694,948	763,406	659,899
October	670,867	771,812	763,997
November	709,425	662,724	680,164
December	692,618	768,712	540,318
January	564,268	621,981	506,925
February	615,640	605,325	543,747
March	643,381	743,915	617,472
April	688,118	782,195	594,357
May	759,764	890,995	657,060
June	660,387	695,972	589,964
Totals	7,798,268	8,535,591	7,155,610

DELIVERIES IN THE UNITED STATES.

	1898-99.	1898-99.	1898-99.	1897-97.
	Brazil.	Other kinds.	Grand Total.	All kinds.
July	240,638	75,848	316,486	319,811
August	292,289	77,875	370,164	421,981
September	348,779	88,111	436,890	477,083
October	302,783	76,620	379,403	502,683
November	345,448	77,057	422,505	443,184
December	448,162	119,665	567,827	599,717
January	479,029	89,058	568,087	560,854
February	343,166	88,155	431,321	452,505
March	549,558	123,545	673,133	531,284
April	407,110	116,911	524,021	915,690
May	364,775	128,572	493,347	530,492
June	382,960	116,492	499,452	341,163
	4,504,727	1,177,909	5,682,636	6,036,311

The above shows deliveries in three years of 40,296,010 bags of coffee in Europe and the United States, or annual requirements of 13,432,337 bags. Ten years ago the yearly average requirements was over 2,000,000 bags less. This great gain in consumption has been met by the heavy increase in production in Brazil, which for the past three years was 27,913,000 bags, or a yearly average of 9,304,333 bags, or nearly 70 per cent. of the world's requirements, as against a contribution ten years ago of 50 per cent. We at once see the tremendous import of the coffee industry of Brazil, and that a short crop there means a revolution in prices, while any increase in the crop above the average of the past three years may force prices below the average of the past two years of big supply.

From July 1, 1897, the world's visible supply increased, reaching its maximum (7,128,800 bags) November 1, 1898, and steadily decreasing since, as the following exhibit indicates: –

WORLD'S VISIBLE SUPPLY.

	Bags.
1898.	
November	7,128,800
December	6,969,155
1899.	Bags.
January	6,600,763
February	6,558,114
March	6,552,044
April	6,515,558
May	6,341,194
June	6,261,302
July	6,200,013

The above shows a reduction in eight months of 928,787 bags, and indicates a slight change in the relation of the world's supply to requirements, which if continued during the year 1899-1900, would mean higher prices, unless consumption was checked, which on the present basis of cost is improbable.

The above shows a decrease in the deliveries of Brazil coffee in the United States of 334,832 bags, as compared with 1897-98, and a gain of 515,670 bags 1896-97, a normal year. The deliveries of mild coffee were only 18,843 bags less than in 1897-98, indicating that the excessive withdrawals last year, in anticipation of a duty being levied were altogether in Brazil coffee.

It is evident from the following table of deliveries in the United States and Europe and average cost No. 7 Rio, that low prices tend to rapidly increase consumption.

DELIVERIES IN UNITED STATES AND EUROPE.

	Bags.	Calendar Year.	Yearly av. cost No. 7 Rio. Cents.
1891–92	10,804,551	1892	14.43
1892–93	10,946,228	1893	17.08
1893–94	10,571,533	1894	16.40
1894–95	11,212,851	1895	15.83
1895–96	11,142,813	1896	15.00
1896–97	12,244,204	1897	7.73
1897–98	14,571,902	1898	6.30
1898–99	13,480,904	1899	633.

The receipts at Rio for the year ending June 30, 1896, were 3,192,000 bags, and at Santos 5,579,000 bags, a total of 8,771,000 bags, against 10,462,000 bags in 1898, and 8,680,000 bags in 1897, or nearly double the average crop for the three years 1893-'94, '95, '96. The average yearly crop of Brazil for five years (1893-97) was 6,272,000 bags, against a total of 8,771,000 bags for the year just closed.

The total production of the world is over 15,000,000 bags, and there are at present no signs of a crop failure; in fact the outlook is for a total supply considerably larger than that of the year just closed. In the AMERICAN GROCER of July 5th, we published the details of the imports into the United States during the fiscal year ending June 20, 1898, from which it appears that the demand for coffee other than that grown in Brazil is so much greater than the supply, that growers of mild coffee receive double, and in some cases three times the average price obtained for Brazil coffee. What we need is greater crops of mild coffee, and then the millenium of cheap and fine flavored coffee will be here.

"AUXILIARIES."

Writing anent plants of economic value other than the staple crops grown by Indian planters such as tea, coffee, indigo, *Indian Gardening* says:—In Assam Proper and Cachar, that is to say, in the Valley of the Brahmaputra, the Surma Valley, Kamrup, etc., we place rubber-yielding trees first, as these are certain to yield a handsome money return, though it will be a few years before they will have reached the latex-yielding stage. The *Ficus elastica* is perhaps the most satisfactory of the rubber-yielding trees. Next to it we fancy the Ceará rubber tree (*Manihot glaziovii*), as it thrives almost anywhere on the plains, as well as on the lower slopes of the hills, and yields rubber not only from the stems, but the leaves as well. From a letter which we reproduce elsewhere from the *Pioneer*, it will be seen that certain authorities do not think highly of this tree; but we are of a different opinion. The Para rubber tree (*Hevea braziliensis*) will not grow in Assam—at least we have not heard of it. *Castilloa elastica*, the Panama rubber tree, may be placed in the same category with Para. There are other rubber-yielding plants, among which *Cryptostegia grandiflora* (the "chabuk-chharri" of the natives of India) may be tried with advantage, as it grows like a weed all over India. In this connection we recommend our planting readers to obtain from the Director, Royal Botanic Gardens, Peradeniya, Ceylon, a copy of his Circular on Caoutchouc or India-rubber, as it contains a great deal of valuable information.

Next to rubber-yielding plants we place fibre-yielding plants. We accord the first place to *Villebrunea integrifolia* (the "Bon" or wild Rhea of Assam), the fibre of which is even superior to that of the ordinary Rhea, that is, the China Grasscloth Nettle (*Bœhmeria nivea*), and its near relative, the Ramie (*Bœhmeria tenacissima*), the Malayan plant. The fibre of the "Bon" Rhea can be decorticated with the greatest ease; it is free from the abominable gummy substance which has proved such a stumbling-block to the China Grasscloth Nettle, while the bark, or fleshy part of the stem, can be utilised either as a manure for tea, coffee or indigo, or as a mordaunt. The bark has been found to make a valuable mordaunt. Mr. Melrose Arnott, Chemist to the Bally Paper Mills, Calcutta, when reporting on the fibre of *Villebrunea integrifolia*, said: "The colouring matter contained in the bark appears to be very well worth serious study." In our issue of 25th May 1899, we gave full particulars of this plant. Next to this we place the several Agaves, in particular the *Fourcroya gigantea*. Trials with the leaves of this plant in Calcutta have shown that it yields a larger percentage of fibre than

the leaves of *Agave Americana*, *Agave rigida*, or *Agave rigida* var. *sisalana* (the Sisal Hemp). Moreover, it will grow anywhere in India, on any soil—the more stoney and barren the better, and under the most arid conditions of climate. The fibre of *Fourcroya gigantea* (Mauritius Hmep) realises from £20 to £22 per ton in London. The cost of producing the fibre (including every item of expenditure) and shipping charges, has been estimated in Calcutta at from £12 to £15 per ton, thus leaving a profit of from £7 to £10 per ton. In our issue of 9th July 1899, nearly all the fibre-yielding plants of India are described. The cultivation of most of these might now be taken up with advantage, as the difficulties of extracting the fibre have been quite overcome by the efficient decorticating machines now on the market.

BRAZIL'S FINANCES.

THE FUNDING AGREEMENT IN EXECUTION.

The *Noticia*, discussing "the funding agreement in execution," says :—

Preferring to analyze the manner in which Government has complied with the conditions imposed by the funding agreement rather than intervene in the discussion that the probability of its execution has awakened, we now proceed to give the particulars of the manner in which Government expects to carry out its engagements.

For better comprehension of the figures, we are about to specify, it is well, first of all, to call to mind the sum total of the obligations of the Treasury included in the funding agreement, taking as the basis for calculations the outstanding nominal value of the foreign debt in 1898 and reducing obligations for the 1879 gold issue to par, at 27d.

	£
1879 gold internal loan 24,699 : 000$ int. 4 1/2%	2,778,637
1889 4% foreign loan	18,388,200
1888 4 1/2%	5,298,600
1895 5% do.	7,331,600
1883 4 1/2% do.	3.292,000
Oeste Minas R'y 5% loan	3,888,100
	40,987,137

In addition to this funded debt the annual interest guaranteed on railway and other foreign capital amounts to £1,111,282.

The funding agreement came into effect on 1 July and on 1 January of the current year, 1899, the following emission of 'fundings' had been already made for the service of the foreign debt :—

		£
July	for int' 6 mo's. on 1879 loan	30,860
,,	,, ,, ,, ,, ,, 1888 ,, ...	119,218
August	,, ,, ,, ,, ,, 1889 ,, ...	367,764
October	,, ,, ,, ,, ,, 1879 ,, ...	30,860
,,	,, ,, ,, ,, ,, 1895 ,, ...	183,290
,,	,, ,, ,, ,, ,, W. Minas R'y loan ,, ...	84,702
December	,, ,, ,, ,, ,, 1883 ,, ...	74,070
,,	,, guaranteed interest 6 mo's.	555,641
		1,446,405

At 18d per 1$ as agreed on in the funding arrangement, the quantity of paper money to be destroyed, that corresponds to the emission of fundings bonds for the second half of 1898, is equivalent to 19.300 : 000$ in round numbers.

For the current year emission of funding bonds for the service of the foregoing loans will be as follows:—

	£
January 1899	150,078
February ,, ...	367,764
April ,, ...	298.852
June guaranteed int.	555,641
July	224,148
August	367,764
October	298.852
December	74,070
Guaranteed interest	555.641
	... 2,892,810
Emitted in January as above	1,446,405
	4,439,215

This sum, £4,339,215, representing at 18d 57.854 : 754$, is to be withdrawn from circulation and destroyed.

In the above estimate it is to be noted that the whole of the guaranteed interest for 1899 has been charged, whereas, in reality, only half that amount is payable, the other only falling due in January 1900.

The non-funded interest paid *in gold* during the first quarter and payable during the current year is as follows :—

	£
1st quarter	24,203
2nd ,, ...	29.288
3rd ,, ...	35.687
4th ,, ...	39,423
	128,601
Guaranteed interest	27,782
	156,383

The revenue collected in gold from the 10 % moiety of duties on imports and consular and other fees, as far as can be judged, will this year yield a surplus of £500,000 over gold payments.

Passing to the gold expenditure of 1900 it will be noticed that the item £1,000,000 for amortisation of Treasury Bills will be eliminated as also payment on account of naval construction which both terminate this year (1899).

At the close of 1900 the emission of funding bonds will stand as follows :—

	£
Emitted on account of 2nd half-year 1898	1,446,405
,, ,, of all 1899	2,892,810
,, ,, ,, 1900	2,892,810
Total at close, 1900...	7,232,025

which at 18d represent 96.424 : 590$ in paper money that will have been called in and destroyed.

During the year 1900 the moiety of duties payable in gold will have been raised from 10 to 15% and the payment of £1,000,000 on account of the Treasury bills will have disappeared. Meanwhile the expenditure on account of the funding loan will be as follows:—

	£
1st quarter	60,713
2nd ,, ...	64,448
3rd ,, ...	72,097
4th ,, ...	75,584
	... 272,842
Guarantees payable in gold	27,782
	300,664

It is estimated that the excess of gold revenue over gold payments will. therefore, in 1900 amount to £1,100,000 taking as basis the total customs revenue of 200.000 : 000$. During the six months that remain the emission of funding bonds will be as follows :—

	£
January 1901, 1879 & 1888 4 1/2% loans	150,078
February 1901, 1889 4%	367,764
April 1901, 1879 4 1/2% & 1895 5% & West Minas R'y loan ...	298,852
June 1901, 1883	74,070
Guarantees	555.641
	1,446.405
Which added to that previously emitted ...	7,232.025
	8.678.430

the total amount requisite for the service of the funded loans and guarantees up to the date stipulated in the agreement which at 18d exchange corresponds to the total of 114.722 : 000$ in paper money destroyed and equal to nearly 15% of the whole amount in circulation on 31 March 1899!

Gold payments during the first half-year of 1900 will amount to £204,412. Gold revenue of the half-year together with the surplus from 1898 will make together £3,722,000 and deducting the expenditure for interest as stated above leaves a net surplus of £3,517,588, which, with the addition of the product of certain operations already undertaken by Government, may raise the fund for

guarantee of the paper money to £5,000,000 without reckoning in any manner with the sale or lease of the Central Railway, reserved as the basis of a still more important operation.

At the close of the Funding term on July 1, 1901, the obligations of the Treasury as regards the funded foreign debt will be as follows:—

	£
Annual interest on 1879 4 1/2%	125,036
,, ,, ,, 1889 4%	735,528
,, ,, ,, 1895 5%	372,580
,, ,, ,, 1888 4 1/2%	238,437
,, ,, ,, 1883 4 1/2%	148,140
,, ,, ,, West Minas R'y	194,404
,, ,, ,, Funding 5%	433,921
	2,248,046
Guarantees	1,111,282
	3,359,328

The recovery of 15% of the duties on imports in gold, making allowance for those goods which are not subject to payment of gold duties, will give the following results proportionate to the value of import duties:—

	£
For 180.000 : 000$ import duties in gold ...	= 3,000,000
,, 190 000 : 000$,, ...	= 3,166,600
,, 200.000 : 000$,, ...	= 3,333,300

whilst it is to be remembered that on the renewal of payments the sum of 40.000 : 000$ that was annually destroyed will then be available for revenue purposes.

It is, says the *Noticia*, unnecessary to draw deductions from such figures, which speak for themselves.

DISTRICT ASSOCIATIONS.

SHEVAROY.

Proceedings of a Committee Meeting of the Shevaroy Planters' Association, held in the Victoria Rooms, on Monday, the 4th September 1899, at 1 p. m. PRESENT.—Rev. J. M. Kempf, Messrs. Thurston Short, C. G. Lechler (*Chairman*), Rev M. Andersen, Mr. R. Gompertz (*Honorary Secretary*).

Read letter from Mr. J. C. Large, dated 26th ultimo, proposing an equalization of rates throughout the Shevaroys.

Resolved that this letter be laid before the Annual General Meeting to be held next month.

Read extract from letter from Mr. George Watt *re* his tour in Southern India.

Resolved that it be brought before the Annual General Meeting.

Read letter from Mr. Frank Mangles, saying that he was unable any longer to represent the U. P. A. S. I. on the London Chamber of Commerce, and requesting that some one else should be appointed in his stead

Resolved that this matter also should be brought up at the Annual General Meeting to be held on Monday, the 2nd proximo.

Read and recorded the following letters:—

35/C. Letter from the Collector of Salem, informing that this Office letter No. 901, dated 9th June 1899, regarding the exemption of planters from serving as jurors or assessors was submitted for the orders of Government, but Government does not consider that sufficient cause has been shown for this exemption.

16/L. Letters from Mr J. C Large, requesting that a circular might be sent to all members of the S. P. A., requesting them to inform the Secretary of the usual rates adopted on their estates for the various works, etc.

The following papers were laid on the table:—

Proceedings of the Nilgiri Planters' Association, 4th Aug. 1899.
Do. Wynaad do. 2nd Aug. 1899.

Agricultural Ledgers, Nos. 5/6 (Indian Henbane, and system of ledgering economic information).

List of residents at Coffee Estates, etc., for correction.

Extracts from a letter from Dr. Geo. Watt.

Planting Opinion, 3 copies, dated 12th, 19th and 26th Aug. 1899.

YERCAUD, (Signed) C. G. LECHLER, *Chairman.*
5th September 1899. (,,) R. GOMPERTZ, *Honorary Secretary.*

MARKET REPORT.

By Mail Advices of 18th August 1899.

COFFEE.

The *London Commercial Record* says:—There has been some improvement in the demand for Central American descriptions, and the greater part of the supplies at auction was disposed of at previous rates to an advance of 1s per cwt. East India is still very dull of sale, and only part of the limited quantity at auction found buyers at former prices. Plantation Ceylon met few offers. A quiet tone has prevailed for "futures," and prices are rather easier, closing as under:—

London ...	Santos ...	Sept. delivery	... 26s. 6d.
New York	No. 7 Rio...	,, ,,	... 4·45 cents.
Hamburg...	Santos ...	,, ,,	... 27½ pf.
Havre ...	Santos ...	,, ,,	... 32½ francs.
Holland ...	Good ordinary Java ...	...	... 25¾ cents.

To-day's auction supplies embraced 269 bags East India, 25 barrels Jamaica, 487 bags Nicaragua, 304 bags Guatemala, 42 bags Coban, 480 bags Colombian, 109 bags Costa Rica, 418 bags New Granada, and 19 bags Ecuador. The sales passed off quietly with value unchanged.

Imports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
Tons ...	25,636	19,506	37,062	35,259
	Home Consumption.		Export.	
	1899.	1898.	1899.	1898.
Tons ...	10,336	9,182	15,527	16,264

The preceding figures exhibit—

	Tons.
In the Imports an increase this year of	... 1,803
In the Home Consumption an increase of	... 1,154
In the Export a decrease of	... 737
In the Stock an increase of	... 6,130

Auctions this week have gone off as under:—

CEYLON.—*Plantation.*—5 casks 5 barrels 1 bag sold—smalls 61s 6d, pea-berry 114s.

EAST INDIA.—480 bags partly sold as follows:—*Coorg*, low middling 38s, bold 46s; *Neilgherry*, smalls 37s 6d, low middling 38s to 45s, bold 50s to 56 6d, pea-berry 45s 6d to 47s.

MOCHA.—25 half-frazils withdrawn.

JAVA.—160 bags partly sold—smalls 37s 6d, middling 46s 6d, bold 66s 6d, pea-berry 64s 6d.

JAMAICA.—115 barrels 87 bags mostly sold, good to fine ordinary greenish 29s 6d to 36s, low middling to middling brownish colory 39s to 47s, pea-berry 44s.

TRINIDAD.—49 bags bought in.

COSTA RICA.—895 bags sold, ordinary brownish 28s to 30s 6d, good to fine ordinary 31s to 39s, good gray 71s 6d to 75s 6d, pea-berry 27s to 56s.

GUATEMALA.—1,179 bags mostly sold, smalls 26s 6d to 38s, ordinary 28s 6d to 31s 6d, good to fine ordinary 32s to 37s 6d, low middling to middling 39s 6d to 45s, fine hard bright blue bold 83s 6d, pea-berry 27s 6d to 72s 6d.

NICARAGUA.—553 bags sold—ordinary to good ordinary 29s 6d to 31s 6d, fine ordinary to low middling 34s to 39s, middling 40s to 42s, pea-berry 32s to 51s.

SALVADOR.—3,614 bags mostly sold—ordinary 28s to 30s, good to fine ordinary 30s 6d to 37s 6d, low middling 38s 6d to 39s, low middling to middling colory 41s to 43s, good middling 47s to 49s 6d, good bold colory 54s, pea-berry 32s 6d to 64s.

VERA PAZ.—179 bags mostly sold—smalls 25s 6d, ordinary brownish 31s 6d, low middling greenish 40s to 40s 6d, bold 55s 6d, pea-berry 46s 6d.

COLOMBIAN.—Of 2,784 bags offered about 2,000 bags sold—smalls 25s 6d to 36s 6d, fine fine ordinary 37s, low middling to middling 39s to 47s, greenish colory to good bright blue bold 49s to 56s, fine middling blue 58s 6d to 66s, fine bold blue 71s to 76s 6d, pea-berry 42s to 71s 6d.

MEXICAN.—Of 766 bags about 500 bags sold—smalls 26s to 27s, low middling greenish 35s to 40s, middling to good middling 41s to 44s, pea-berry 44s to 70s.

Honduras.—2 bags sold at 39s.

Bolivian.—15 bags sold—ordinary greenish 25s 6d.

Ecuador.—Of 91 bags offered 22 bags sold—good ordinary brownish 27s.

Receipts in Rio and Santos.

Since July 1	1899-1900. Bags.	1898-99. Bags.	1897-98. Bags.	1896-97. Bags.
Rio	568,000	442,000	719,000	541,000
Santos ...	1,255,000	881,000	1,167,000	837,000
Total ...	1,823,000	1,323,000	1,886,000	1,378,000
Crop		8,772,000	10,461,000	8,680,000

Rio Exchange.—8 5/32d.

Havre, *Aug.* 17.—Santos good average August opened quiet at 32⅛f. and closed steady at 32½f., September opened at 32⅛f. and closed at 32⅛f.

Hamburg, *Aug.* 17.—Good average Santos August opened quiet at 27½pf. and closed steady at 27½pf., September opened at 27½pf. and closed at 27½pf.

New York, *Aug.* 16.—Closing prices of No. 7 Rio were as follow:—

	Aug.	Sept.	Oct.	Nov.	Dec.
August 16 ...	4·45	4·45	4·50	4·55	4·90
August 15 ..	4·40	4·40	4·45	4·50	4·85

Prices realized at auctions for some of the principal marks of East India:—

NEILGHERRY.

	A	B	C	PB	T
Shola Rock	60-6	45-6	34-6	51-6	31-0

TEA.

China.—A very slow tone prevails, and in order to do business it is necessary to make concession in prices. During the week 5,385 packages have been offered at auction and partly sold as follows:—Old season's Oolong, low common 4⅛d to 4⅝d, medium to fine 5¾d to 1s; Congou 5⅜d to 7d; Souchong 6⅓d to 7d; new season's Congou 7d; Foochow Scented Orange Pekoe 9½d to 9¾d; ditto Paklin 6½d to 7½d; ditto Caper 5⅛d to 9¼d; Moyune, green gunpowder 5⅞d to 1s 1¾d, Sow Mee 6½d to 11¾d, Foong Mee 10½d, Young Hyson 3⅝d to 7d; Ping Suey, gunpowder 6d to 7⅓d per lb.

Indian.—Business was resumed on the old conditions after the holidays, on Thursday, 10th instant, when a small auction comprising 1,200 packages was held, while during the current week 49,300 packages have been submitted to the trade compared with 31,200 packages for the corresponding period in the preceding year.

Although the amount brought forward seems heavy, it must be remembered that very few Garden teas were offered during the past month. The Committee appointed to regulate sales has experienced some difficulty in dealing with the accumulations in the warehouses, but as these are now being reduced, the weekly quantity should ere long assume a normal condition.

The market opened with a good all-round demand, which continued throughout for strong liquoring and fine tippy parcels and some very high prices were paid to secure them. Later on, however, common to medium did not meet with so much competition, and in many cases a decline was established, while a considerable quantity was withdrawn owing to bids being unsatisfactory.

For 40,300 packages on Estate Account 7¾d per lb. was obtained, contrasted with 1 d per lb. for 23,000 packages in 1898, and also for 21,500 packages in 1897.

Ceylon.—On Thursday last 17,000 packages passed the hammer, and 42,700 packages were catalogued for Tuesday, part of which was disposed of on the following day. This contrasts with 40,500 packages in the similar interval a year ago.

Considering that nearly 60,000 packages had to be dealt with in seven days these full supplies were taken up fairly well on the whole, but towards the close buyers having replenished their stocks were not so eager to purchase, lower rates often ruling for common to medium lacking point, and a good many lots were bought in. On the other hand it is gratifying to be able to record an increasing enquiry for choice-flavoured kinds, quotations for which in most instances showed a decided advance. Among the best B O P. were 1s 4½d, Drayton and Henfold 1s 3¾d, Diyanilakelle 1s 3½d, Waverley 1s 3¼d, Loinorn 1s 3d.

The average is 7⅛d per lb. At this date in 1898 it was 7¾d per lb., and 7⅝d per lb. in 1897.

Java.—Rather over 5,000 packages of direct import were advertised, and in sympathy with other growths good to fine were well supported, but the lower grades marked an easier tendency.

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns, were—

	Lbs.
From 1st to 15th August, 1899	7,382,451
Do. do. 1898	7,672,559

During the fortnight the following have been printed for sale by public auction:—

	Sold. Pkgs.	Withdrawn. Pkgs.	Total offered. Pkgs.
India	39,600	10,931	50,531
Ceylon ...	53,033	6,697	59,730
Java	2,792	2,337	5,129
Total ...	95,425	19,965	115,390

Also 70 packages from second hands.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated August 18th, 1899, says:—

Quantity brought to Auction in London from 1st June to Date.

	Indian. Pkgs.	Ceylon. Pkgs.	Java. Pkgs.
1899-1900	151,182	187,619	14,353
1898-1899	150,973	281,564	8,345

49,550 *pkgs.* Indian, 43,194 ,, Ceylon, 5,129 ,, Java } Total 97,873 packages were offered in public auction this week.

The total supplies were represented by more than 3,000 different samples, a quantity quite impossible for buyers to examine with enough care to give them confidence in operating. The result has been a disappointing market with a general fall in values.

Exports of Indian, Ceylon and China Tea direct to Australasia from 1st May to end of April:—

	1898-99	1897-98	1896-97	1895-96	1894-95	1893-94
Indian.	6,327,817	6,632,460	6,197,450	6,620,126	4,414,112	6,514,360
Ceylon.	15,105,000	13,670,105	11,793,882	10,306,506	7,513,975	7,650,000
China.	5,800,000	4,593,000	6,200,000	11,462,500	10,463,585	13,000,000
Total lbs.	27,232,817	24,895,565	24,191,332	28,389,132	22,391,672	27,164,360

Indian.—It is considered advisable to have the accumulated supplies of Indian Tea cleared off before the arrival of the bulk of the crop, which will come to hand during the next few months. With that end in view sales this week have been heavy and next week they will again be large. There was a general fall in values to the extent of ½d. per lb., the only kinds not participating in the decline being good liquoring and fine Teas over 1/- per lb, the demand for which is satisfactory. Shipments from Calcutta during the first fortnight in August are wired as being 8,130,000 lbs., against 11,600,000 lbs, during the same period last year. The total exports for the season to date are now 5 millions in excess of last year, being 41,642,000 lbs., against 36,617,000. At the end of July they were 8½ millions in excess of last year.

New Season's Tea sold on Garden Account 1st June to date 1899, 55,660 pkgs., av. 7·89d. 1898, 85,278 pks., av. 8·71d.

Ceylon.—The few fine Teas were well competed for at advancing rates. On the other hand prices for all kinds below 8d. per lb. declined fully ½d. per lb. and there is now an appreciable quantity of leaf Tea changing hands at 6d. per lb. and under. The decline is due to the largeness of the supplies now being put forward. There is not the same reason for pressing Ceylon as there is Indian Tea, as arrivals during the next few months will be comparatively small, and hence a good opportunity offers for spreading the accumulated supplies of this growth to the ultimate benefit of the Producer. It is, however, difficult to control the quantity of Ceylon Tea brought to auction each week, as supplies do not come under the notice of the Regulating Committee, owing to the scheme being insufficiently supported. Exports from Colombo to the United Kingdom are wired as only 2½ million lbs. for the first half of August, and the estimated total for the month is now reduced to 6½ millions.

Average for week 7·15d., against 7·63d. same period 1898.

Ceylon Tea sold on Garden Account 1st Jan. to date 1899, 600,941 pkgs., av. 8·10d. 1898, 734,476 pkgs., av. 7·59d.

Java.—These Teas sold at prices showing a fractional decline on rates recently ruling.

Bank Rate 3½ per cent. Exchange on London three months sight:—Calcutta 1/4 7/32. Colombo 1/4 7/32.

COCOA.

At auction on Tuesday 6,173 bags were offered and about half sold at again rather higher prices. Of 1.012 bags Trinidad 660 bags sold at an occasional 1s rise, viz.:—very fine 69s to 72s, good to fine 66s to 68s 6d. 493 bags Grenada realised very full rates—good to superior red 64s to 69s, common to fair 59s to 63s. 17 bags fine Demerara brought 67s. 2 bags common Dominica fetched 58s. Of 216 bags Jamaica 150 bags were placed at 58s to 61s for common to good—a firm figure. 33 bags common to fine St. Lucia found a buyer at 58s to 62s 6d. 70 bags fine Costa Rica realised 65s. 22 bags gray Para sold at 64s. Guayaquil a little easier, 492 bags Caraquez selling, out of 2,114 bags catalogued, at 67s 6d to 68s. 4 bags Tobago, 56 bags Caracas, and 30 bags African retired unsold. 2,204 bags Ceylon half sold at a rise of 4s to 5s per cwt. for superior, and fully valuations for other kinds; superior bold red found buyers at 84s 6d to 89s 6d, good bright bold and medium 77s to 78s 6d, fair to fine medium 68s to 75s, common Native 61s, pickings and smalls 46s to 58s per cwt. Private sales include 300 bags Trinidad, including superior at 77s; 50 bags Jamaica at 62s 6d; 25 bags clayed Carcas at 81s to 85s; and 500 bags Guayaquil, Arriba 69s to 71s, fine Caraquez 69s to 71s.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

	1899.	1898.	1897.	1896.
	Bags.	Bags.	Bags.	Bags.
Imports, B P. ...	104,827	108,751	97,140	107,206
Foreign ...	52,347	79,412	51,269	50,235
Home Con., B.P. ...	54,722	68,796	57,530	47,471
Foreign ...	33,818	37,055	38,954	35,641
Exports, B P. ...	30,978	25,029	31,366	26,727
Foreign ...	17,466	20,521	26,933	18,377
Stock, B P. ...	64,710	74,965	87,120	98,759
Foreign ...	53,637	55,336	45,601	72,582

PEPPER.

BLACK.—The market continues very firm and business has been done at an advance of $\frac{1}{16}$d per lb. About 100 tons Singapore have been placed, viz., at $5\frac{7}{16}$d to $5\frac{1}{2}$d for fair on the spot, at $5\frac{11}{16}$d for August-October shipment, at $5\frac{3}{4}$d for September-November, and at $5\frac{13}{16}$d for October-December.

At public sale on the 16th instant, 64 bags good Malabar shot description sold at $5\frac{1}{4}$d per lb.

To-day firm; 20 tons Singapore near at hand sold at $5\frac{9}{16}$d.

The shipments of Black Pepper for the first half of August compare as follows:—

	1899. Tons.		1898. Tons.	
U. K.—Singapore	220	290	340	340
„ Penang	70		*nil*	
Continent		60		100
United States		*nil*		225
Total ...		350		665

WHITE remains steady, with a moderate demand at late rates. About 80 tons are reported sold, viz., Singapore September-November shipment at $8\frac{3}{4}$d, and October-December at $8\frac{13}{16}$d. Penang on the spot has been done at $8\frac{1}{8}$d for fair.

At auction on Wednesday only 54 bags Singapore were offered and these were withdrawn at $9\frac{1}{2}$d to 10d per lb. for good to fine.

The shipments of White Pepper for the first half of August compare as follows:—

	1899. Tons.		1898. Tons.	
U. K.—Singapore	140	200	300	370
„ Penang	60		70	
Continent		40		50
Total ...		240		420

GINGER.

COCHIN.—There is an entire absence of desire to buy this article, holders experiencing great difficulty in getting bids anywhere near valuations. Catalogues presented 257 cases 1,056 bags, embracing a good assortment ranging from cuttings and washed to good bold limed cut, but under the hammer only 14 cases 7 robbins changed hands—medium and bold, heavily limed, roughly cut and scraped 59s, medium ditto 45s, small ditto 27s 6d, common dusty cuttings 16s per cwt.

JAMAICA.—The reduced quantity of 338 barrels, &c., offered met a good demand, but holders generally required above buyers' views, which contemplated a small advance on last auctions' rates. Only 90 barrels, &c., sold, therefore, at 79s for fine bold bright washed, 66s to 72s for fair to good medium ditto, low middling to middling 57s to 65s, common to good common 50s to 54s, and low Rathoon 46s to 48s per cwt.

CARDAMOMS.

The moderate supply met with a fair demand at about steady values, the following prices being paid:—Ceylon-Mysore, fine bold pale round, 3s. 10d; medium ditto, 3s. to 3s. 6d.; small to medium pale, 2s. 7d. to 2s. 10d.; small pale, 2s. to 2s. 5d.; good bold pale 1s. splits, 2s. 9d. to 3s. 3d.; medium long pale, 2s. 8d. to 2s. 9d.; long brown split, 2s. 4d.; medium brown split, 1s. 9d.; small split, 6d. to 1s. 7d.; small dull lean, 2s. 3d. to 2s. 4d.; very small ditto, 1s. 6d.; brown splits and pickings, 1s. 6d.; specky and shelly splits, 1s. 5d to 1s. 7d. Ceylon-Malabar, medium to fair round brownish were limited at 2s. 2d., and lean brown at 2s. per lb. Seeds sold at dearer prices—viz., from 2s. 5d. for grey to 1s. 2d. to 2s. 2d. for brown. A case of wild Chinese cardamoms was offered, but no bid was made for it.

CINCHONA.

At auction on Tuesday, seven brokers brought forward supplies as under:—

	Packages offered.		
East Indian cinchona ...	1,412, of which 988 were sold.		
Ceylon cinchona	307	„ 225	„
Bolivian Calisaya cinchona ...	14	„ ...	„
Red cinchona... ...	3	„ ...	„
	1,736	1,213	„

There was a fair amount of competition for the manufacturing bark, but the prices obtained were about 10 per cent. easier; druggists' bark, however, was slightly firmer, and for one or two lots fancy prices were paid The average unit was $1\frac{1}{4}$d. to $1\frac{3}{8}$d. per lb., or a slight reduction on the last London sale. In the drug auction the only kind sold was flat Calisaya, which realised $8\frac{1}{4}$d. for sound, and 4d to $7\frac{1}{2}$d. for damages; thick flat Cartagena was limited at $4\frac{1}{2}$d. per lb.

The following figures represent the approximate quantities of bark purchased by the principal buyers:—

	Lbs.
American and Italian factories	153,525
Brunswick factory	29,713
Imperial quinine-factory	22,644
Mannheim and Amsterdam factories	12,075
Messrs. Howards and Sons	8,170
Frankfort-on-Maine and Stuttgart factories	8,000
Paris factory	4,875
Druggists, &c.	75,236
Total quantity sold ...	314,238
Bought in or withdrawn ...	134,395
Total quantity offered ...	448,633

The following prices were paid:—

CEYLON.—Succirubra: Ordinary to fair stem chips and shavings, $2\frac{3}{4}$d. to $3\frac{3}{4}$d.; root, $3\frac{1}{2}$d.; rich chips and shavings, $6\frac{3}{4}$d.; and broken quill, $3\frac{3}{8}$d. to $3\frac{1}{2}$d.

EAST INDIAN.—Ledgeriana: Natural stem chips, 4d.; renewed ditto, $3\frac{1}{2}$d.; branch, 6d. to $6\frac{1}{4}$d. Red stem chips, and shavings, 3d. to $3\frac{3}{4}$d.; common, $1\frac{5}{8}$d; ordinary to good root, $1\frac{3}{4}$d. to $4\frac{1}{2}$d.; bold quill, 5d. to 7d.; fair renewed chips and shavings, $2\frac{3}{4}$d. to $3\frac{5}{8}$d. per lb.

The shipments from Ceylon for the week ending July 25 were 9,610 lbs. only, and from January 1 to July 25 they were as follows:—

	1899.	1898.	1897.	1896.
Lbs. ...	466,741	570,955	408,691	685,321

QUININE

Has been quite neglected throughout the week, prices being again slightly easier, with sellers at 1s. 2d. per oz. spot in second hands for best German brands. On Wednesday small transactions were reported at this figure. "P. & G." brand (French) has sold at 1s. $1\frac{1}{4}$d. per oz. It is stated that this Saturday, the first prompt day for August delivery, more quinine has to be paid for than has ever been the case before on any Saturday. This partly accounts for the cheap sales of the week.

(AVERAGE FOR ALL INDIA 6·90d.) August 4th.

GARDEN.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price.
Neilgherry ...	311	6·85												
Brooklands ...	37½c	7	37½c	7	...	...	...	...	...	...	...	...	...	...
COA ...	22 p	6¼	...	..		...	10½c	7¼	...	...	..	...	12	5¾
Culloocoray ...	56 p	6¾	43½c	7¼		...	..	...			13	6	...	...
Glenmorgan ...	27	6½	...		12	6¼	7	8	6	6	...	...	2	5½
Tudor Hall ...	169 p	7	38¼c	7¾	63 p	6½ 7	41½c	7½	27	6½	...	...		...
South Wynaad ...	484	7·08												
Chulika ..	110 p	7	17½c	†8¾	36¼c	8	...		34	6¼	...	...	23½c	6 7
Do. ...	164 p	6¼	50½c	7¼7½	54½c	6½ 8	...	...	12	6¼	48	5¾		...
Kanambyle Chera...	141 p	7¼	...	..	72 p	†6¾†7	52	†8 9	17	†6½	..	...		...
Wynaad T Co Per .	69½c	6½	13½c	7	17½c	6½	15½c	†7	21½c	6	...	...	3½c	6
Terai ...	499	7·57												
Baghdogra ...	56	9¼	...	...	21	10¼	..	...	35	8¾	...	.	.	
Gungaram ...	129	7½	31	8	29	7½	20	9½	49	6½	.	...	...	
Marionbaree ...	85	6¾	..	...	61	6½6¾	24	7¼	...	...	...	...		
New Terai Assc. ...	139 p	7½	41½c	7¾	30	7½	21	8¼	30	6¾	...	...	17	6¾
Nuxalbarrie ...	50	7	...		25	7¼			25	6¼	...	...	...	...
Pahar Goomiah ...	86	7¾	23	8½	20	7¾	10	9	33	6¾ 7		...	...	
Tirrihannah ...	39 p	7½	39 p	7 8¼	...	...	...	...	...	...	...	...	...	..
Travancore ..	2018	6·44												
Ellangy ...	120	6	...	...	58	6	19	6¼	30	5¾	..	...	13	5¼5½
Glenmary ..	125 p	6¾	56	6¾7¾	39	6¼	...	...	...	...	...	...	30 p	5¾7½
Glenmore ...	160½c	6¼	...	...	116½c	†6	41½c	7¼	...	...	1½c	5¾	2½c	6
Home ...	159½c	5¾	...	...	96½c	5½	54½c	6	...	..	5½c	5¼	4½c	5¼
Isfield T C ...	118 p	6	9¼c	6¾	22	6¼	32 p	6¾	12½c	5¾	...	...	43 p	5¼5½
Kanan Dev Hil A ...	191½c	8¼	...	..	38½c	8	98½c	9½	28½c	†5¾	...	...	27½c	5½8
Do. Munaar ...	158½c	7½	...	...	94⅜c	7¼	33½c	9¼	31½c	6½	...	...	...	...
Kinmylies ..	79½c	5¾	5½c	6½	56½c	5⅜	7½c	6	7½c	5½	2½c	5¼	2½c	5
Do. ...	80½c	5¾	20½c	6¼	45½c	5¾	...		9½c	5½	4½c	5¼	2½c	4¾
Mahendragherry ...	81½c	6	...	...	58½c	6	10½c	6	8½c	5½	2½c	5¼	3½c	5
Do.	80½c	5¾	15½c	6¼	47½c	5¾	...	...	11½c	5½	5½c	5¼	2½c	4¾
ME ...	7	5½	...	...	...	...	...	...	...	...	7	5½	...	...
Merchiston ...	46 p	6½	16½c	6¾	10	6	14½c	6¾	...	...	...	..	6½c	5¾
P ...	7	5½	.	.	..	...	...	...	...	...	7	5¼5½	...	...
Penshurst ...	106	6¾	55	6¾7½	27	6½	...	...	12	6¼	...	.	12	7
Poonmudi ...	48 p	5¾	8	6¼	25	5½5¾	6	6½	7	5½	..	...	2½c	5¼
STT Co Venture H ...	156	6	...	...	63	5¾	50	6½	26	5½	..	...	12	5¼5½
Do. do. G...	114	6¼	...	...	56	6	52	6½	..	...	...	...	6	5½
SIT Co. Kuduwa K..	88	7	57	7 7¼	12	6	...	...	...	...	...	..	19	6½
Wallardie ...	100	6½	...	...	38	6½	47	6¾	10	6½	...	...	5	5½

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PLANTING OPINION.

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N.B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 22nd instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, 14*th Sept.*—*Weather.*—Heavy rain at the close of last week; over 2 inches in two days. On one estate, near Siddapur, 3 inches were received in 24 hours. Heavy rain has been so rare this season that everyone is talking of it. No rain on Sunday and Monday. Yesterday it was wet all through, but particularly so in afternoon. Over one inch received. *Plant-diseases.*—Leaf-disease is showing up nearly everywhere; but is not bad in parts. *Labour.*—Very abundant. *Health*—Good. Owing to good rain in Mysore, prices of grains somewhat easier. Half paddy fields will be left uncultivated this season.

IMPROVEMENT BY SELECTION.

When addressing the members of the U. P. A. S. I. at Bangalore in August, 1898, more recently before the Coorg Planters' Association, and again in his report on his visit to Coorg, Mr. John Cameron laid stress upon the necessity of careful selection of coffee seed, with a view to the improvement of strains, and the building up of disease-resisting constitutions. To the ordinary planter it may seem sufficient to select the heaviest seed, or the largest, or whichever sort seems to him most likely to produce the kind of berry he wants. Those, however, who take a true interest in this matter will profit by a valuable hint from Mr. Herbert J. Webber, Special Agent of the Division of Vegetable Physiology and Pathology of the U. S. Department of Agriculture. Mr. Webber does not confine himself to a mere outline, he fills in details, stating at the outset that "selection is one of the most important factors in plant-breeding," and treating it accordingly throughout his remarks. He observes that selection is frequently understood as meaning simply the use of

large, vigorous seed, and a consequent slight increase in production. While admitting that such selection is beneficial, Mr. WEBBER states that a factor of far more importance is that the seed be taken from vigorous, productive plants. "The inherent potentiality of the mother-plant, if it may be so expressed, is a more important consideration than the size of the seed, which is so materially influenced by the general productiveness of the plant."

DARWIN terms selection the "law of the preservation of the favourable individual differences and variations and the destruction of those which are injurious." The prime factor, therefore, consists in the skilful selection and propagation of plants showing desirable variations. The object is to effect a complete transmission of the desired qualities, and to augment them if possible, and the main difficulty with which the plant-breeder has to contend is the varying degree of the power of inheritance possessed by individual plants. Mr. WEBBER describes plant-breeding as including two processes, largely distinct in their nature: (1) the methods of securing variation, and (2) the fixation of desirable variations by methodical selection. In the paper under review he discusses chiefly the second point. Selection may have different objects: it may aim at the reduction of seed in fruit, or at the increase of quantity and size of berry in coffee, or at the improvement of size and flavour in tomatoes, and so on. The methods to be adopted are similar, however, though different types of plants or seeds are selected, according to the special object in view. What Mr. WEBBER would impress upon breeders is that selection should be made *in the field*, where there are a number of individuals growing and consequent abundant opportunity for choice. Another factor of great importance is the selection of individuals for breeding which exhibit, in the most marked degree, the feature to be improved. To attain this object the plant that bears the seed must be studied, and, when seeds are selected, seedlings must be watched and studied with care so that whenever improvement is perceptible among them, the process of selection should be again reverted to, and fixation of type attempted. The examples Mr. WEBBER gives to show how really useful selection has been carried out refer to the growing of cotton, but there is no reason why similar improvements to those effected in that staple should not be brought about also in coffee.

It has been urged upon planters again and again to establish experimental plots on their estates, to keep accurate diaries relating to these, and thus to prepare records from which agricultural scientists may obtain useful information. How many planters have done this? The expense would be almost imperceptible. The trouble would not be very great. If the work were well done with a special view to selection, improved types might be introduced, and the planter would then gain far more than he had expended. If cross breeding were resorted to, the trouble involved would be greater; but, apart from this, by simple selection of vigorous mother-plants in the estate; from them of large, mature seed; by the planting of these in the nursery; the selection again of the best of the progeny; and by a careful development of the pick of the seeds; it is almost certain that an improved type could be arrived at, a more prolific tree, and a seed of improved size and flavour. The interchange of seeds between planter and planter, district and district, would facilitate the process, and we think it probable that if a small band of coffee-planters would take this work in hand, on however small a scale, they would achieve very useful results, and afford other planters an instructive lesson as to the advantages to be derived from selection. If, on the other hand, planters take no steps of this kind; if they rely entirely on scientists, who must study an experiment for years before they offer useful advice; they become mere fatalists, waiting for the lightning to destroy them, or manna to fall whereby they may feed to avoid starvation. This is not the spirit in which difficulties should be met. It is at times like the present that the need for improved quality and quantity of production is most keenly felt, and we trust that some steps will at last be taken in the direction we have pointed.

THE ABOLITION OF BRITISH TEA-DUTIES.

The case for abolition has been stated by the Indian Tea Association, the case against is fairly well shown in the remarks of various speakers at the Annual Meeting of the U. P. A. and in a "communicated" paper which we extract to-day from the *Ceylon Observer*. One of the chief questions raised is whether the abolition of duty would break down the present monopoly that is said to be the cause of the heavy warehousing charges that have to be paid in London. If this were certain, we should require nothing further to convince us of the desirability of abolition. But we fear that warehouse charges must always be heavy in cities like London and New York, where rents are exceedingly high. Another question is, whether the abolition of duties and the removal of Tea from the control of the Customs authorities would involve laxity in regard to adulteration and unfitness for consumption. On this point a correspondent of the *Observer* writes that the levy of a duty on imported produce, apart from its value in a statistical way, must, when accompanied by careful inspection, tend towards the protection of the consumer's interests and as a natural result to those of the producer, as was recently shown at Sydney, where 8,000 lbs. of tea were condemned but foolishly re-exported. But, he says, tea inspectors and analysts are not infallible, and those in London appear unable to deal with the large quantities imported there.

And, it is added, "unless the Customs officials are empowered everywhere to destroy all condemned produce, we shall continue to witness the melancholy spectacle of British merchants sending worthless merchandise from one port to another, . . . at some port at which there are no vexatious Customs regulations to hamper free Trade." The allusion in this last sentence is to a remark by Mr. James Henderson on the same paper:—"As an instance showing how the Customs protect, both the public and the trade, I might mention that I happened to be down in Melbourne at the time a ship arrived there from China, when there were some very low-priced tea in the cargo consigned to a friend of mine. He was rather doubtful as to whether the Customs would pass them in Melbourne; so after careful consideration, he decided to send them round to Sydney where they were passed without difficulty. Why? For the simple reason that there was no Customs house supervision there at that time, though there was in Melbourne." The same writer touches upon another argument "against" in these words:—"It stands to

reason, . . . that the lower the price an article is reduced, the greater is the competition to supply the article at a very low rate, until the margin of profit is gone both to the producer and seller." Altogether opinions are very far from being in agreement, and it is thus very desirable that the matter should be thoroughly discussed and considered before any definite action is decided upon.

Finally, the Planters' Association of Ceylon, like the U. P. A. S. I., has decided to let the question of abolition lie over for the present.

MALARIA.

Major Ronald Ross, I.M.S., reports further progress: he has discovered the malarial mosquito in Sierra Leone! He was sent out there to find this little "varmint," he has found him, and has cabled home asking the Government to send out men to assist him in making investigations Major Ross was the first to establish authoritatively the connection between mosquitoes and malaria; he showed that some of these troublesome little pests were not guilty, but that there was one species which undoubtedly comprised malaria fiends. He established his hypothesis by discovering in this species the remains of the malarial parasite, and in a series of papers published in the medical journals, and demonstrations made before the Royal Society, he traced the life-history of the parasite within the organism of the mosquito from the time that the insect imbibes the parasite to its ejection when the insect bites a person. The object of the Sierra Leone expedition is to study all the conditions under which malaria is induced, and, if possible, to obtain some means whereby the mosquito may be exterminated. The expedition is in a place which is about the deadliest in the world, therefore the best for the purpose, provided the investigators do not find malaria too strong for them, *quod avertat Deus*. It may yet be that inoculation by means of malaria mosquitoes will be suggested as giving immunity from malaria!

BRAZILIAN COFFEE.

The difficulties and gloom that compass coffee are as much commented on in Brazil, the land of low grades, as in India, where high grades should form the chief supplies. From Brazil, as from India, issues the lament, "there is no money in the business for anyone at present prices." In both countries, too, doubts are entertained as to whether bottom has been touched. Indeed the question, is there a bottom? suggests itself after perusal of certain remarks in the *Brazilian Review*. This contemporary says:—"We have been asked by several anxious enquirers what bottom price really is at which coffee would cease to be shipped, but so far as we can see there is practically no bottom, so long as the crop is picked and ready for market and most of it mortgaged in some form or another, further than the cost of delivery, that is cartage, railway freight, duties and commissions. We saw a lot of *casquinha* (parchment) sold this week under 6$000 per *arroba* in which freight alone stood in at 2$000. So long as coffee has been picked and prices will cover railway fare and expenses it will be sent to market and when there it will be sold, whatever prices may go to. As regards the current crop things seem hopeless, but as the proverb says "*no hay mal que por bien no venga*" and the very acuteness of the crisis will prove its own corrective If prices fall so as to leave nothing at all for the *fazendeiro*, next crop must remain unpicked, at least in many districts. It cannot be picked or cured without labour, and labour costs money and where is the *fazendeiro* to find it if all his earnings are absorbed by freights and duties." The same paper adds:—"The matter is serious for every one. Unless things improve very soon it will be impossible for the railways to maintain their heavy rates. Either prices must improve, or there must be some kind of general readjustment all round. Commercial houses are complaining of the difficulty of collection in the interior and it is another of the ironies of a cruel fate that even this should tell against the planter in the long run and tend to send up exchange."

High Exchange combines with low prices to frighten dealers at Santos and Rio, and "the market, left to itself, has been slipping away daily." Generally speaking, it is said, qualities have fallen off. Badly-dried and rain-damaged goods are plentiful; but it is stated that news from the interior induces a belief that there will be an immediate improvement in qualities.

"THE DETERIORATION OF INDIAN COFFEE."

We extract to-day from the *Madras Mail* a long paper wherein, under the above heading, a Planter endeavours to prove that there has been *no* deterioration of East Indian Coffee. The figures he brings to his support are satisfactory enough in their way, though he does not handle them quite rightly, as, for instance, where he deduces from a small table of rates for E. India, Costa Rica and Mocha coffees in 1879-80, 1895 and 1899 that "E. India fine plantation has a greater lead of all others than it had." On the lowest figures of the ranges quoted this may be so; but on maximum rate it is not. And, whatever figures may show, there remains the solid fact that, in the opinion of some of the curers in this country and some of the leading brokers in London, there *has been* a falling off in the quality of Indian coffee. Such opinions count for a good deal, and we doubt if they are outweighed by quotations, necessarily approximate, from price-lists, which afford no clue to the reason why particular brands secured certain prices. Indian coffee has the advantage of including several very popular marks that command high rates year after year. It, perhaps, includes also a few marks of estates where young coffee, grown on almost virgin soil and with all the advantages of improved systems of cultivation, exhibits a colour and boldness superior to even the berry from the most famous of the older estates. These last are, however, almost "chance" items, and must not be accorded too much weight in a comparison of prices between the produce of one country and that of another. Such a comparison is necessarily extremely difficult to make except in an off-hand way; and rather than be influenced by "Planter's" optimistic view of the situation, we would urge all coffee planters in South India to lean towards a belief that Indian Coffee has deteriorated and to make up their minds that so far as matters are within human control the causes of that deterioration shall cease, and a strenuous attempt be made to bring about an improvement in the quality of Indian coffee.

TEA FROM SEED TO CUP IN SOUTHERN INDIA.

(By Thomas Brown, Glendale, Coonoor.)

XIII.

Roofs of great span are most expensive, and it is wise to consider if a double gable, with guttering down the centre, is not the cheapest and best. If the guttering is properly put in upon a set plan originally, it will never leak; common jungle wood with bamboo mats and locally made tiles make an excellent roof, giving an equable temperature and a far better wither than does a corrugated iron roof.

Mercantile Mission tiles, too, make an excellent roof, and, if it be decided to use these, it should be borne in mind that the rafters must be 5″ × 2″ and no more than 3 feet apart, and the scantlings across, to bear the tiles, 2 inches wide and 1½ inches thick, of good teak or ben-teak. Ridge and ornamental tiles for corners in great variety are also procurable that will add much to the beauty of the building. A recent introduction are final flat tiles without the turn down, to catch a lower tile, so that the drain water goes clean off without turning inwards and on to the walls. These points should be most carefully noticed.

The Cost of Roofs varies between 30 and 100 rupees per 100 square feet, the latter being about the cost of a roof of large span with iron trusses, of which kind of roofs estimates can be obtained from any Engineering Firm. Should it be decided to have such a roof, it is best to give the outer measurements of the building and allow a firm to contract to supply the whole at so much per 100 square feet and get a good carpenter to put it together at Rs.3 to 4 per 100 square feet, without the cost of raising the trusses into position, as this is a somewhat troublesome job, although simple enough with the aid of a chain and differential pulley. Our estimate will provide for the simplest and cheapest kind of roof with a double gable and costing about Rs.30 per 100 square feet. We have made such roofs ten and fifteen years ago, and they have cost very little for repairs. The bamboo mats can be tarred thinly on one side, first of all being soaked in water for a week to kill the embryo of insects, by mixing kerosine oil with the tar, keeping it on a charcoal fire and choosing a hot day. A maund of tar of 25 pounds may be made to do for 42 building mats, each 6″ × 3″, sufficient to cover 600 square feet of roof.

The cost of such a roof in detail per 100 square feet, roughly, is as follows:—

	Rs.	A.	P.
75 feet of half rafters, 3×2 sawn on Estate ..	1	4	0
27 feet of full rafters, 5×2½ ..	1	0	0
7 bamboo mats 6×3	1	0	0
20 nut reepers, each 15 feet long ..	2	0	0
3 bamboo reepers, each 12 feet ...	0	6	0
1,500 tiles at 4 rupees ...	6	0	0
Bricklayer and lime	3	0	0
Carpentering, inclusive of king posts	3	0	0
One-fourth cost of king post of good teak wood	7	8	0
Nails, screws, guttering, etc. ...	4	14	0
Total ...	30	0	0

Should no guttering or king posts be necessary, over Rs.10 per 100 square feet will be saved, so that for common outhouses and cooly lines the full cost will come down to Rs.20 per 100 square feet only. The carpentering, too, becomes cheaper, viz., Rs.2 to 2-8 only instead of Rs. 3.

Smoke Flues for steam engine boiler and Sirocco, it will be found, are arranged to go up the centre wall of the Factory to add stability to the building, to avoid the use of objectionable iron chimneys that are always rusting, and leaking, and to economise heat for the withering. A masonry chimney, heated during the day, will give off a gentle heat all night and help to give a good wither without the use of fans. A great advantage too will be gained by this plan in the length of

Main Shafting required to drive the machinery. One 40 feet length across the room will suffice and some of the bearings will come on the walls, thus lessening strain on the few brackets that are used.

Bearings of an excellent kind are now available from Messrs. Davidson & Co., *viz.*, "adjustable swivel bearings;" also hangers, brackets, pedestals to which they are fitted, with adjusting screws which with the swivel movement renders erection and alignment a matter of the greatest ease.

Pulleys are best of wrought-iron (split) or the new Kercsha wooden pulley. The latter are very light and do very well for turning light machines like fans The former would be best for rollers.

Belting may be any of the many kinds of excellent cotton now sold. Avoid leather as you would the plague, as rats make sad havoc of it; the stitching is constantly giving, and calls for the services of a cobbler!

Length of Belt required can be determined easily by passing a tape round the 2 pulleys to be connected, and drawing up fairly tight; also by taking double the distance from centre of one shaft to the other and adding half the circumference of each wheel thereto. The latter is the better plan.

TELEGRAPHIC QUOTATIONS.

London.— September	9	11	12	13
Bar Silver	27 3/16 d.	27¼d.	27¼d.	27⅛d.
Bank Rate	3½%	3½%	3½%	3½%
Coffee.				
Stock, tons ...	...	...	25,642	...
Ft'nt's landings ...	...	...	1,600	...
Do. deliveries ..	...	...	1,800	...
Cinchona bark	...	...	[quiet]	...
Price per unit	...	...	1½d.	...
Monthly sale pkgs.	...	...	1,500	...
New York.—				
Coffee—Fair Rio ...	5½	5½	5½	5½
Futures, Dec. ...	6·12	6·15	6·04	6·16
Silver—Comml. Bars ..	59⅛	59⅛	59⅛	59⅛

NOTES.

A New Bank for Brazil. A New Bank is being organized under the auspices of the *Banque de Bruxelles* to operate in Brazil with a capital of Frs. 25,000,000, the whole of which will be subscribed at Brussels and Antwerp.

Shipments of Tea from Beypore 1898-99. Shipments of Tea from Beypore from 1st July 1898 to 30th June 1899 amounted to 1,28,878 lbs. Of this, 1,28,778 lbs. went to the United Kingdom, the small remainder to the Continent of Europe.

Cinchona Succirubra. Mr. Hooper, formerly Government Quinologist at Ootacamund, considers that the bark of *cinchona succirubra* yields the most valu-

able febrifuge, and points out that the wood, being close grained and hard, forms first-class fuel in the *kutcha* state, besides being admirably adapted for making charcoal.

Coffee and Agricultural Banks. A Mysore paper says that the failure of the coffee crop has affected the condition of Agricultural Banks in Mysore to a great extent. Other Agricultural Banks, too, it says, are not in an efficient condition, and the fear is entertained in some quarters that these Banks will end in failure.

Fibre. The cultivation of *Agaves* on waste land is recommended, the fibre thus rendered available being likely to bring a fair profit. The following have been extensively tried and have proved to yield a good return, viz., *Agave Americana*, *A. rijida* variety *sisalana* (the Sisal hemp), or *Furcræa gigantea* (the Mauritius hemp).

The London Tea Market. On 7th instant Messrs. Gow, Wilson and Stanton reported a fractional advance, good liquoring broken pekoes wanted. Fair liquoring C. P. Souchong 6¼d. (¼d. up) average for Ceylons 7⅜d. (⅜d. up). Reuter states that 30,000 packages Ceylons were sold out of 31,000 offered, and 38,000 Indians out of 40,000 offered. The average of Indian was 8⅝d.

Tea-planting in India. *Country Life Illustrated*, of the 12th ultimo, contains a pleasantly written account of life on an Indian Tea estate. This sort of thing no doubt helps to advertise Indian teas, and so far it is useful ; but, if it encourages many of the rising generation to seek their fortune on tea estates, there will be disappointment in store for some of them.

Ceylon Green Teas. The *Times of Ceylon*, under the head of "Green Teas for the Paris Exhibition," puts forth quite a touching appeal to the Chairman and the General Committee of the P. A. and to the Thirty Committee to eliminate green teas from the exhibits which are being collected under their auspices. Our contemporary's idea is that Ceylon should put her stakes on *black* tea and back that alone.

Coffee in Nicaragua. The British Consul remarks, in his report for 1898, that Coffee, which is the principal export from Nicaragua, presents a much lower figure compared with 1897. There is a reduction of 34,000 bags in quantity and £135,000 in value, low price being allowance with a bad crop. About 70% went to Germany, 20% to Great Britain, the rest to France, Italy and the United States.

The Planters' Association of Ceylon. By means of a private guarantee, Mr. Kelway Bamber's services have been secured for a period of five years. The Committee has not been convinced by the letter of the I. T. A. about the abolition of the British Import Duty on Tea, but has resolved : "That the Committee having considered the letter of the Indian Tea Association deem it inadvisable to take action in the matter at present."

Manufacture of Caffeine. The export of denatured tea to Germany is now very large, and the Germans send back to England the prepared drug as citrate of caffeine, or in other forms. Of 177,206 lbs. of denatured tea, 143,167 lbs. was exported, and only 34,039 lbs. retained by British caffeine-makers. This covers a period of three months, says *Commercial Intelligence*, but our contemporary does not say when. We presume this year.

American Grades of Coffee. The following are the present differences between grades as fixed by Exchange coffee standards :—

No. 1	...	3·00	above	No. 7	No. 6	..	·50	above	No. 7
„ 2	...	2·50	„	„ 7	„ 7	...	——	„	„ 7
„ 3	...	2·00	„	„ 7	„ 8	..	·50	below	„ 7
„ 4	...	1·50	„	„ 7	„ 9	..	1·00	„	„ 7
„ 5	...	1·00	„	„ 7	„ 10	...	——	„	„ 7

Russian Tea. The *Madras Mail* remarks :— Indian tea planters may be interested to hear that the Chakvin Estate, in the Caucasus, yielded 72,000 lbs. of tea this year. This is said to be a very considerable advance on last year's harvest. Hithert.° tea planting in the Caucasus has only been carried on in a small way ; but, if the industry proves a financial success, there seems a probability of a considerable increase in the area under tea before long.

Colombo Tea Sales. At the public sales of tea at Colombo on 6th instant about 7,567 pkgs. = 586,967 lbs. were offered, of which about 6,600 pkgs. = 511,951 lbs. were sold. Prices at the auction were again firm for grades with an upward tendency ; the quality of teas offering generally was not so good as last week. Among the best teas in the sale were, says the *Times of Ceylon*, Mount Vernon, High Forest, Silverkandy, Palmerston, Agra Ouvah and Glasgow.

New Source of Guttapercha. M. Jouffroy d'Albans, the French Consul at Singapore, writes to the *Courrier de Saigon* regarding an invention made by a Frenchman in the Straits to extract guttapercha, principally from the leaves of *Isonandra Hookeria*. The leaves, dried, are sent to Belgium and France for the extraction of the gutta. This trade in dry guttapercha leaves has considerably increased at Singapore and Penang. The gutta thus produced is said to be of such high quality that the Eastern Extension Cable Company has contracted with the inventor for a supply of it.

Counting the Cost. It is calculated that the war about the 1-lb. draft cost the revenue about £5,000 a week, during the four or five weeks it lasted ; but this is scarcely a fair calculation, as the Customs would receive much of the money later, though no doubt some teas that would otherwise have gone on to the London market were diverted to other centres. When we commented on the fight as favourable to China's prospects, many planters thought China was played out ; but a usually well-informed London correspondent writes :—China probably got her oar in further than usual while the dispute lasted, and it is calculated about 50 tons more of China tea has been sold than usual during the last few weeks at Mincing Lane.

Calcutta Tea Sales. At the tea sales at Calcutta on the 1st instant, 19,700 packages were sold. There was a good demand for all descriptions, except

good medium broken pekoes, which were slightly easier. Common pekoe souchongs were well competed for, and were occasionally rather dearer. The quality remains the same; and there is a marked absence of anything really "stand out." Advices from the districts are unsatisfactory regarding yield. At the tea sales on 8th instant, 25,574 packages were sold. The demand was good for all descriptions at fully previous rates. Really fine teas were scarce; but the quality on the whole was rather better. The exports from Calcutta to Great Britain during the week show a further falling-off, the total quantity shipped to date being only fifty-eight millions.

Java Quinine Market. A telegram from Bandong, dated July 8, to the *Batavia Nieuwsblad*, says that the committee, formed for establishing the Batavia quinine market, has decided to issue a circular to the planters giving particulars of the conditions for the supply of bark to be used for the manufacture of the quinine to be sold at the January auctions. The supply of the required bark has already been secured from several planters, but an opportunity for general participation will be given until the end of September, and the orders will then be placed *pro ratâ*. At a meeting held on the previous day between the committee and the planters, the latter appeared to appreciate the efforts made by the Bandong factory, and it is further stated that the Government has promised to supply 250 tons of bark to the Bandong works.

Reduction of Russian Tea Duties. According to a decision of the Council of the Russian Empire, passed on the 4th and 16th June 1899, and published in the Bulletin of Laws of the 25th June and 7th July, 1899, the following alterations, under the Russian Customs Tariff, in respect of the duty payable on tea, are decreed :—

1. Brick tea, black and green, imported into Russia across the European frontier to pay duty at the rate of 11 Roubles 25 Copecks per poud (Former duty 31 Roubles 50 Copecks per poud).
2. Black, flower, green, and yellow teas imported at the frontiers of the Steppe, Irkutsh and Cis-Amur Governor Generalships to pay duty at the rate of 22 Roubles 50 Copecks per poud. (Former duty 19 Roubles 50 Copecks per poud).

With the completion of the Russian lines of rail to the Pacific, the rates of duty on tea will be subject to further consideration. As these alterations refer only to *brick tea*, they are of interest chiefly because they reflect a determination to encourage imports by sea rather than overland

South India and Tea. The *Indian Sportsman* remarks :—Referring to the Chairman's speech at the recent South of India Planters' Conference, we do not think it was good judgment of our Tea Associations not to consult the Southern tea planters in the matter of the recent draft dispute, possibly as the Chairman good humouredly remarked their "interest in the tea trade were too small to influence the position," but tea in South India is growing in importance and it would at least have been a graceful act to recognise the Nilgiris and Travancore as having interests identical with our own. Some day we may need their aid. There are times ahead when the margin between defeat and victory will be narrow indeed, for there are many things to rectify in tea affairs; and we shall want all the help we can get; then the advantage of a good understanding with our Southern brethren will be apparent. But this is only another of the things which were "muffed" by those who engineered the famous draft compromise.

A Word about Gray Blight. A correspondent of the *Times of Ceylon* remarks :—"It is, I think, a commonly accepted fact that indigenous and high jât tea is much more liable to disease of any sort, than the medium to common jât hybrid. However correspondents on the subject of gray blight have not, as far as I have seen, mentioned the jât of tea attacked. I would venture to suggest that the scare about Gray Blight is due, in a large extent, to the fact that it *has* affected the yields of certain estates, which have been originally planted with high jât seed, and that, consequent on this, Superintendents of surrounding estates, planted with a much lower jât, have discovered that Gray Blight occurs in their tea also." He states that he has seen Gray Blight on various estates for the past six or seven years, but has never heard that it affected the yield of those estates, which, in every case, were planted with the ordinary hardy and rather common jât hybrid. As he remarks, it would at any rate be interesting if Superintendents of places affected, would state what jât of tea suffers most.

B. C. African Tea. The following remarks appear in Notes by Mr. John Mahon on the Vegetable Products exhibited at the Mlanje Agricultural Show, British Central Africa, held in September 1898 :—Tea was a highly interesting exhibit. The aroma, manufacture, and appearance were satisfactory and indicated much attainable possibilities with this important product. When subsequently tasting the decoction prepared from samples of the exhibits, one felt that, at least, British Central Africa might supply its own wants in this direction, and certainly similar tea should command a ready market externally. It is true that only a comparatively limited area of the present coffee region is suitable for tea-planting, but there exist on most estates favourable positions to grow a moderate quantity. Although a considerable rainfall is essential to success, yet, under our climatic conditions, much could be accomplished with the aid of irrigation. The tea exhibited was exclusively produced on the south-east slopes of Mlanje, but judging from the expressions of planters from other districts, tea evidently commended itself as a desirable accessory culture.

Short Weight in Packet Teas. An interesting point bearing on the sale of packet teas was lately raised at the Richmond Police-court. Recently an officer of the Inspector of Weights and Measures went to the Richmond Branch of the Home and Colonial Stores and asked for three-quarters of a pound of eighteenpenny tea. He was given two packages, apparently a half-pound and a quarter-pound in weight, but it was subsequently found that the actual weight of the tea in them was short of three-quarters of a pound by 4dr. 19grs. Mr. Bodkin, who appeared for the defence, did not question the facts of the case. But he submitted that to come within the provisions of the Act there must be some physical and visible fraudulent mark on the goods or the covering thereof. In this case, there was no mark on the packages setting forth the amount of tea that they contained. The magistrates, after a brief consultation, said that, in their opinion, the case was not made out, and they dismissed the summons. The incident serves

to show that even a revised Act may be easily evaded unless the marking of packages with their professed weights is made compulsory.

The Winner.

The London correspondent of the *Times of Ceylon*, commenting on the struggle about the 1-lb. draft, observes :—"Of course, the London distributors claim to have won the fight, but it would perhaps be more correct to allow that they have scored the odd trick of the game." Yet in almost the same breath he admits that the 1-lb. draft custom "has just acquired a very long lease of renewed life." As this was the bone of contention, there can scarcely be a doubt as to who has really won, whether we allude to a game or a trick. By the way, writing to the *Daily Telegraph*, Mr. Ernest Tye, Secretary of the Indian Tea Association, says :—In your interesting article on the settlement of the tea trade dispute the double concession to which you refer, which buyers had (in addition to the 1-lb draft) in the method of weighment, "which made them a present of from 1 oz. to 15 oz. in each package," should be "1 oz. to 31 oz." as the buyer got all fractions over the even pound twice over, and therefore might receive as much as 31 oz. in addition to the 1-lb. draft. The alteration now to be made is a somewhat fairer system to the producer.

The Finances of Indian Tea Companies.

Mr. Seton's annual tabular return showing the results of the working of forty-five Indian tea companies gives the paid-up capital as £7,047,885. The average dividend distributed on this capital was 5¾ per cent., which is a shade below that of the previous period. The reserves are also a little lower, being £534,000 against £559,000. These results follow naturally upon the fact that the profit per pound earned was only 1·45d. representing £392,000, against 1 5d. per lb. representing £413,000 in the 1897 season. The dividends distributed by these 45 companies varied considerably, and it may be interesting to shortly summarise them. Thus, five companies distributed from 12½ to 15 per cent., seven from 10 to 11 per cent., thirteen from 5 to 8 per cent., and nine from 2 to 4½ per cent., while eleven companies paid nothing. The shareholders of the Brahmaputra have received 15 per cent. The Amalgamated Estates, Assam, Dooars, and Doom Dooma companies have distributed 12½ per cent., the Jorehaut 18 per cent., and the Balijan, Consolidated Tea and Lands, Jokai, Lebong, Moran, Rajmai, 10 per cent.

Coffee Statistics.

"Coffee Statistics" 1899-1900 furnishes the information that the chief coffee markets are London, Havre, Hamburg, the Dutch ports, Trieste, Antwerp, Bordeaux, and Marseilles. The total production during the current year (*i.e.*, up to June 30 next) is estimated at 15,285,000 bags of 60 kilogrammes or 132¼ lbs. each. Of this over 10½ million bags belonging to Brazil, Santos coming first amongst Brazilian ports with 6,000,000 bags, and Rio next with over 3¾ millions. Mexico and the Central American States come next 1½ million bags, then Venezuela and Colombia with 1¼ million ; Java supplies 650,000 bags, the West Indies (chiefly Hayti, Cuba and Puertorico) 550,000 ; British India and Manila, which are classed together, send 300,000 bags, Africa and Arabia 250,000, and the small balance comes from Sumatra, Ceylon and the Eastern Archipelago. During recent years the production has fluctuated considerably ; in 1894-95 it was over 11½ million bags ; the next year it fell to 10¼ millions ; in 1896-97 it rose to over 13½ millions, and in the following year to over 16 millions, while last year it again fell to over 13¼ million bags. The prices show still greater fluctuations. The figures given by Messrs. Leech show how completely the world depends for its coffee on Brazil and how dependent the market prices are on the production there.

The Depression in Coffee.

Alluding to the dullness of demand for Coffee, a leading New York dealer remarks :—At certain periods of the year there appears a distinct and unaccountable disinterestedness (? "disinclination") on the part of importers and jobbers to transact business. This is due in the main, I think, to the fact that men often buy very large quantities at a time and anticipate that they will dispose of their purchases with the same avidity that they have shown in securing a "seeming bargain," and then bye-and-bye they realize they are carrying more than they feel entitled to do, which completely closes their interest in any new lot that may be offered. If this should happen with a number of the largest men on the street at the same time (and I firmly believe it does), this idea of mine, immediately shows a cause why, from time to time, the market utterly devoid of interest, no purchases take place of any note, and sales of great bulk are impossible unless at a sacrifice." It is as well, however, to explain that this circumstance does not necessarily mean a weakening of quotation prices, nor would it be at all probable that any serious calamity is expected ; but merely a standoffishness for a few days or a week among the biggest men (who naturally influence the market) and a disinclination to purchase lots.

Through American Spectacles.

Mr. A. R. Robertson, New York representative of the Consolidated Tea and Lands Company, Limited, visited England lately. On his return he said:—"The difficulty in regard to the one-pound draft, which caused so much trouble in England between the growers and dealers some time ago, is still unsettled. The dealers are endeavouring to boycott the growers, who, I understand, have ceased to offer teas in Calcutta and Colombo. Consequently, the dealers must eventually buy in the London market, as most of them are already short of stock. About ten days ago a sale took place in London which was made up of teas principally thrown in by dealers, in order to distribute the stock around and maintain their position universally. There is little doubt in my mind that as soon as an equitable arrangement has been effected between these two factions we will see an active market at possibly greatly enhanced values. From what I have been able to gather since my return, I should say that the general tea market presents good opportunities to save money by retailers laying in their stocks for the fall trade before any activity presents itself, as teas are now about as low as there is any possibility of their being, and I should not be at all surprised that at the first spurt of business the popular grades will advance several points."

GENERAL ARTICLES.

GRAY BLIGHT.

A planter writes to the *Ceylon Observer* :—

I have heard a good deal about Gray Blight lately, and the outcome of my investigations is very much as follows :—

Yield is affected, but apparently, principally, in low country estates of light soil. There is a tendency to blame Gray Blight for shortages caused by other conditions : such as, drought, followed by continuous wet, starvation expenditure during the late lean years, too fine plucking, overplucking and letting tea run too long between prunings, etc. I have heard it stated that some 40 to 50 lbs. per acre represents the maximum damage attributable to Gray Blight alone.

Cause.—This is mysterious and has been attributed to Indian seed, and to imported castor cake.

Cure seems difficult, but, burning of prunings has had some effect. Burying of prunings is being largely done, but this is expressly, I believe, discouraged by Dr. Watt, unless the burying is accompanied by an application of sterilising agents like lime and other caustics, or germicides, like sulphate of copper, bichloride of mercury, etc.

Effects seem luckily not permanent, and fields badly affected have recovered and given increased yields after the attack had passed away.

Source.—Jungle trees are badly affected and grevilleas and gums and garden plants (roses, etc.) suffer badly. This would seem to indicate that the disease has been always present, and is merely following the usual rule which makes these pests manifest themselves most markedly after abnormal seasons. The local origin is also distinctly indicated by the fact that the places most affected are often in close proximity to jungle and tracts of uncultivated chena.

Future.—With regard to the future of the pest a more hopeful tone obtains, and it is not generally believed that in any way will its ravages approach those of *Hemileia* in coffee.

Remedial Measures.—High cultivation is regarded as now essential everywhere, for although manuring gives no immunity from the disease (may even cause it if castor cake is to blame) it nevertheless keeps the trees in heart and enables them to throw off the disease, and to return to good flushing, when the attack has passed away.

Handling.—A Pussellawa planter has in your columns made a suggestion that old leaves should be handled off—midway between pruning and pruning—and this would be a distinct discouragement to blights of this sort, which attack mature leaves and not the young flush.

The objection has been raised that this could not do any good, as a fresh attack has been observed on tea within three months of its having been pruned down on account of Gray Blight. But the Gray Blight was not (in one instance of the kind) to be noticed on the new leaves formed since pruning, although the leaves left by the pruners were (as might be expected) severely affected. Had these leaves been handled off before pruning, there would have been no place of lodgment for the attack until the fresh flush thrown out after pruning had got hard and prone to attack.

Airtight Bags and Baskets.—The use of airtight receptacles for diseased leaves, such as waterproofed bags and baskets, seems impracticable.

Sources of Infection.—The fingers and clothes of every coolie working in an affected field would disseminate the spores. Weeders are always moving from place to place from diseased to healthy patches—and necessarily from their stooping position are in constant actual contact with any diseased leaves that may be on the trees.

One good windy day would infect more bushes and scatter more spores to leeward of a *blighted* grevillea or gum, than could be bottled up in several hundred waterproofed sooty sacks or baskets covered with oil skin.

Another source of danger is from coolies carrying away prunings from pruned fields for firewood through fields as yet unaffected. On many estates this is the only firewood available for use in the lines, and it is impossible to burn infected prunings on the field.

These sources of contagion are so numerous that the attempt to prevent the spread by using airtight bags or baskets seems useless. Remedial measures are thus reduced to—

I. High cultivation (*a*) Manuring; (*b*) Digging.
II. Pruning of infected areas followed by IV and V.
III. Handling out mature leaves as a preventive.
IV. Burning prunings.
V. Burying leaves (preferably with *a*) some Detergent like Quick-lime, or *b*) some Disinfectant like Carbolic Acid).
VI. Collecting and destroying diseased leaves, either from the trees, or where lying on the ground, but without pruning down.
VII. Keeping the ground free of the litter from grevillea trees, &c.
VIII. Keeping trees free of moss and lichen.
IX. Applications of curative chemicals such as whitewash lime, Bordeaux Mixture, &c., all of which will probably be too expensive for general application.
X. In extreme cases uprooting of hopelessly diseased trees and patches of tea.

MATÉ.

The *American Grocer* says :—

Yerba maté or Paraguay tea, is a popular beverage in South America that has been used for centuries. In 1898 the exports of this leaf from Montevideo, Buenos Ayres, and Valparaiso were over 50,000,000 pounds.

For a long time Paraguay enjoyed the reputation of producing the largest quantity and the best quality of maté, but it is surpassed to-day by Brazil. The State of Paraná alone exports annually 22,000,000 kilograms (48,501,200 pounds).

The cultivation of this shrub has assumed such proportions that in the interior of the country there are whole forests of maté. Mr. Barbier, who was sent by the French Government on a scientific mission to South America, estimates that more than 11,000,000 people use maté.

In a volume published in Paris in 1716 occurs the following description :

"During the day, they make much use of the herb of Paraguay, which some call St. Bartholomew's herb, who, they pretend, came into that Province, where he made it wholesome and beneficial, whereas, before, it was venemous. Being only brought dry, and almost in powder, I cannot describe it. Instead of drinking the tincture, or infusion, apart, as we drink tea, they put the herb into a cup or bowl made of a calabash or gourd, tipped with silver, which they call maté; they add sugar, and pour on it the hot water, which they drink immediately, without giving it time to infuse, because it turns as black as ink. To avoid drinking the herb, which swims at the top, they make use of a silver pipe, at the end whereof is a bowl, full of little holes, so that the liquor sucked in at the other end is clear from the herb. They drink round from the same pipe, pouring hot water on the herb as it is drank off. Instead of a pipe, which they call *bombilla*; some part the herb with a silver separation, called *apartador*, full of little holes."

The Minister from Brazil to the United States (Senhor Joaquin Francisco de Assis Brasil) prepared an article for the Bureau of American Republics, describing yerba maté, which comes to the market in the form of broken leaves, coarse powder, or in stalks, and is prepared by infusion in boiling water, like tea. It is taken with or without sugar, according to individual taste. Maté is also prepared in a small vessel called *cuia*, from which the tea is sucked by means of a tube which terminates in a hollow perforated sphere called a *bomba*.

Doctor Peckholt, of Rio de Janeiro, makes the following comparative analysis of green tea, black tea, coffee, and maté :—

[In 1,000 parts.]

	Green Tea	Black Tea.	Coffee.	Maté.
Essential oil	7·90	6·00	0·41	0·01
Chlorophyl	22·20	18 14	13·66	62 00
Resin...	22·20	36 40	13 66	29 69
Tannin	78 60	128 80	16 39	12 28
Caffeine or theine ...	4 50	4 30	2 66	2 50
Extract matter, etc. ...	469·00	390·00	270·67	238·83
Fibers and cellulose ...	175·80	283 20	174·83	183 00
Ashes	85 60	54 40	25 61	38 11

From this analysis, Doctor Caminhoá, professor of the faculty of medicine of Rio de Janeiro, draws the following conclusions :—

First.—Maté contains less essential oil, is less stimulating than

coffee, black or green tea, and is, therefore, a beverage especially suited to nervous people, women, and children.

Second—Maté contains more resin than coffee, less than green tea, and very much less than black tea; it is, therefore, more diuretic than coffee, and as a stimulant rivals green tea.

The opinion of Doctor Caminhoá has been confirmed by other scientific men, among whom may be cited Doctor Lancaster, superintendent of the department of animal and food products of the South Kensington Museum; Doctor Schnepp, assistant inspector of the Bonnes waters, and Doctor Conty, the French savant, besides many others who have used and analyzed the product.

Maté is prepared by infusion or decoction. Ordinarily one uses 25 grams maté to 1 liter of water, but this, of course, is regulated according to the individual taste. It is allowed to steep ten to fifteen minutes, and after being strained is served. It is sweetened to taste, and a little milk or rum is sometimes added. The use of utensils of iron should be avoided, as they give a dark color to the beverage.

On account of its peculiar taste, maté is frequently not liked at first. It acts as a powerful tonic, especially for invalids and those who are given to excessive physical or intellectual labours, and for all those who endeavour to solve the problem of excellent nourishment at a small expense. The journal *La France* declares that it was maté that enabled Doctor Tanner to endure forty days of fasting.

Maté is a quencher of thirst *par excellence* and a great restorative. It is a beverage specially adapted to men of studious habits to whom the use of coffee is harmful, as it gives the same results without unduly exciting the nervous system. It may be drank cold, but it is generally served hot, and lovers of maté absorb it by means of a *bombilla*, which is a diminutive *bomba*.

In Brazil the collection of maté is begun in December and continues until August. A company of gatherers set out, taking with them such provisions, tools, and cattle as are required for the expedition. On arriving at a suitable locality, they establish a camp or ranch, and immediately begin to gather maté, which is dried and packed on the grounds. The process is as follows: The leafy branches of the maté are cut down and placed in a pit about 6 feet square, where they undergo a roasting from a bright fire This operation demands much care, since it is upon this process that the aroma of the maté depends, and the required amount of heat is only learned by long experience. After two or three days of drying, the leaves are reduced to coarse powder, and are packed in *serons* or bags made of raw hides, which are then exposed to the sun.*

The quality of the maté varies according to its origin and the method of preparation. That which is gathered from regions along the coast is the poorest, being less rich in gum and resin and having less aroma than that from the interior of Paraná and Paraguay. Leaves a year old have few of the properties required, while those of four or five years, being darker in color, thicker, and having a larger number of glands, give the best maté.

TEA PESTS.

The following are extracts from notes on insect-pests from The Entomological Section, Indian Museum, by E. Barlow, Assistant in charge of Entomology:—

1. Euproctis Latifascia, Walker. (Sub-ord. Heterocera, Fam. Lymantriidæ.)

In March 1897, from Messrs. Andrew Yule & Co., were received some living specimens of a caterpillar which had been doing a great deal of damage to tea plants in the Darjeeling district. The caterpillars were said to be in millions and to be quite stripping the bushes of their old leaves.

The caterpillars forwarded were evidently full grown specimens, as immediately on their arrival in the Museum, when transferred to a rearing cage, they began to transform themselves into chrysalids. The moths which emerged after about twelve days, were identified as belonging to the species *Euproctis latifascia* of Walker, who describes the female as follows:—

White. Antennæ with testaceous branches. Abdomen brown, white at the base, luteous at the tip. Length of the body 6 lines; of the wings 20 lines.

Hab.—Nepaul.

According to Sir G. F. Hampson, the species is identical with Walker's *Euproctis antica* and *E. postica*, and Moore's *E. abdominalis*, which have been described thus:—

Euproctis antica, Wlk ♂ and ♀. White. head, palpi, fore-part of the thorax and fore-legs luteous in the male, testaceous in the female.

Female.—Abdomen and fore-wings with a very slight testaceous tinge. Length of the body 5-7½ lines; of the wings 12-18 lines.

Hab.—Nepaul, Hong Kong, India.

Euproctis postica. Wlk. ♀. White. Palpi porrect, smooth, hardly extending beyond the head; third joint conical, not more than one-fourth of the length of the second Antennæ very broadly pectinated. Abdomen brown above; apical tuft, small, white. Legs pubescent; hind tibiæ with four long slender spurs. Wings rather short. Fore-wings rounded at the tipes; exterior border convex, very slightly oblique. Length of the body 6½ lines; of the wings 14 lines.

Hab —Hindostan.

Euproctis abdominalis, Moore, ♂ and ♀. Cream-white; abdomen blackish; anal tuft ochreous; legs white.

Expanse, ♂ 1 $\frac{1}{10}$, ♀ 1 $\frac{3}{10}$ inch.

Hab.—Dharmsala.

Allied to *E. postica*. Wings comparatively longer and narrower.

2. THOSEA CERVINA, MOORE.

(Sub-ord. Heterocera, Fam. Limacodidæ.)

In July 1894 were received from Messrs. Finlay, Muir & Co. specimens of live cocoons, the caterpillars of which were reported to have done a good deal of damage to tea plants on the Rungamuttee garden in Jalpaiguri.

From the cocoons, two moths, a male and female, were successfully reared in the Museum; these, however, proved to be unrepresented in the Museum collection, but they were so far identified as belonging to the genus *Thosea*. For more precise determination, the female moth was sent to Sir G. F. Hampson of the British Museum, who very kindly identified it as *Thosea cervina*, Moore. His description of the moth is given below:—

Male.– Head, thorax, and abdomen red-brown. Fore-wing silky gray-brown, with a dark speck at end of cell, and a slightly incurved line from costa just before apex to near outer angle which is red-brown with a pale outer edge. Hind-wing and underside dull blown. Antennæ with basal joint pale; a conspicuous white spot at end of fore tibia.

Female.—With the sub-marginal line of fore-wing erect; the basal joint of antennæ dark: no white spot on tibia.

Larva green, with a yellow-bordered dorsal irregular band, linear and purplish anteriorly, dilated at middle and cleft behind, purple streaked, and with the angles at middle red; anterior and posterior subdorsal spinous tubercles; lateral and sublateral series of longer tubercles.

Hab.—Sikkim; Ceylon. *Exp.* ♂ 38, ♀ 44 millim.

The remedial measures suggested were that children might be employed to remove and destroy the caterpillars. If this were carefully done, and if also the cocoons were searched for, in and on the ground near the affected trees, and were destroyed, it would (if not of any immediate benefit) at any rate be likely to prevent or to alleviate a reoccurrence of the pest in a future year.

3. THOSEA DIVERGENS, MOORE.

This insect is another addition to the Indian Tea pests, of the genus *Thosea*.

In March 1897, specimens of a living cocoon were sent to the Museum by Mr. J. W. Fleet, with a note, that they were taken from the Bishnauth Tea Gardens, Darrang, Assam, where they had been doing damage to tea bushes.

From the cocoons, several moths emerged in the latter end of the month. They appeared to be new to the Museum collection and were forwarded to Sir G. F. Hampson, who determined them as belonging to the species *Thosea divergens*, Moore,=*Aphendala divaricata* Moore.

As the Museum Library does not possess Mr. Moore's description of *T. divergens*, it is not printed here, the description of *A. divaricata*, however, is quoted below.

Aphendala divaricata ♀. Upper-side pale purplish, brownish-ochreous. Fore-wing with a slender dark ochreous-brown band curving upward from posterior margin at one-third from the base to one-third before the apex, and from which a straight erect similar

* This was the primitive method of preparing maté. To-day, however, perfected machinery does the same work better and more rapidly in large central mills, whither the product of an entire district is taken.

band extends from its costal end to the posterior angle. Body dark ochreous-brown. Expanse 1⅜ inch.

Hab. - Silcuri. Cachar.

4. BELIPPA LOHOR, MOORE.

(Sub-ord. Heterocera, Fam. Limacodidæ.)

In March 1897, Mr. W. J. Fleet forwarded to the Museum several living specimens of cocoon, with the statement that he had collected them from the Salonah Tea Estate, Assam. About the same time similar (live) cocoons were also sent to the Museum through Dr. G. Watt, Reporter on Economic Products to the Government of India, as infesting tea plant in the Doom Dooma Tea Gardens, Dibrugarh, Assam.

The samples of cocoons were separately confined in a breeding cage, from which, after a lapse of a week, moths began to emerge. These on examination proved to belong to the genus *Belippa*; the species being new to the Museum collection.

On submitting specimens of the moth to Sir G. F. Hampson for identification, he pronounced it to be identical with *Belippa tohor*, Moore, the female being almost indistinguishable from that of *Belippa laleana*, Moore, and hitherto unknown to entomologists.

Mr. Moore describes the male, as deep ferruginous: fore-wing with patches on the disc, and a small patch at the apex, black hind wing with a triangular hyaline space from exterior margin; the anterior and abdominal margins fuliginous-brown; thorax with two black spots in front, and one on each side; base of abdomen black. Expanse 1⅛ inch.

Hab.—Cachar, Java.

5. ASTYCUS LATERALIS, FABR.

(Order Coleopetera, Fam. Curculionidæ.)

Through Dr. G. Watt, Reporter on Economic Products to the Government of India, were received in the Museum in July 1897, specimens of a weevil said to be attacking tea plants in Assam. The original sender wrote concerning them that "they came during one night in thousands and simply stripped the bushes they were on." Fortunately they are easy to catch.

The specimens proved to be the same as *Asticus lateralis*, Fabr., which has previously been recorded as attacking various plants in different parts of India.

In 1889, Mr. Beck submitted specimens of this insect for examination, and reported that they attacked the leaves of the "Some" plant in the Raj Gardens, Darbhunga. In Vol. II, *Indian Museum Notes*, page 151, it is referred to as "a small greenish weevil reported in the beetle stage as defoliating mulberry (*morus*) bushes in Rangoon. Also thought to be the species which has been reported by Mr. Thompson as tunnelling into the timber of Chir (*Pinus longifolia*) in the North-Western Provinces; in this case the injury is no doubt done by the larvæ of the insect."

6. DIAPROMORPHA MELANOPUS, LACORD.

(Order Coleoptera, Fam. Chrysomelidæ.)

In July 1897, specimens of a beetle which proved to be *Diapromorpha melanopus*, Lacord, were sent to the Museum by Messrs. Williamson, Magor & Co. who reported that it had been doing damage among the tea bushes on one of their Assam estates in the Jorehaut district.

This insect (known as the "Orange" beetle) is commonly found in tea gardens in Assam, where it no doubt does a good amount of injury by eating up the tender stems of tea-shoots.

Specimens accompanied by complaints of damage done by it are annually sent to the Museum, but no action, it appears, has hitherto been taken to ascertain the life-history of the pest

7. CREMASTOGASTER ROGENHOFERI, MAYR.

(The Red and Black Ant of the Tea Bushes).

In his report on the "Pests and Blights of the Tea Plant of Assam, 1898." Dr. G. Watt, Reporter on Economic Products to the Government of India, makes mention, in page 257, of a red and black ant which he had observed infesting tea bushes in Assam.

His elaborate account of the habits, etc., of the insect is very interesting, but his identification of the species with *Cremastogaster contenta*, Mayr., is incorrect. Dr. Watt was good enough to present specimens to the Entomological Section of the Indian Museum; these are undoubtedly identical with authentically named specimens of *Cremastogaster rogenhoferi*, Mayr., in the Museum collection.

To make quite certain, a few examples of the insect were despatched to Dr. Forel, of Zurich, who confirmed the identification as "*Cremastogaster rogenhoferi*, Mayr., one of the commonest species of India."

8. EUPROCTIS CATERPILLAR.

On the 19th March 1897, from Dr. G. Watt, Reporter on Economic Products to the Government of India, were received specimens of a caterpillar reported as doing a deal of damage to the tea bushes in Darjeeling. The following is an extract which he forwarded regarding the pest:—

"A new sort of this blight has developed. A blackish-brown hairy species, they attack the old leaves and strip the trees. This pest does all its ravages at night and hides itself under clods and stones during the day. I have boys on catching same thousands daily. They appear on the dry ridges and are not found in any damp hollows. They have stripped some 50 or 60 acres on an adjoining garden and are now attacking the bark. On lower portions of Lebong and M. S. they have now appeared and are now doing considerable harm. I am sending you a bottle-full in spirit. I fancy they will disappear with rain, but of this there is no sign."

The specimens appeared to be the larvæ of a Lymentriid moth probably of the genus *Euproctis*, and not unlike the tea caterpillars sent in by Messrs. Andrew Yule & Co. from the Darjeeling district. (See p. 180).

9. PSYCHID CATERPILLAR.

In July 1897, specimens of a bag-worm, said to be doing great injury to tea plants in the Golaghat district, Assam, were forwarded to the Museum through the Secretary, Agricultural and Horticultural Society of India.

The specimens proved to be the larvæ of a Psychid moth probably belonging to a species hitherto undescribed. We have only a few examples of the larva-case of this insect in our collection, but unfortunately we possess no moths, and Sir G. F. Hampson does not mention this species in his catalogue of moths of British India, Ceylon and Burma.

The most curious thing noticeable in this interesting group of moths is their larva-cases or protective coverings, which are usually composed of a silk lining with twigs, grass, and bits of leaves or vegetable matter attached on the out side, and are so constructed as to resemble little bundles of dried sticks, leaves, etc. In this insect, however, the larva-case is smooth and is covered with a coating of very finely divided vegetable matter and exactly resembles a thorn.

10. COLEOPTEROUS LARVÆ.

In July 1897, Mr. D. Hooper, Curator of Economic Museum, sent to the Indian Museum specimens of grubs reported as tea pests for identification. He wrote:—

"A correspondent in Nazira Division, Sibsagar, has sent me the accompanying bottle of white grub (*Lachnosterna impressa*) as a tea pest. Most of the smaller forms seem stages of the larvæ of that beetle, but I cannot think the very large ones can be the same species. I shall be much obliged for your opinion and, if possible, determination. I have found the very large one all over Assam imbedded in hard mud-houses of which I send a sample It is particularly common in hard clay soils and does much damage to rice. These I at first mistook for queen white-ant houses until I dug them out for myself and found them invariably occupied by identically similar larvæ to the large ones herewith supplied. They are no doubt a species of *Lachnosterna*, but are they *L. impressa*?

"I shall be very glad of any suggestions, more especially whether the very large larvæ have been known to injure the tea in the event of their being pronounced distinct from the smaller form."

The specimens proved to belong to two different species of insects, namely:—The large grubs are the larvæ of a Melolonthine beetle probably belonging to the genus *Lepidiota*, and the smaller ones are apparently the immature forms of *Lachnosterna impressa*.

11. COCCIDS.

Four bottles containing specimens of scale insects reported as infesting tea plants in the Darjeeling district, were received in the Museum through the Reporter on Economic Products to the Government of India. The following particulars regarding the insects are taken from his forwarding letter, dated 28th May, 1897:—

"No. 1, seems somewhat like *Aspidiotus flavescens* and is said to be the most dangerous of the series. It attacks the young twig of young tea, the scale-insects inserting themselves below the bark and thus raising and distorting it, in older twigs the life seems sucked out of the plant through this rupturing of the bark and the withdrawal of the sap. The young insects are alive and seen escaping."

"No. 2, is said to be a twig with long white blotchess."

"No. 3, a twig with large wax insects."

"No. 4, similar insect of smaller size and with orange-coloured central portion."

The specimens proved to belong to four different kinds of Coccids, namely:—No. 1 consisted of badly preserved specimens of larvæ apparently of *Aspidiotus theæ*, Mask; No. 2 consisted of examples of an unknown Coccid not represented in the Museum collection; No. 3 consisted of a few larva-scales probably belonging to the species *Ceroplastes ceriferus*; and No. 4 contained specimens of a Coccid hitherto not reported as occurring in India.

Specimens Nos. 2 and 4 were forwarded to Mr. W. M. Maskell for identification, and his report on them is given below:—

"The two parcels of tea leaves with Coccids. One of these insects is evidently a *pulvinaria*, but only the white cylindrical cottony sacs remain: the insects themseves (as usual in the genus) have fallen off: therefore I cannot identify the species.

"The other (No. 4), of which you sent three specimens and a small coloured drawing, is a *Ceroplastes*. The specimens are not sufficient for clearness. They seem to me to be, nearly certainly, either *C. vinsonii*, Sign. (Mauritius, or *C. floridensis*, Comst., which Green reports on tea in Ceylon. Very probably both these are the same species; but your insects are not in the full-grown stage or at least I think not. Every character corresponds to *C. vinsonii* but also *nearly* all to *floridensis*. If you could let me have undoubtedly adult specimens and larvæ, I should be more positive. However, the thing seems to be one or other of the two species named."

12. CERONEMA SP. [COCCID].

In May 1897, the same officer forwarded to the Museum specimens of tea leaves attacked by scale-insects. No report accompanied the specimens and no locality was mentioned in the forwarding note.

The insects appeared to be new to the Museum collection and were forwarded to Mr. W. M. Maskell, who very kindly identified them as belonging to the genus *Ceronema*. He wrote, "this is a peculiar and abnormal form which I have had a few months ago from Japan, on *Ilex crenata* and an unnamed plant. I am very much inclined to attach it to my genus *Ceronema* of 1894; the main difference from the single species *Cero. banksiæ* being that the curling white processes in your insect spring from the medium region and curl outwards, while in *C. banksiæ* they are marginal and curl inwards. But I have not yet made up my mind at least on some minor points."

VI.—SOME BENEFICIAL INSECTS IN INDIA.

The following letter from the Superintendent of the Indian Museum, to the Honorary Secretary to the Trustees, covers a valuable report from Mr. E. Barlow, the Assistant in charge of Entomology, on this subject:—

With reference to your endorsement No. 187RR, dated 27th September, 1897, forwarding a letter No. 1427-39-2, dated 18th September, 1897, from the Officiating Under-Secretary to the Government of India, together with copies of correspondence from the Government of Madras Nos. 634 and 635, dated 27th July, 1897, relating to the very promising subject of utilizing Lady-birds and other natural enemies of the insects pests of the country, I have the honour to submit the following report by Mr. E. Barlow, the Assistant in charge of Entomology:—

"In India there is already known a good number of indigenous insectivorous insects belonging to the three orders of Coleoptera (beetles), Diptera (two-winged flies), and Hymenoptera (Ichneumon flies, etc.), which have proved to be more or less beneficial to agriculture by keeping down insect pests.

"I.—SOME BEETLES KNOWN TO BE DESTRUCTIVE TO PESTS.

"(*a*) Among the Lady-birds I may mention:—

"(i) *Chilocorus circumdatus* Schonh, which is said to prey upon the brown bug (*Lecanium coffeæ*) of coffee plants in Ceylon.

"(ii) *Scymnus rotundatus*, Motsch, which is parasitic upon the white bug (*Pseudococcus adonidum*) of coffee bushes in Ceylon.

"(iii) *Platynaspis villosa*, Mulsant, attacks the scale-insect (*Icerya ægyptiacum*) in Calcutta.

"(iv) *Vedalia fumida* var. *roseipennis*. Muls., said to prey upon the Coccid *Icerya aegyptiacum* in Calcutta.

The last named was submitted to Mr. L. O. Howard, United States Entomologist, for identification who wrote regarding it (see *Indian Museum Notes*, Vol. 4, No. 1, p. 28). 'It is interesting to find that this Coccinellid is not distantly related to the well-known *Vedalia cardinalis*, Mulsant, which Mr. Albert Koebele of this department, brought from Australia some years ago, and which destroyed *Icerya purchasi* on our Western coast. It is Mulsant's *Rodolia roseipennis*, which according to Crotch's revision of the Coleopterous family Coccinellidæ, is a colour variety of *R. fumida*, Muls. Accepting the nomenclature given by Crotch, the name of the insect is therefore *Vedalia fumida*, var. *roseipeanis*, Muls.' It may be mentioned that the *Vedalia cardinalis*, here referred to is an Australian species of Lady-bird which on introduction into America is said to have at once cleared thousands of orange trees of destructive scale-insects of the species *Icerya purchasi*.

"(*b*) Among beetles other than Lady-birds are—

"(v) Aliger beetle of the species *Cicindela sexpunctata*, Fabr., which devours the rice-sapper (*Leptocorisa acuta*) in Chumparun.

"(vi) A Carabid beetle *Calosoma orientale*, Hope, which destroys the young locusts of the species *Acridium peregrinum*, Oliver.

II.—SOME DIPTERA (TWO-WINGED FLIES) KNOWN TO BE DESTRUCTIVE TO INSECT-PESTS.

"(vii-viii) *Syrphus nieteri*, Schinr. and *S. splendens*, Dolesch, the larvæ of these two flies are said to prey on the coffee Aphis (*Aphis coffeæ*) in Ceylon.

"(ix) *Anthomyia peshawarensis*, Bigot, parasitic upon the eggs of the locusts (*Acridium peregrinum*) in India.

"(x) *Masicera subnigra*, Wulp, parasitic upon the larvæ of the moth *Olene mendosa*, Hubn., which attack tea plants in Darjeeling.

"(xi) *Musicera castanea*, Wulp., said to pray, upon caterpillars of the moth *Leucania extranea*, Guen., which attack the young paddy plants in Bengal.

"(xii) *Masicera dasychiræ*, Wulp., parasitic upon caterpillars of the moth *Dasychira thaitesii* which does much damage to tea plant and sâl tree in Assam.

"(xiii-xiv) *Demoticus etrigipennis*, Wulp., and *Calodexia lasiocampæ*, Wulp. The larvæ of these two flies are parasitic upon a hairy Lasiocampid caterpillar destructive to rice in the Central Provinces.

"(xv) *Miltogramma 12-punctata*, Wulp., which preys upon the locust (*Acridium peregrinum*) in India.

III.—SOME HYMENOPTERA (FAMILY CHALCIDIDÆ) KNOWN TO BE DESTRUCTIVE TO INSECT-PESTS.

"(xvi) *Chalcis* (*Brachymeria*) *euplœa* Westw., preys upon the Dooars tea and sâl caterpillar (*Dasychira thwaitesii*).

"(xvii) *Cotesia flavipes*. Cameron parasitic upon the Sorghum-borer (*Diatræa saccharalis*).

"(xviii) *Apheiuns theæ*, Cameron, a minute fly-like insect that attacks the tea scale bug (*Chionaspis theæ*, Mask).

"(xix-xxvi) *Cirrhospilus coccivorus*, Motsch., *Encyrtus nietneri*, Motsch. *E. paradisicus*, Motsch. *Scutellista cyanea*, Motsch *Marietta leopardina*, Nietner *Cephaleta purpureiventris*, Motsch., *C. buneiventris*, Motsch., and *C. fusciventris*, Motsch., are said to be parasitic upon the Brown bug (*Lecanium coffeæ*) of coffee plant in Ceylon.

"(xxviii) *Chartocerus musciformis*, Motsch., said to attack the white bug (*Pseudococcus adonidum*) of coffee plant in Ceylon.

"(xxviii) *Pteromalus oryzæ*, Cameron, a minute coppery green-coloured Ichneumon-fly believed to be parasitic upon the wheat and rice weevil (*Calandra oryzæ*) in India.

The above are some of the indigenous species of insect-parasites of insect-pests that have come to light without any special inquiry, and no doubt systematic research (which certainly ought at some day to be undertaken, would reveal many more. In the face of Mr. Barlow's report it can hardly be hoped that the introduction of a single foreign species of Lady-bird—even if that species be able to hold its own against the native species—will have any very marked effect.

THE DETERIORATION OF INDIAN COFFEE.

(*By a Planter.*)

So much was said on this subject at the last meeting of the United Planters' Association of South India, that it may be well to try and ascertain if it is not possible to arrive at some definite conclusion as to whether E. Indian coffee has permanently deteriorated or not. The main argument in proof of such deterioration was that Havre and London brokers say East Indian coffee is going backward, and that, whereas it used to top the market, it is being ousted by cheaper and more attractive Central American coffees. It may be safely presumed that this opinion was given under pressure from East Indian constituents for a reason why brokers cannot get as good prices as formerly for East Indian coffee.

Such a reason was readily found in what is undoubtedly a fact, viz., that in Havre and Trieste Central American have largely replaced E. Indian coffees Before this can be accepted as a proof of the actual deterioration of E. Indian coffee, it must, however, be shown that Central American coffees have driven out coffee which E Indian sellers were trying to find buyers for in French and South German markets The E. Indian coffees which used to go to these markets were chiefly "native" and "low middling plantation" marks. "Native" crops on the West Coast of India have decreased enormously of late years owing to the ravages of leaf disease, and this is quite independent of the range of prices, or of the competition of other coffees. It is simply impossible now to get crops at all on the native system of cultivation in many districts which used to furnish large supplies of "native" coffee.

The same is true of E. India plantation if we include Ceylon and Java in the term E. India. Ceylon coffee ceased to yield any crops worth speaking of even when stimulated by manure, and Liberian coffee has replaced Arabica in many districts of Java. There was then a large and growing space left unsupplied in Continental markets which was naturally filled up by the growing Central American crops. But, as the total crops of all other countries than Brazil have not increased in the last 25 years, while the coffee-drinking population has steadily increased, it is obvious there cannot have been any such severe competition amongst different classes of mild coffees as to lead to the forcible driving out of the class by another. We must look elsewhere than in this supply of the natural decay of one class of coffee by the natural growth of another for a satisfactory proof of the deterioration of E. India coffee. Such a proof it was attempted to furnish by the display at the U. P. A S. I. Meeting of samples of E. India and Central American coffees, labelled with the prices obtained this year, and selected by a well-known London broker. The Central American coffees were undoubtedly bigger and the Costa Rica had a deeper colour than the E. Indian, but there was nothing new about these samples. Any one who has been in the habit of visiting London sale-rooms will readily allow that exactly the same samples have been well-known in Mincing Lane for the last 20 years. The following quotations taken from Messrs. Rucker and Bencraft's and Messrs. Sanderson and Co.'s Price Current and the London Commercial Records support this opinion:—

	1879-80.	1895.	1899.
E. India	*s.* *s.*	*s.* *s.*	*s.* *s.*
Fine plantation. ..	110 to 128-0	110 to 125	106 to 120-6
Good ord. to ... good mid. ..	83 to 107-6	89 to 106	65 to 103-0
Ord. to fine ord... (not native.)	50 to 82-0		33 to 48-0
Costa Rica.	*s.* *s.*	*s.* *s.*	*s.* *s.*
Good mid. to fine... ..	80 to 105-0	86 to 103	61 to 100-0
Ord. to fine ord..	64 to 89-0		30 to 49-0
Mocha.			
Mid. to fine. ..	96 to 100-0	110 to 120	70 to 100-0

"Mocha" has been added for the purpose of comparison with another high class coffee of an utterly different character to either E. India or Costa Rica. These quotations show that all three coffees occupied almost exactly the same relative positions as to price in the last 20 years, except that Costa Rica seems to send now a poorer class of coffee than it used to, and E. India fine plantation has a greater lead of all others than it had. The latter conclusion is confirmed by theactual samples shown. The smaller "Faith" sample fetched 116*s.* against 100*s.* and 103*s.* for Costa Rica, and of the smaller Coorg, "B." fetched the same price as the larger Columbian and Guatemala beans, *i.e.*, about 84*s.*

The fact is that there is little to be gained by comparing such utterly different cofees, unless it can be shown that one class is ousting another from the public favour. Now, the steadiness of their comparative prices shows that this is not going on to any injurious extent. Each coffee has its own market and is judged by its own standard. For instance, though Costa Rica has a deeper colour it is an opaque blue. while that of E. India is a transparent bluish green. Mochais inferior both in size and colour to both E. India and Costa Rica, and yet fetches about the same price. It was, however, contended that, though Costa Rica may send poorer coffee than the worst E. Indian, and the best E. Indian may be better than the best Costa Rica, yet the bulk of Costa Rica coffee sells for more than thebulk of E. Indian. This, if true, is certainly a serious matter for the majority of Indian planters. It was said to be established by a paragraph in *Planting Opinion* of the 12th August last. The following seems to be the paragraph referred to, and is taken from the *American Grocer*, which deduces from statistics of coffee importations the following remarkable conclusion:—"That the demand for mild flavoured coffee is so much less than the supply, that the producers receive an average price two to three times more than the average obtained by the planters of Brazil. British Honduras and Cuban planters received the highest average price from last year's crop Costa Rica beat Guatemala 2¼ cents, Hawaii received an average of 15·67 cents." The British Honduras figure was 20 cents., the East Indies only 12·96! It might be thought that the words "demand" and "supply" have been transposed, but another extract from the New York Chamber of Commerce Report says: "The better grades of coffee are so much in over supply that they have become almost a drug in the market." Anyhow, little dependence can be placed on such a self-contradictory report. It is only another instance of the efforts of brokers to account for what they cannot really explain. It is to be noted also, that the report refers only to the United States, which is not a market for E. India coloury plantation, but is the great market for the best Central American kinds. E. Indian Liberian is said to be sent there to add strength to weak coffee, and if that fetched double Brazil prices, the owners must have been well pleased. On the other hand, not 500 bags of Honduras coffee were sold at public auction in London in the last twelve months, and fetched 31*s.* to 41*s.* It would be as safe to argue that there is no good coffee from Honduras because none came to London in the last year, as to argue that E. Indian coffee has deteriorated because what was sold in New York fetched lower prices than Honduras and other Central American kinds.

The only really efficient test of the comparative value of the bulk of E. Indian and Central American coffee in the London market is the sale list of public auctions in London. As Costa Rica sells better than any other Central American kind in the London market, we may for purposes of comparison neglect the others. The following is the result of a careful examination of all the sales given in the London Commercial Record from the 3rd February to the 14th July last, when the bulk of both Costa Rica and E. Indian crops were sold. The statement gives the average for ten whole 20 weeks of the lowest and highest prices for each mark:—

	E. India.	*Costa Rica.*
	s. *s.*	*s.* *s.*
Smalls ...	35-6 to 55-6	...31 to 46-6
Low to good-middling ...	45-6 to 72-0	
Ordinary to good-middling		36-6 to 66-5
Bold	67-6 to 106-6	
Good bold to very fine bold blue		...76-0 to 99-0
Peaberry	62-4 to 108-6	...48-0 to 94-0

The exact number of bags of each mark is not given, unfortunately, but in these 20 weeks 94,000 bags Costa Rica and 68,000 E. India were offered for sale. These were by no means all sold, and perhaps some were offered twice. Thus, dealing with weekly offerings of Costa Rica, the following proportion only was reported as sold:—

	Offered.	Sold.
March 10th ...	6,143 bags	a small proportion.
„ 31st ...	7,717 „	4,000
June 9th ...	5,007 „	2,503
July 1st & 7th ..	10,271 „	only a part.

In other weeks the offerings were mostly sold. The same occurred with E Indian. But the above is a striking comment on the contention that, while E. Indian coffee was difficult of sale, Costa Rica was readily disposed of! Perhaps 60,000 to 70,000 bags Costa Rica and 40,000 to 50,000 bags E. India actually sold for the above prices, and the amounts are sufficiently large to represent the bulk of the crops sold in London this year. The E. India prices include every district from Travancore to Mysore, and cover widely different classes of coffee; while from the numerous and widely different descriptions of Costa Rica kinds we may conclude that that country supplies as great a variety of coffee as India does.

The following points are noted as of special interest. Costa Rica "very fine bold blue" selling for over 100*s.* occurs in 9 weeks, and peaberry over 100*s* in 5 weeks; whereas E. India bold over 100*s.* occurs in 15 weeks, and peaberry over 100*s.* in 14 weeks. The highest Costa Rica bold and peaberry fetched only 106*s.* 6*d.* and that figure occurs only in 7 weeks; while E. India coffees of these

marks selling for 112*s.* to 131*s.* and nearly every figure between these limits, occur in 14 weeks. Of very fine coffees E India therefore seems to have a larger proportion than Costa Rica, fetching a much higher price. As regards middling coffee, E India has only three classes, low middling, middling and good middling; whereas Costa Rica has at least six or seven classes of middling coffees. Smalls and low ordinary Costa Rica coffees occur in every sale but one. It is difficult after these considerations to avoid the conclusions that Costa Rica supplies less of the finest coffee than India does, and quite as much of the lowest classes; and that the bulk of her coffee sold this year for 36*s.* to 66*s.* 6*d.* which is certainly not a better average than the bulk of E. Indian.

There is yet another way in which we can test whether E Indian coffee has deteriorated, and that is by comparing it with Brazil coffee now and 14 years ago. In 1885 E. India middling plantation crops were selling, as now, for a gross average price for all marks, including cherry, of 52s per cwt. The price of average Brazil coffee in Havre was—

In 1885	...	...	48 francs per 2 kilos or 38s. p. cwt.
In 1899	...	...	32¾ „ „ or 26s. p. cwt.

So that whereas in 1885 E. Indian was worth only about 37 per cent. more than average Brazil coffee, it is now worth about double. This does not look much like deterioration! Doubtless, with heavy crops in most districts the sample of E. Indian coffee is generally poor this year, but so it was in 1885. In that year, a Committee was appointed by the Wynaad Planters' Association, consisting of four of the most experienced Wynaad planters and one Ceylon planter, "to investigate the causes which had been for some years tending towards a steady deterioration in the colour of Wynaad coffee," because complaints had come from London that "Wynaad coffee is deficient in colour, and also in size, and invariably fetches a lower price compared with other districts than it did in former years." By 1886, however, the Committee stated that "this year Wynaad coffee is reported as having plenty of colour." It thought this was due partly to the crop being smaller, and partly to the care bestowed on it during the year. By 1887, as coffee had doubled in price, no more was heard of the deterioration of Wynaad coffee until this year, when crops being heavy and markets glutted, as in 1885, the same complaint of deterioration is heard, except that it now seems to include most E. Indian coffees. Probably, as then, in a year or two, the sample will have improved somewhat in reality, and more so in the opinion of London buyers.

Disastrous as the sudden and heavy fall in price has been to E. Indian planters, it is not greater than the fall in price of Central American coffee, and nothing to the fall in Brazil prices. We used to be told that the supply of mild coffees was so moderate, they had a market all to themselves, and need not fear the competition of cheap rough coffees. For two years after the fall in rough coffees this seemed to hold good. But now, the New York Chamber of Commerce reports:—"One notable feature of the coffee trade during the past year has been the great preponderance of the better grades, which have been so much in over supply that they have become almost a drug in the market. This is due to the fact that manufacturers of package coffee seek for the cheapest grades, and, as they are by far the largest distributors, the lower grades, which are most in demand, become scarce, because of the moderate supply, and the higher grades were correspondingly neglected." As mild coffees are in no greater supply than 25 years ago, and Brazil produces an average of 9¼ million bags against 6 millions three years ago, this passage is not quite correct. But what it really means is that rough coffees are so extraordinarily cheap that the mere cheapness attracts buyers away from the dearer and better kinds unless they are very fancy sorts. Similarly, a well-known E. India planter writes from London:—"This sudden collapse in the price of all E. Indian coffee is a most serious disaster to the planting community of Southern India, and one there seems no way out of, unless the planters can produce a better quality than they did this past season, as the London buyers have found in the Brazil coffee all they want, at a much lower price." Here again it is not Central American, but cheap Brazil coffee which is the foe which is bringing down prices. The fact is, it is not the deterioration of E. India coffee but the deterioration of the milreis which is ruining Indian planters. A well worked English Company states it can put Santos coffee in India for 24s. 6d. per cwt., with the milreis at 8d. If the milreis goes to 18d, it will cost that Company 50s. a cwt. to put Santos coffee in London, and then we shall see the preference of London buyers returning to better coffees. Fortunately the Brazil Government is bent on getting the milreis to 18d as speedily as possible, and it is to be remembered Brazil planters are not benefiting from the extraordinary cheapness of their coffee, as average Santos is worth now only 26s. in London, or on the Continent. In fact, it is said most of the big planters would be only too glad to see their smaller brethren exterminated so as to reduce the over-supply of Brazil coffee by one-third and give them a chance of making a little profit. As these have more influence than the small fry, we may hope that the Brazilian Government will succeed in its endeavours to resuscitate the milreis.

THE IMPORT DUTY ON TEA.

THE CASE FOR THE DUTY.

Some attention has been attracted in Ceylon by the "communicated" paper we quote below from the *Ceylon Observer*. It may be said to state the case for the retention of the duty, in reply to the Indian Tea Association's argument for the abolition. The article is as follows:—

The reply of the Indian Tea Association demolishes the arguments put forward by the Secretary of the C.P.A.; but as far as I can see they in no way strengthen the argument for abolition, in fact they have left "well alone" and not attempted to show how the abolition of tea duty will improve the position of the tea producer. They say—"It is admitted that reduction of duty in the past has 'tended' to increase consumption as a whole." If they cannot say more than that, why should we as producers vote for abolition?—I maintain that the reduction from 6d per lb. to 4d per lb. in 1890 did not increase consumption; the previous reduction in 1866 is ancient history, so I will not touch upon that.

The following table proves my contention: the figures are taken from the paper read by Mr. A. G. Stanton before the Society of Arts in January 1895. I have taken Mr. Stanton's figures, namely 1 lb. of China makes 5 gallons of good tea, 1 lb. of Indian makes 7½ gallons, and my own experience *re* Ceylon tea is that 1 lb. makes 6 gallons.

Year.	Proportion.			Consumption per head.	Gallons per head.
1866	96	per cent.	China	lb.	
	4	„	Indian	3·42	17·44
1873	85	„	China		
	15	„	Indian	4·11	22·07
1880	72	„	China		
	28	„	Indian	4·57	25.04
1887	49	„	China		
	45	„	Indian		
	6	„	Ceylon	5·02	31·02
1894	12	„	China		
	55	„	Indian		
	33	„	Ceylon	5·53	37·05

My argument, backed up by this table, is that the apparently stationary consumption of tea between 1879, when it was 4·68 lb. per head, and 1889, when it was 4·99 lb. per head, was due to the fact that during that period Indian and Ceylon teas were taking the place of China teas, viz.: in 1879, 78 per cent China, 22 per cent Indian; in 1889, 33 per cent China, 52 per cent Indian, and 15 per cent Ceylon. Indian tea has only increased to date 4 per cent about and Ceylon 20 per cent. I think I have said enough to prove that the reduction in duty did not increase consumption. If it did not increase consumption, of course, it improved our prices, or what is the argument for abolition? The following table taken from the Custom-house figures in London disproves that, though personally I do not understand the prices, as they all seem too high:—

		d.
1884	average price...	11·75
1885	do.	12·00
1886	do.	11·75
1887	do.	10·50
1888	do.	11·00
1889	do.	10·99
1890*	do.	10·65
1891	do.	10·70
1892	do.	10·07
1893	do.	9·74
1894	do.	9.59

*Half 6d, half 4d

Some people might say: look at 1890 and 1891, but the fraction gain was amply made up for in 1892 with a drop of 63 cents of a penny.

The prices of teas fell, and will do so. Why?—because the trade in England is in the hands of about one dozen firms, instead of thousands of grocers as it was a few years back.

The blenders in their fight for trade find the producer the market man to attack, and down tumbles the price of tea in Mincing Lane

The reduction of duty from 6d to 4d helped this on as the locking up of less capital enabled them to cut prices finer at our expense and if the duty is reduced or abolished, the producer will be in a worse position than he was before. I fear I am about to enunciate a questionable doctrine; but it seems to me that any article on which there is a duty means a better living out of that article, for the producer and retail man. Look at sugar. Who makes any profit on that? Not the *bona fide* agricultural producer and not the grocer, but a few big men who can control the market, even as the big houses in tea will do, should the duty on tea be abolished.

The only argument which would appeal to the producer is:—Is there any large class in Great Britain too poor to buy tea, at say, twelve pence per lb., or one farthing for one pint of good wholesome liquor, invigorating like Indian or Ceylon tea. If there is any large class who would put up the consumption of tea so that demand exceeded supply, we should benefit—only for a time—for the thousands of acres in South India and elsewhere would be opened, and our position would be worse than ever. I won't touch on the possibility of the abuse of tea; remember it *can* be abused. The consumption per head is now 40 gallons for about 320 pints per annum, and think of the drunkards, the babes, etc., who do not touch it, and consider the actual quantity per head.

The only other argument in the reply of I. T. A. for the abolition, mind, not deduction, is "My Committee believe that abolition of the duty would weaken, if it did not destroy the monopoly of the London warehouses" I maintain that if all importers would continue, we should get a reduction even now; but it must be a shoulder to shoulder fight, and, if necessary, opposition warehouses—a big thing, but possible. Why, in favour of their argument, did not the Indian Tea Association give figures for some article, duty, free, to show that the monopoly of the warehouse charges is broken. I suppose such articles must be warehoused somewhere near the docks

RETURN OF MR. J. H. RENTON.

Mr. J. H. Renton returned to Ceylon by the SS. *Sachsen*. The following information has been obtained from him by the *Times of Ceylon*:—

Sir Thomas Lipton sent a representative to Hamburg where Mr. Renton met him; and they discussed the scheme which Lipton's have in connection with the Exhibition. They have had their Paris shop for six months, and no expense has been spared to make it a really attractive place. Its situation is behind the Great Wheel, and, in Mr. Renton's opinion, on the wrong side of the Seine—the poor side; but there is no question that they have begun well and have advertised thoroughly, though so far mostly Lipton and not much Ceylon. The place has not paid, as yet, and it probably will not until next year. Taking this establishment as a nucleus, Messrs. Lipton are to establish agencies throughout the principal cities of France, as well as in Paris, and to advertise Ceylon thoroughly *before* the subsidy by the Thirty Committee is paid; and the amount of this aid is to depend upon circumstance. They are to be allowed to sell a blend, but the proportion is to be 50 per cent of Ceylon tea, the rest probably being China; and they are also to keep a pure Ceylon line, and to advertise it. Mr. Renton has already had samples submitted to him; and, of course, there will be periodical enquiries. His view is that we cannot ignore Lipton, Limited; and that we should make use of them. They are to have no sort of monopoly, however; and, as an illustration of this, Mr. Renton stated that he had already arranged with one German firm to have an exhibition of their Ceylon teas in the Paris Court; and others from other countries would be similarly provided for. His idea was to get their supporters in this way in every principal country from which visitors would come; and to arrange printed slips for each country setting forth the places in those countries where pure Ceylon tea could be obtained. Then, when a visitor asked where he or she could get such tea, she would be asked the country he or she came from, and the correct list would be given. Then orders could be taken on which 10 per cent. commission could be charged, to go towards the expenses of the Ceylon Court. Mr. Renton had already arranged this tentatively with Lipton, Limited; but they would not be given any special preference. All those who desired orders taken on their behalf on those terms would be included, and a system devised in which they would have equal turns. Lipton's had offered to do the preparation of tea in the cup at the Ceylon Court, but this had been refused, as the Ceylon Commission would do that itself.

THE PROSPECT IN GERMANY AND OTHER COUNTRIES.

Asked concerning the prospects of Ceylon tea in Germany, Mr. Renton was not sanguine. He stated that less of the Ceylon product was now being sold in that country than a year ago, chiefly owing to Java competition. Java had always made a tea of excellent appearance, and had now improved the quality very much. On the other hand, the price of Ceylon tea had been against it. The cheapness of coffee, too, had been a great set-back. This beverage was a common one among the poor; and the *frau* would not pay three marks for a lb. of Ceylon tea when she could get coffee at one mark per lb. There being less demand for tea the importer, the dealer, and retailer, all wanted large profits, whereas in coffee, with a bigger and quicker turnover, they were prepared to cut their returns much finer. In the Baltic provinces the peasantry drank tea and liked it strong. At present they took China tea; and here our Commissioner thought there was a good opening for Ceylon. Questions regarding the substantial support already given to Mr. Carl Hagenbeck, Mr. Renton remarked that it would have been better had the "Thirty Committee" waited until he had been all over the country and formulated a definite scheme. Mr. Hagenbeck was a good business man, and had undoubtedly spent a large sum of money—£4,000—and had thoroughly advertised the Ceylon staple in Berlin and elsewhere; but he was not an expert, and was learning by experience what experts in Hamburg and Bremen already knew. They were consequently very jealous and had got their backs up. When they heard of Mr. Renton's appointment as Commissioner for Europe they thought it was simply another step on the same lines of attempting to force Ceylon tea down their throats, and it took Mr. Renton a week to explain matters and to placate them. It was necessary to work through the dealers. He did not wish to disparage Mr. Hagenbeck's work; and he had advised that he should be supported for another year, but the start had not been an auspicious one. He had soon found that his task was a far more difficult one than he had anticipated; and had he known everything it was probable he would not have undertaken it. Amongst other things he found that he would be obliged to add to his other languages. Dutch and Italian, for when it came to talking business everyone preferred to be addressed in his own language. Concerning Russia Mr. Renton said he had not made many enquiries yet; but it was a fact that a lot of tea of all kinds was being smuggled into Russia. Both Russia and Germany made no distinction in their Customs figures between the countries of origin; and, in an effort to find out the proportions dealt with in Germany, he had called on several big houses and found that their turnover consisted of two-thirds China. and the other third Ceylon, Indian and Java.

GRAY AND OTHER TEA BLIGHTS.

An up-country planter, who is stated to be devoting a considerable amount of attention to the scientific treatment of affected tea, writes to the *Ceylon Observer*:—

In writing the following notes on gray and other blights, I must ask your many readers to excuse shortcomings, and I can only hope that this article may be of interest to some.

Gray and brown blight seem to be of the same family and both live on the matter found in the leaf-cells of the hop plant. The Mycelium of these pests ramify through the intercellular tissues and reproduction is carried on by spore bearing hyphae, which may be seen on the decayed leaf surface. It is a curious fact that fungi similar to grey blight (in its effect) may be found on almost all trees, etc.—coffee, gums, jungle, and so on. If such is the same as is found on tea, it shows how widespread the pest is; otherwise it is reasonable to suppose that the present increase of blights is

entirely due to climatic reasons, and that such will decrease as rapidly as they came.

It is the general opinion among planters that -especially where the bushes are healthy and vigorous—no decrease in yield has occurred or is likely to occur; and it is easily noticeable that—though these blights increase on shuck patches—healthy tea seems to hold its own; and the disease though present seems unable to make headway.

Dr. Watt speaks of increase occurring vegetatively and the spread of disease by mycelia: this may be so, but spores carried about by the wind seem the chief means of reproduction. This is especially noticeable now when the prevailing direction of the wind is from the South-West. Slopes with that aspect are much more affected than others.

There seems to be a great diversity of opinion as to the seriousness of these pests. Some planters take a morbid pleasure in prophesying horrors, against which the coffee trouble pales into insignificance; others, and I am glad to say the majority, take a much more favourable view of the matter, and it is significant that in the ranks of the latter may be numbered not only the majority of the ablest and leading planters, but men whose experience of coffee would tend to (were such a thing necessary) make them be among the worst alarmists. The general opinion seems to be that, while no real danger need be apprehended, still precautions should be taken to prevent further increase. It is a strange fact that, while Dr. Watt, Mr. Bamber and other scientific men should lay such stress on the necessity of prompt and drastic action, as well as talk so largely of the fearful rapidity with which such pests spread, we find Assam, for instance, has been the home of gray blight for many years, and that, although yields may have been reduced on shuck estates, healthy places can even yet boast of bumper crops. As for Ceylon, an old and experienced planter remarked the other day that he recollected gray blight causing a great scare some twelve or fifteen years ago, and how at the time he and others thought that tea was going the way of coffee. However, the blight decreased just as rapidly as in the first place it increased; and, though I am not sure on this point, I believe he remarked that the weather at the time was as abnormally wet as it has been during the last few months. The local *Times* of Thursday last speaks of mossing, and asks whether estates on which such work is carefully carried out, show any freedom from pests. From observation I should say that they do not, and I have found blight almost as bad on one of the most carefully and systematically cultivated estates in the island as on less-cared-for neighbouring places. A planter further asks whether gray and brown blights respect jât and what jât seemed to be most affected. Personally I should say China jât seems to escape easiest and that the better jâts suffer most: the latter seem affected most from pruning to about eighteen months on, after which, the bushes being denser and the leaves harder, blight is not so noticeable.

Now for remedies: in order to do any real good, some uniform system must be adopted, and an economical as well as efficient treatment has yet to be found. In this we seem to have to depend on our own resources. Science can tell us that this or that treatment will kill fungi, but is quite at a loss as far as remedies suiting the peculiarities of tea are concerned. Most estates, however, are trying something; but I doubt whether in some cases good is being done, and it is reasonable to suppose that blight is being sown broadcast by some of the supposed methods of cure which have been adopted. Among other methods, the following may be worthy of trial:—

1. Collecting and burning the prunings when green.
2. Collecting and burying of all prunings with lime.
3. Picking off infected leaves from bushes and burning same.
4. As well as picking off, etc., sweeping the ground and burning the leaves so collected.
5. Pruning strips of from 20 to 40 lines leaving strips unpruned, heaping prunings in unpruned parts and firing same.

Possibly the most effective method would be a combination of Nos. 1 and 2 followed by No. 3. The great advantage of the first two methods is the value of such in cultivation. Where land is not too steep burying prunings makes a valuable bulk, and the soil being light, it is one of the only available ways of building such up and creating humus. Where land is too steep for this process, prunings could, while quite green, be collected in ravines and on roads and burnt; the resulting ash, collected and returned to the soil, is the cheapest potash manure we have—not to speak of the great value of the large amount of carbon in the ashes as a collector and retainer of ammonia. If tea so treated was afterwards gone over and blighted leaves picked off, it should not be either a difficult or expensive way of keeping blight in check.

Picking off blighted leaves has, from what I hear, not given entire satisfaction—this may in some cases be due to the pickers not being provided with proper receptacles. Personally I have provided them with thick canvas bags; notwithstanding this I find the blight increased after the first round of treatment, the second round taking twice as many coolies as the first. This might be due to climatic reasons, as I find the third round to be fairly free from infected leaves. Various methods are being tried in picking off leaves:—giving each plucker a bag and making them—while doing ordinary plucking—remove sickly leaves, is one; this may do when blighted leaves are few and far between, but personally I think a special gang doing nothing but this is cheaper and the work done is much cleaner. It is quite possible that handling these leaves on dry hot days may scatter spores largely; but when this work is done in damp rainy weather, this should not occur. On the other hand, wet weather is more favourable for the germination of the spores. No. 4 method is being employed on some estates, and no doubt is effective; but I doubt whether the good done is worth the heavy expenditure that this method of treatment entails. No. 5 method seems drastic, but I believe has been tried in some cases. I should say that where blight is so bad as to require such treatment, the sooner such tea is pulled up and destroyed the better, as such bushes would never stand the shock of being killed back—which most of them would be - and at the best surviving bushes would be nothing but typical nurseries for parasites; and I may add that methods even more drastic than this have been tried in Assam, and in nearly every case the new bush grown has within a year been as bad with blight as ever. Blight, it seems to me, should be looked upon more as an effect than a cause. What has been the history of first coffee rather than tea? We have in most cases steadily drained the soil of its nourishing properties and, as long as dividends were forthcoming, have been content to ignore the laws of nature; with what result—a decrease in both quantity and quality, as well as an increase in cost of production. Too late we turn our thoughts to manuring and general cultivation of the sickly and hide-bound bush we have left and by many years of ill-treatment trained into a nursery for all kinds of diseases which are afterwards distributed in the tea of more healthy and neighbouring fields. Having done all this we commence manuring and in many cases with disappointing results—why, it is not difficult to see: as with the bush so with the roots. And the latter in consequence—until new and healthy root stems are formed—are unable to utilize manures to the best advantage.

The chief thing necessary now is either the entire clearing out of tea on sickly ridges or the building-up of the same by a system of bulk manuring. In the latter case many methods might be adopted. burying of prunings, decomposed vegetable matter (cheddie could be collected into pits for this purpose) heavy dressings of castor cake, and, where available, application of cattle manure, and I believe much might be done by planting cuttings of say *Adhatodavasica* (a highly nitrogenous plant, also making a good fungicide) amongst tea on poor soil a few months before pruning, to be afterwards buried with the prunings. In conclusion I might again repeat that the general opinion of practical men is that no real danger need be apprehended in connection with the present increase of blights; and I think we shall find these parasites will shortly play a more important part at annual company meetings than on the estates.

THEY MUST AGREE.

As to matters that have no practical outcome it is of no consequence whether we agree or not. The earth may be, as some say it is, a molten mass (save for a shell a few miles thick on the outside), or it may be solid and cool all the way through from London to Sydney. However it may be, we can *do* nothing about it. So let the scientific chaps go on speculating to their heart's content; the world will keep revolving as usual, and we shall have to continue picking up our living from its surface.

Recently in my reading I have come upon articles in certain medical journals—uncanny, uninteresting publications, that they are, for non-professional perusal—going to show that it is *not the heart* which impels the blood through the body, but the chemical

action of oxygen inhaled by the lungs. A prodigious discovery, if it is a discovery at all.

Yet what odds would it make? None whatever. Fair women would blush by the help of the capillaries as of old, and we should tie rags around cut fingers just the same. It follows, my brethren, that some things may be mysteries to the end of the chapter, and no harm done, and others may differ without disturbing the serenity of our passing days—a most soothing reflection.

But the advantage or otherwise of a person's food agreeing or disagreeing with him is *not* a mere matter of opinion. There is only one way to look at that. As a whole, food *must* agree with us, and we with it, or we are ruined A lady of Sheffield, Mrs. S. A. Smith, suffered a long, wearisome, and costly illness, simply because her food failed to agree with her. For three years she was weak and wretched on account of it. The light and pleasure went out of her life. She needed to eat, of course, just as she needed to breathe; yet, after every meal—commonly of light things taken in small quantities, and slowly—she was immediately seized with pains in the stomach, the chest, and the left side Was not this a hard recompense for doing what nature compelled her to do—to eat?

Any act which causes pain is performed as seldom as possible, and as incompletely. For who wants to suffer?

Eating so little—not half as much as her body called for—Mrs. Smith lost flesh and strength. Necessarily. Draw more money out of the bank than you deposit and presently the bank returns your cheques marked "No funds" to be sure. Nobody can make twice two equal five.

"I got to be so feeble I could scarcely get about," says the lady. "I was like this for three years from the spring of 1893—being worse in the spring than at other seasons. What to do more than I had done, I did't know, when one day, my aunt Mrs. William Andrew, of Willoughton, urged me to take Mother Seigel's Syrup. After having done so for a short time, the complaint—indigestion—was better, and soon it wholly disappeared. I am now entirely cured and strong and hearty as I was before my illness came upon me. You may rest assured that, after so fortunate an experience with Mother Seigel's Syrup, I recommended it to all my friends, and in sending you this short statement it is my wish that you should print it for the good of others if you so desire."—(Signed) S. A. Smith, 44, Ditchingham Road, Sheffield, June 3, 1898.

"In April of this year (1898)," says another, "my health began to fail. I felt drowsy, and tired with the least exertion. After every meal I had oppression at the chest and sides, and a great deal of pain. Whatever food I took *disagreed with me*, and I grew weak. I am a dressmaker, and when at my work I had so great pain I could hardly bear it. I tried all the usual medicines for indigestion, but got worse and worse. One day in July, I read about Mother Seigel's Syrup, and got a bottle of Mr. Hattersley, Chemist, West India Dock Road, and in a few days felt better. After taking a second bottle I was cured, and have been well ever since."—(Signed) (Miss) Minnie Wyatt, 46, West India Dock Road, London, E., October 14, 1898.

Yes, it is true, health and life depend on a perfect agreement between ourselves and our food. This is not a matter of opinion. It is a vital and living relationship, and nothing does so much to promote the agreement as the frequent and timely use of Mother Seigel's Syrup.

MARKET REPORT.

By Mail Advices of 25th August 1899.

COFFEE.

The London Commercial Record says:—Supplies at auction during the week have been very moderate, and with a fair demand the greater part sold Plantation Ceylon was steady, except for the commoner qualities, which gave way a little. East India met with a little more demand at a slight decline. Costa Rica and Central American descriptions quite maintained the recent improvement, and occasionally 1s. advance obtained. New crop washed Santos brought about valuations. "Futures" quiet. with a downward tendency in prices, closing as follows:—

London ...	Santos ... Sept. delivery	...	26s. 3d.
New York	... No. 7 Rio... " "	...	4·35 cents.
Hamburg...	... Santos . " "	..	27 pf.
Havre ...	... Santos ... " "	...	32 francs.
Holland ...	... Good ordinary Java	...	25¾ cents.

Imports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
Tons	25,460	19,465	37,700	35,450
	Home Consumption.		Export.	
	1899.	1898	1899.	1898.
Tons ...	10,613	9,366	16,063	16,575

The preceding figures exhibit—

	Tons.
In the Imports an increase this year of ...	1,750
Home Consumption an increase of	1,247
Export a decrease of	512
Stock an increase of	5,995

This week's auctions have passed off as follows:—

CEYLON.—*Plantation.*—46 casks 8 tierces 11 barrels 3 bags sold, smalls 53s to 67s, low medium rough brownish 49s to 50s, low middling to middling 79s to 96s 6d, bold 101s to 105s 6d, pea-berry 50s to 122s 6d.

EAST INDIA.—397 bags partly sold as follows:—*Mysore*, low middling brownish and greenish foxy 34s to 45s, bold 55s 6d, pea-berry 48s to 56s 6d. *Coorg*, low middling grayish 36s 6d middling coated colory 48s 6d, pea-berry 44s to 52s 6d. *Wynaad*, smalls 33s, low middling 33s, pea-berry 45s 6d to 54s. *Neilgherry*, smalls 25s, to 32s 6d, low middling 34s to 37s 6d, bold bright greenish 55s, pea-berry 41 to 52s.

JAMAICA.—Of 71 barrels 254 bags offered a small part sold, low ordinary to ordinary brownish and greenish 23s 6d to 27s, good to fine ordinary 29s 6d to 35s, pea-berry 35s.

COSTA RICA.—Of 340 bags offered 180 bags sold, pickings 24s 6d, good ordinary brownish 33s, low middling 42s 6d, good middling blue 63s 6d to 65s.

GUATEMALA.—1,590 bags offered and about 1,300 bags sold, smalls 25s to 38s, ordinary to good ordinary 29s 6d to 33s 6d, low middling to middling brownish 40s to 46s, bold 53s to 54s, pea-berry 27s to 54s.

VERA PAZ.—219 bags catalogued and 150 bags sold, smalls 24s to 34s, fine ordinary 35s 6d, low middling 39s to 42s, middling 45s, pea-berry 37s to 57s.

HONDURAS.—66 bags mostly sold, smalls 21s 6d, fine ordinary 35s 6d, low middling 38s to 40s 6d, pea-berry 43s 6d.

SALVADOR.—2,488 bags mostly sold, smalls 27s to 37s 6d, good to fine ordinary 31s to 36s 6d, low middling to middling 38s 6d to 45s, bold 49s to 58s, pea-berry 35s to 58s.

NICARAGUA.—290 bags sold, ordinary brownish 29s 6d, good ordinary 30s to 31s, fine ordinary grayish 37s, low middling to middling greenish 39s 6d to 44s, bold 61s 6d to 70s 6d.

COLOMBIAN.—Of 1,589 bags offered 1,030 sold, smalls 22s to 39s 6d, low middling to middling 38s 6d to 46s 6d, good middling colory 53s to 57s, good to fine bold blue 60s 6d to 73s, very fine 76s 6d to 84s, pea-berry 46s 6d to 71s.

MEXICAN.—Of 151 bags offered 80 bags sold, smalls 22s to 28s, low middling 39s 6d.

ECUADOR.—82 bags sold, good ordinary greenish 28s 6d to 29s.

BRAZIL.—Of 1,090 bags Santos offered 962 bags sold—pale mottled greenish 25s 6d; washed, small to good medium bright pale greenish 27s 6d to 32s 6d, pea-berry 33s 6d to 39s 6d.

Receipts in Rio and Santos.

	1899-1900.	1898-99.	1897-98.	1896-97.
Since July 1	Bags.	Bags.	Bags.	Bags.
Rio ...	683,000	537,000	855,000	627,000
Santos ...	1,511,000	1,079,000	1,421,000	999,000
Total ...	2,194,000	1,616,000	2,276,000	1,626.000
Crop ...	—	8,772,000	10,461,000	8.680,000

RIO EXCHANGE.—8d, previous day 7$\frac{31}{32}$d.

HAVRE, *Aug.* 24.—Santos good average August opened steady at 32f. and closed quiet at 32f., September opened at 32f. and closed at 32f.

HAMBURG, *Aug* 24.—Good average Santos August opened quiet at 26¾pf. and closed steady at 26¾pf., September opened at 27pf. and closed at 26¾pf.

NEW YORK, *Aug.* 23.—Closing prices of No. 7 Rio were as follow:—

	Aug.	Sept.	Oct.	Nov.	Dec.
August 23 ...	4·30	4·35	4·40	4·45	4·80
August 22 ..	4·40	4·35	4·40	4·45	4·80

Prices realized at auctions for some of the principal marks of East India :—

NEILGHERRY.

	A	B	C	PB	T
Pomanoo	52-0	40-0 bid	34-0 bid	40-6	...
Tuttapollium ⟨W⟩	50-0	38-6 38-0	...	...	...
Hope Ville	56-6	45-0	37-6	45-6	...
Tiger Rock	no bid	34-0 bid	30-0 bid	38-0 bid	...

COORG.

	A	B	P
Koorghully...	42-0 bid	37-0 bid	47-6 bid

TEA.

CHINA.—A better enquiry prevails, and the auction supplies of 4,634 packages mostly sold at fully valuations. Old Season's Oolong realised 4d to 7¼d, Kaisow 5¾d to 8d, Souchong 6½d to 7d, Congou 7d, Moning 5⅛d to 6½d. New Season's Moning 5¾d to 6½d, siftings 4d, Souchong 6¾d ; new make Congou 6¼d, scented Caper 6d to 8½d, Paklin 6½d ; green Gunpowder 4½d to 8d. Imperial 4½d, Foong Mee 8½d to 11d, sow Mee 6¼d to 7½d, Young Hyson 5¾d to 6¾d per lb.

INDIAN.—A somewhat smaller quantity, viz., 39,200 packages was brought forward, comparing with 49,300 packages last week and 34,300 packages a year ago.

Although several of the Assam Garden invoices and a few Darjeelings were of desirable character, the quality of Cachars, Sylhets and Travancores was on the whole disappointing. Prices ruled irregularly and in most cases easier for common to ordinary descriptions, the supply of which is at the moment rather excessive. Useful to fine kinds from all districts however commanded attention and were taken up freely at firm to advancing rates. Tippy Broken Orange Pekoes and Broken Pekoes, especially those drawing strong infusions, were well competed for, some lines fetching very full figures. Among the choicest Assams were :— Beesakopi Estate (DDT Co.), BOP 3s 3¾d, BP 2s 8d ; Mukum Co. OP 2s 9¾d ; Suddia Road Co., BOP 2s 9¼d, BOP 2s 3d ; Samdang Estate (DDT Co.), BP 2s 7¼d, BOP 2s 4½d ; Pabbojan Co., BOP 2s 6½d ; Badulipar Estate, BOP 2s 5d per lb. ; Hansura Estate (DDT Co.). BP 2s 4½d bid, BOP 2s 4¼d; Hapjan Estate (AFT Co.), BOP 2s 3½d ; Hokungoorie Estate (AFT Co.), BOP 2s 1½d; Sookerating Estate (AFT Co.), FOP 2s 1¼d per lb.

For 35,400 packages on Estate Account 8⅜d per lb. was obtained contrasted with 8¾d per lb. for 25,100 packages and 9¾d per lb. for 20,300 packages in the two preceding seasons respectively.

Telegrams from Calcutta state that 5a. 10p. per lb. was realised there for 26,000 packages on the 18th inst. The tone was weaker for all except fine. For to-morrow (Friday) 22,000 packages are declared.

CEYLON.—Auctions were a little lighter, totalling 41,000 packages against 42,700 packages on the 15th and 16th insts., and 29,700 packages at this period of 1898.

There was a brisk general demand, but Leaf Teas at and under 7d per lb., in many instances, favoured buyers. More enquiry prevailed for Broken Pekoes with strong coloury cup, which were often dearer, while bidding was keen for parcels with good flavour, and these again hardened in value, the following being some of the best quotations for Broken Orange Pekoes :—Ingestre 1s 7d, Henfold 1s 4½d, Waverly 1s 4d, Cranley 1s 3¾d, Rickarton 1s 3d.

The average is 7d per lb. On the 17th instant it was 7¼d per lb. and slightly over 7¾d per lb. in 1898.

JAVA.—Nearly 1,400 packages of direct import passed the hammer which met with fair attention, but some of the lower grades were withdrawn owing to offers being below limits.

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns, were:—

	Lbs.
From 1st to 22nd August, 1899	11,646,503
Do. do. 1898	11,203,457

During the fortnight the following have been printed for sale by public auction :—

	Sold.	Withdrawn.	Total offered.
	Pkgs.	Pkgs.	Pkgs.
India	32,058	7,148	39,206
Ceylon ...	38,290	2,685	40,975
Java	1,021	377	1,398
Total ...	71,369	10,210	81,579

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated August 25th, 1899, says :—

QUANTITY BROUGHT TO AUCTION IN LONDON FROM 1ST JUNE TO DATE.

	Indian.	Ceylon.	Java.
	Pkgs.	Pkgs.	Pkgs.
1899-1900	195,864	228,733	15,751
1898-1899	185,956	311,578	9,987

44,682 *pkgs.* INDIAN
41,114 ,, CEYLON
1,398 ,, JAVA
} Total 87,194 packages were offered in public auction this week.

Again the auctions have been so large as to severely tax the buying power of the Trade. However now that the market is becoming settled the Tea can be more quickly valued, which means that the samples are more generally seen.

It is satisfactory to note that the Duty Payments on Tea at the Custom House have shown a marked increase during the last few days.

INDIAN.—Some few thousands of the packages which were advertised for sale this week were withdrawn, and this in a measure helped to steady the market and arrest the fall which was in progress. The low range of price established last week also had the effect of attracting buyers, and created a more general market. Fine Teas were again in strong demand at satisfactory prices, and a fair number of parcels sold from 2/- to 3/- per lb., one parcel of 27½ chests from the Beesakopi Division of the Doom Dooma Co. realising as much as 3/3¾d. per lb.

Week's av. of Tea sold on Garden Account 1899, 35,489 pkgs., av. 8·20d 1898, 25,063 pkgs., av. 8·56d.

CEYLON.—At the exceptionally low range of price established during the latter part of last week, buyers appeared disposed to operate with more freedom. The few fine Teas offering again showed slightly improved rates, but they still offer excellent value to the buyer. The average price for the Tea sold this week, works out at only 6.87d. per lb. which is the lowest recorded; the nearest approach to this figure was in July, 1897.

Average for week 6·87d., against 7·68d. same period 1898.

Ceylon Tea sold on Garden Account 1st Jan. to date 1899, 641,208 pkgs., av. 8·02d. 1898, 762,777 pkgs., av. 7·60d.

Comparative prices of Ceylon Tea in London.

JAVA.—In sympathy with Indian and Ceylon growths, the tendency was to rather easier rates.

Bank Rate 3½ per cent. Exchange on London three months sight :—Calcutta 1/4 7/32. Colombo 1/4 7/32.

COCOA.

Tuesday's auction supply consisted of 1,892 bags Colonial and 1,780 bags Foreign growth, together 3,672 bags. Demand was again fairly active, and nearly half of the offering sold, most kinds appreciating a further 6d to 1s per cwt in value. Of 359 bags Trinidad catalogued 300 bags sold at 6d to 1s rise, viz., fine to very fine red 71s to 72s 6d, middling to good 65s 6d to 70s. 160 bags Grenada brought 62s 6d to 66s for fair to fine, and 60s 6d for common, being 6d to 1s over last week's range. 4 bags Jamaica realised 58s 6d. 18 bags St. Lucia partly sold at 59s 6d to 61s 6d. Bahia steady, 100 bags ordinary gray selling at 61s. 17 bags Samana about half sold at 57s. Of 129 bags Venezuela 40 bags unclayed found buyers at 67s. Of 1,456 bags Guayaquil 120 bags were placed at about valuation—69s for good red Caraquez. 78 bags Java withdrawn. Of 1,351 bags Ceylon 830 bags sold at a further rise of 1s on fine, other qualities being unchanged; superior bold red fetched 89s to 91s, good medium 70s 6d to 74s. small and pickings 50s to 63s 6d, black 40s 6d per cwt. Private business includes 300 bags Trinidad at 69s to 71s 6d, some clayed Venezuelan at 76s 6d, and 400 bags Guayaquil—Arriba at 69s to 69s 6d, and Machala at 67s 6d per cwt.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

	1899.	1898.	1897.	1896.
	Bags.	Bags.	Bags.	Bags.
Imports, B.P. ...	107,734	109,730	97,961	108,710
Foreign ...	54,176	80,496	57,357	50,934
Home Con., B.P. ...	55,700	70,318	57,692	48,949
Foreign ...	34,268	37,684	39,167	36,551
Exports, B.P. ...	31,892	26,410	33,035	27,701
Foreign ...	17,785	21,082	27,496	18,898
Stock, B.P. ...	65,725	73,041	85,110	97,911
Foreign ...	54,697	55,230	50,913	71,850

PEPPER.

BLACK.—Demand has been active during the week and prices have advanced in all positions. On the spot nearly 2,000 bags have changed hands—Singapore fair 5½d to 5 9/16d, and Tellicherry at 5 7/16d to 5½d. For arrival fully 300 tons Singapore have been contracted for—near at hand 5 9/16d to 5 11/32d, Aug.-Oct. 5 11/16d to 5 13/16d. Sept.-Nov. 5¾d to 5 7/8d, and Oct.-Dec. (s.) 5 13/16d to 5 15/16d per lb., closing a wee bit below the best. Tellicherry to arrive is quoted at 54s per cwt. c.i.f., London.

At public sale on Wednesday 295 bags Tellicherry passed the hammer unsold at 5⅝d, also 507 bags Penang at 5¼d per lb.

WHITE has also participated in the improved trading, and values are higher. Close upon 1,000 bags are reported sold on the spot, Penang kind attracting most attention and realising 8 3/16d, to 8 5/16d, and Singapore 8⅜d to 8 11/16d. For arrival 200 tons done—Singapore near at hand 8½d, Aug.-Oct. (s.) 8¾d, Sept.-Nov. 8¾d to 8⅞d, Oct.-Dec. (s.) 8 13/16d to 9d, and Penang Oct.-Dec. (s.) 8½d to 8⅝d, and October delivery 8⅜d per lb.

Auction supplies on Wednesday consisted of 96 bags Singapore and 54 bags Penang both of which retired at 8¾d and 8½d per lb. respectively.

GINGER.

COCHIN.—186 cases 227 bags comprised the quantity exposed for public competition, but there was little life in the bidding, and only 125 bags 29 cases sold at about the rates recently obtainable. Bold, some plump, medium cut, rather dull, realised 70s to 71s, small ditto 28s. medium and small, some bold, rather lean, Calicut rough 21s, 6d, ordinary dull small washed rough 21s, brown D's 19s 6d, rather dusty cuttings 16s per cwt.

JAMAICA.—The small supply tells on value, which again appreciated 1s to 2s per cwt. 162 barrels offered and 42 barrels sold—low middling 61s 6d, small and leanish dark 55s to 58s, common to good common mouldy 48s 6d to 54s per cwt.

QUININE.

Few transactions have been concluded this week, says the *Chemist & Druggist*, and the continued drooping tendency is still apparent, due for the most part to the heavy bark sales at Amsterdam to-day, and the prospect of a possible reduction in the official quotation towards the close of the week or on Monday. On the spot the secondhand quotation on Wednesday was 1s 1¾d per oz., with buyers at 1s 1½d.

The shipments from Java during June were 105 cases, which came direct to London. From July 1, 1898, to June 30, 1899, the shipments were 1,619 cases, against 458 cases for the same periods of 1897-98.

CINCHONA.

The shipments from Ceylon for the week ending August 1 were 7,492 lbs, and from January 1 to July 25 they were:—

	1899	1898	1897	1896
Lbs.	30,945	28,746	21,208	23,550

The Vriesseveem cinchona-bark department at Amsterdam report that the shipments from Java from July 11 to August 21 amounted to 1,164,000 Amst. lbs., and from January 1 to August 21 to 6,142,403 Amst. lbs.

AMSTERDAM NEWS dated August 24th 5.30 P.M. says that at the auctions held there on that day 7,564 bales and 276 cases were offered (6,811 in July), of which 7,062 were sold at an average unit of 6·25c. per ½-kilo, as compared with 7·60c. in July. The total weight of the bark was 688,464 kilos, containing the equivalent of 36,397 kilos (1,173,895 oz.) quinine sulphate. The manufacturing bark contained an average yield of 5·60 per cent. quinine sulphate. The following were the approximate quantities purchased by the principal buyers:—American and English factories, who purchased the equivalent of 10,819 kilos.; Brunswick, 7,685 kilos.; the Mannheim and Amsterdam factories, 7,330 kilos.; the Frankfort-on-Maine and Stuttgart factories, 3,914 kilos.; and various buyers, 3,623 kilos. The prices paid for the manufacturing bark ranged from 10c. to 66¼c. per ½-kilo., and for druggists' from 12½c. to 52c. per ½-kilo. The tone of the market was fairly steady at the decline.

(AVERAGE FOR ALL INDIA 8·20d.) August 25th.

GARDEN.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust, and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.
Neilgherry ...	**329**	**6·65**												
Brooklands ...	117½c	6	48¼c	6¼	38½c	5¾	31½c	†6¼	...	...	...	...	...	...
Glenmorgan ...	36	6	...	...	16	5¾	11	6¾	6	5½	...	...	3	5½
Pykara Falls ...	176	7	...	...	84	6½ 9	34	6¾ 7	49	6½ 7	...	...	9	6
Travancore ...	**2807**	**6·11**												
Arnakal ...	126 p	6¼	15	†6¼	49	†6	45	†6¾	8	5¾	1	5½	8½c	5½
Atchencoil ...	114½c	5¾	...	...	45½c	5¾	23½c	6¼	35½c	5½	4½c	5¼	7½c	5½
BA ...	12	5½	...	...	...	...	...	...	...	...	12	5½	...	...
Balamore ...	180½c	5¾	...	...	125½c	5½	45½c	6¼	..	...	7½c	5¼	3½c	5¼
Belford ...	160½c	5¾	...	...	96½c	5½5¾	54½c	6	...	...	5½c	6¼	5½c	4¾
BM ...	6	5½	...	...	...	...	...	...	...	...	6	5½	...	...
Bon Accord ...	90 p	6¼	...	...	31	6¼	31	6¾	15	5½	...	...	13½c	5½6½
Braemore ...	111	6	...	...	49	6¼	34	6¼	...	...	22	5¾	6	5¼6½
Carady Goody ...	107 p	6	54	5¾6¼	15	5½	16	6	6	5½	...	...	16½c	5½6
Cherian Malay ...	116 p	6	114 p	6 6¼	2	5¾	..	...	...	...	...	...	...	...
Corrimony ...	175½c	6¼	...	...	123½c	5¾	43½c	7½	...	...	5½c	5¼	4½c	5¼
Ellangy ...	120	5¾	...	...	58	5½5¾	27	6¼	30	5¼	..	..	5	5
Fairfield ...	60	6¼	21	6½	12	6	15	6¾	6	5¾	3	5½	3	6
Glenmary ..	85 p	6½	38	6½ 7	24	5¾	...	...	...	...	...	...	23 p	5¾7¾
Glenmore ...	130½c	6	...	...	74½c	5½5¾	52½c	6¾	...	...	3½c	5½	1½c	5
Home ...	160½c	5¾	...	...	100½c	5½5¾	50½c	6	...	...	5½c	5¼	5½c	5
Isfield T C Isfield ...	112 p	5¾	...	...	59	5½5¾	36	6¼	16	5½	1½c	4	...	...
Nagamally ...	38	5½	...	...	...	...	...	...	8	5¼	22	†5½	8	5½
Penshurst ...	103 p	6½	63 p	6½7½	21	6	...	...	19	5¾	...	...	...	...
Seafield ...	109½c	6½	...	...	73½c	6	34½c	7¼	...	...	1½c	5½	1½c	5¼
South Trav C Vn ...	182	6	...	...	67	6 6¼	86	6 6½	29	5½	...	...	...	...
Do. do. J ...	77	6¼	...	...	41	6	29	6¾	...	...	...	...	7	5½
Do. do. K ...	128	6	...	...	51	6	42	6¼6½	25	5¾	...	...	...	...
SIT Co. Kudnwa K.	115	6½	65	6¼7¼	29	5¾	...	...	...	...	..		21	5¾6½
Stagbrook ...	110 p	7¼	33 p	8 †8	33	7¼	18	†6½	26	6¾	...	...	...	..
Travan T Coy Pm ...	65	6¾	7	8½	32	6	26	7	...	...	...	...	...	..
W ...	16½c	6¾	...	...	16½c	6¾	...	...	...	...	...	...	...	..
Wynaad														
Peringodda ..	40½c	5¼	...	...	...	...	...	...	30½c	5¾	8½c	5¼	2½c	6

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

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N.B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 29th instant. Season reportss hould be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg. Polli Betta, 20*th Sept.*—*Weather.*—Heavy rain at the end of last week; 1·20 inches on Saturday last; 1·25 inches the next day. No rain on Monday. A bit of a break now would be welcome. *Plant-diseases.*—Although there is some leaf-disease, the coffee, on the whole, wears a very healthy look. *Crop.*—Ripe berries are more in evidence where there was a February set of blossom. I saw a couple of trees full of ripe berries the other day. Inconveniently early with all this wet on. *Labour* being refused employment.

Kotagiri. 14*th September* 1899.—Following on the long spell of dry weather, September rain has blown a general show of blossom, appreciable everywhere, and, in some instances, unusually heavy. September blossom is not an unmixed blessing, but in this topsy-turvy year it has come for the saving of many.—*Planting-up* in progress: hastening the end (?) by largish extensions.

THE COLOUR OF COFFEE.

The recent discussion on the alleged deterioration of E. I. Coffee drew a good deal of attention to the question of "The Colour of Coffee." Allusion was made at the U. P. A. meeting to an old investigation of this subject by the Wynaad Planters' Association, and to a report drawn up by a Special Committee of this Association. In reprinting this report to-day, we think it only fair to point out that "colour" should not be taken as the sole desideratum of the coffee-planter. To judge from prices realised in London during the season, we might certainly assert that prices had been regulated by size and colour combined. A bold, coloury berry unquestionably commanded a higher price than a small bean, or one without

colour. Still, colour alone is not what consumers require, and the ultimate test of superiority must always be applied by consumers. Together with the above-mentioned report, therefore, we publish a paper on "Appearance *vs.* Colour," which gives a dealer's view of a very important matter. This gentleman, who carries on business in New York, has been consulted by the *American Grocer*, and we would specially draw our readers' attention to certain of his remarks. Appearance in the bean is, according to Mr. DANIEL K. YOUNG, not the sole requisite in coffee: the merits of the coffee in the cup are the ultimate test, and the one to which importance should be attached. "All coffee looks alike when ground." If, therefore, the grocer sells the coffee in a ground condition, he at once loses any advantage that the bean might have had in point of colour. Even if the customer buys the whole berry, he tastes the decoction made from the ground powder, and thinks nothing of the original appearance of the bean. In regard to size, Mr. YOUNG puts the matter in a nutshell thus:—"Mocha is one of the smallest bean coffees grown, and one of the meanest looking when roasted, and yet it is of very fine flavour, while Liberian is the largest bean coffee that is grown, and yet absolutely useless for drinking purposes."

Bold berry is not everything, neither is colour. At the same time it must be remembered that the present "fashion" runs on bold and coloury descriptions. Furthermore, we may take it that really first-class Indian sorts are, speaking generally, bold and coloury. What the planter must aim at, therefore, is not mere colour, but that general healthiness and richness of plant growth, which shall yield a good and well-coloured berry. The Wynaad Planters' Association studied the problem of "a steady deterioration in the colour of Wynaad Coffee." This deterioration might have been accompanied by no corresponding falling-off in the quality of the berry; but it seems most probable that the two went together. The colour was one of the effects, and what should have been sought was not simply what affected the colour in the matter of shade or methods of cultivation, but what affected the quality. Apparently the falling-off in colour noticed in 1885 was accompanied by a deterioration of size. The line of investigation shows what were thought to be the most likely causes. The following questions were put to the various Planters' Associations of Southern India:—

1. How does the bean of Coffee grown under shade compare in colour with that grown in the open?
2. Is there any proved system of estate curing that will effect the colour of the bean?
3. Is there any marked difference in the colour of the beans cured at the West Coast, East Coast, and Inland Coffee Works.
4. How do manures affect the colour?
5. Have the different modes of packing any influence on the colour?

The replies were "as conflicting as they were numerous," and it was therefore decided "to call for more exact information on certain points, to personally conduct experiments in curing, to compare prices realised by various estates in the London market, and to see if these could be traced to any peculiarity in the soil, climate, cultivation, method of curing, &c."

Readers will find the detailed result of these investigations noted in the report itself, and will probably find that they are not very satisfactory. Shade-grown coffee is considered to be generally superior in colour to that grown in the open. No system of estate-curing will put colour into coffee; but carelessness may take it out. The Committee expressed the opinion that colour depended, in great measure, on climatic influences. They did not think there was much difference between the outturns of West Coast and East Coast and Inland curing firms. This leaves room for the inference that cultivation (with the climatic influences affecting it) and the treatment of the berry on the estate are of more importance than variations of treatment in the curing factories. In regard to manuring, we should like to know if it is still the case in the year 1899 that "it cannot be said that manure affect the colours of the bean directly," the word "directly" being used of course in a Pickwickian sense, for the Committee can never have thought either of a direct application of manure to the berry, or of a direct result from a necessarily indirect method of procedure. High cultivation was shown to improve the weight and boldness of the berry, these were found to be intimately connected with the colour, and manure would thus seem to be essential to obtaining and maintaining colour in the bean. On this point, again, there should be more information available now than there was fourteen years ago. We should like to know if it is a fact that, in many instances, young estates have realised prices for their produce that compare well with those of the leading marks, and are far ahead of those obtained by many old estates. If this be so it would seem to point to the superiority of virgin soil, a superiority that might, perhaps, be compensated by scientific manuring. Taking the report as a whole, it conveys we think, a lesson that *quality* is at the root of all questions of size and colour. The American opinion we quote shows that *quality* must also be considered the pivot upon which values eventually turn. There cannot, therefore, be much room for doubt as to what planters should strive to obtain, *viz.*, good quality. Good colour alone, or bold berry, will not, in the long run, serve the planter's purpose, even if they are to be had in combination without that superiority of quality to which it is desirable that they should owe their origin.

ABOLITION OR RETENTION.

We publish to-day some interesting correspondence that has appeared in the Colombo papers on the subject of the Abolition or Retention of British Import Duties on Tea. The *Times of Ceylon* remarks *inter alia*: The price of tea dropped much less in 1887—94 than in 1880—87, and—while it must remain, we suppose, a matter of opinion—we submit that the reduction of duty maintained, and slightly increased, the rate of consumption per head, notwithstanding the increased population, which also could afford to take the tea stronger, for much more British-grown tea was substituted for China tea in the second period than in the first, and yet the ratio of gallons to lbs. remains the same. We show the *increases*, taken from the periods quoted in the original article, as follows:—

	Lbs. per head.	Gallons per head.
1866—73 ..	·69	4·63
1873—80 ..	·46	2·97
1880—87 ..	·45	5·98
1887—94 ..	·51	6·03

Mr. Melville White, it will be seen, while accepting the trade axiom that a fall in price is bound to mean increased consumption, considers that the proof which pro-abolitionists have to present is to the effect that increase of production will

be checked by the abolition, while consumption is increased by it,—so that prices may not fall still lower by increased competition. On this the *Observer* remarks :—"Looked at from the democratic point of view, one is inclined to wish that articles of consumption, produced in British Colonies, were able to go home duty-free. But from the point of the view of the producer, to which Mr. Melville White gives expression to-day, there is no argument at present before the public to show that the party most concerned in the sale of tea will benefit by a removal of the tax. As a matter of fact though the movement in favor of abolition may grow—and we do not believe it will, at any rate not in Ceylon—we do not believe there is any likelihood of the treasury seeing their way to accomplish the step while the present necessities for heavy expenditure are pressing upon the Empire so severely." Unquestionably the time is inopportune for pressing this question of abolition ; but there can be no harm in discussing its merits.

THE COLOUR OF COFFEE.

In view of the interest manifested at the last Annual Meeting of the U. P. A. S. I. on the subject of the alleged deterioration of coffee, and methods of improvement, we reprint below the report of the Special Committee of the Wynaad Planters' Association on The Colour of Coffee (first published in 1886) ; and, at the same time, quote some remarks of an American dealer, who strongly urges dealers not to judge Coffee by its colour, but by its appearance. During the last season, at least, there can be little doubt that London buyers have been largely influenced by both the colour and the size of the berry offered to them.

The following is the report of the Special Committee of the Wynaad Planters' Association :—

The Committee, appointed by the Wynaad Planters' Association to investigate the causes which had been for some years tending towards a steady deterioration in the colour of Wynaad Coffee, think it advisable, before entering into the details of their investigations, and the conclusions to be derived therefrom, to give a brief sketch of the origin of and reason for their appointment

This may best be done by quoting from the Proceedings of the Wynaad Planters' Association Meeting on June 3rd, 1885, when Mr. Jowitt asked "if any member could give a reason "why Wynaad Coffee is deficient in colour and also in size "and invariably fetches a lower price compared with that of "other districts, than it did in former years. Mr. Walker "and others attributed this to the deterioration of the Coffee "trees from the effects of leaf disease, which could be over-"come by growing them under heavy shade such as exists in "Mysore and Coorg, but not in Wynaad.

"After considerable discussion, it was resolved that the "Honorary Secretary should address the various Planters' "Associations of Southern India, asking information on the "following points :—

"1. How does the bean of Coffee grown under shade compare in colour with that grown in the open?

"2. Is there any proved system of estate curing that will affect the colour of the bean?

"3. Is there any marked difference in the colour of the beans cured at the West Coast, East Coast and Inland Coffee Works?

"4. How do manures affect the colour?

"5. Have the different modes of packing any influence on the colour?

"The Wynaad Planters' Association will be glad to receive "the opinions of any persons interested in this matter.

"Resolved that these questions be circulated separately as "well as in the Report of Proceedings"

In reply to the above questions, a number of letters were received by the Association, and at a Meeting held on September 2nd, 1885, it was thought best to hand over these letters to a Committee formed of Messrs. Jowitt, Boosey, Walker, Winterbotham and Lamb, in order that the subject might be the more thoroughly investigated.

These gentlemen were instructed "to consider the corres-"pondence relating to the present deficiency in the colour of "coffee, and to take such steps as they might think necessary "to ascertain how shade, cultivation, leaf disease, estate-"treatment, coast curing, packing, etc., affect colour, and to "draw up a report of their investigations."

The letters to the Association and the correspondence carried on in the *Madras Mail* and other papers were collated, and the different opinions and theories brought forward were carefully discussed.

It was found that these were as conflicting as they were numerous, and it was impossible to arrive at any definite conclusion without further data. It was therefore decided to call for more exact information on certain points, to personally conduct experiments in curing, to compare prices realised by various estates in the London Market, and to see if these could be traced to any peculiarity in the soil, climate, cultivation, method of curing, etc.

As complaints in London against Wynaad Coffee, owing to its want of colour, were general, and as the low prices realised were said to be entirely due to this, the Committee considered that value might be taken as a fair test of colour. They therefore selected representative estates in the different sub-districts for comparison, the following questions being put to their Proprietors or Managers :—

"1. Did your estate suffer from leaf disease, and to what extent, and during what months during the season 1884-85?

"2. What was the rainfall each month during the season? Kindly state whether the blossoming showers were satisfactory, and whether you had subsequently sufficient showers to properly develop the fruit?

"3. Was the bulk of your crop picked thoroughly ripe, or in what stage?

Had you a large or small proportion of white cherry? State average yield per acre.

"4. State whether the estate is regularly manured, proportion manured yearly, and whether with cattle or artificial; if the latter, state what?

"5. Is your Coffee in the open, or under partial or total shade?

Eight estates were selected in the district, which may be distinguished as 1, 2, 3, etc.

Nos. 1, 2, 3, *in Maypadie Sub-District.*

No. 1. Coffee under regular shade ; never manured. Crop 4 cwts. per acre, little or no leaf disease, price for "A" Coffee, 61.

No. 2. Coffee under partial shade ; half the estate manured yearly with cattle manure. Crop 5¼ cwts. per acre. Leaf disease severe in parts, price for "A" Coffee, 50.

No. 3. Coffee under partial shade ; manured once in three years with poonac and bones ; no cattle manure used. Crop 5¾ cwts. per acre ; bad attack of leaf disease in August and September, price for "A" Coffee, 56.

The crops from these three estates were shipped per SS. *Gratitude*, and presumably met the same market.

In the opinion of the Committee, No. 1 realised the highest price for the following reasons :—

(*a*) Coffee is young
(*b*) Shade is regular.
(*c*) Comparative smallness of crop.
(*d*) Absence of leaf disease.

Nos. 4 & 5, also in Maypadie.

No. 4. Coffee under partial shade ; regularly manured, partly cattle and partly artificial. Crop 3·22 cwts. per acre ; bad attack of leaf disease early in the year, affecting blossom, price for "A" Coffee, 69/6.

No. 5. Coffee under regular shade ; half of the estate manured yearly, partly cattle, partly artificial. Crop 3½ cwts. per acre, leaf disease slight, price for "A" Coffee, 56.

Both these crops were shipped per SS. *Japanese*, and it is impossible to account for the extraordinary difference in the prices, all conditions of growth being so remarkably alike, except on the supposition that the soil of No. 4 is infinitely superior to that of No. 5, or else that the systems of curing and cultivation on the two estates are radically different ; but on these points the Committee have no precise information.

Nos. 6, 7, 8, in Vythery Sub-District.

No. 6. Coffee under partial shade ; small portion manured annually with cattle manure. Crop 2¼ cwts. per acre ; leaf disease very mild, price for "A" Coffee, 64/65.

No. 7. With the exception of a few acres, the Coffee is in the open, manured practically twice in three years, chiefly with artificial. Crop a little over 3 cwts. per acre ; leaf disease mild, price for "A" Coffee, 56/6.

No. 8. Coffee in the open, but protected by belts ; highly manured with cattle and artificial. Crop a little over 7 cwts. per acre, leaf disease slight, price for "A" Coffee, 57/6.

These crops were shipped per SS. *Japanese*.

In this case it will be noticed that the yield per acre, between No. 6 and No. 8, differs enormously, the prices realised being in exact inverse ratio, and the conclusion is forced upon the Committee that small crops and large prices are indirectly connected.

Having got thus far in their researches, the Committee found that the only conclusion they had arrived at was the very negative and unsatisfactory one, that the smaller the crop the larger the price it realised ; and it plainly appeared from a careful review of all the correspondence and the theories and opinions brought forward relating to cultivation, manuring, leaf disease, rainfall, etc., that, however much these might affect the yield per acre, they did not throw any light on the question of colour, for if colour were dependent on high cultivation and freedom from leaf disease, one would expect coffee from highly cultivated estates to invariably top the market, whereas there was in evidence a letter from one of the largest agents, saying :—

"I have already got prices from a good number of estates, and "it is very curious how they vary, and still more curious how the "coffee from well cultivated estates has fetched a much lower "price than crops from poor semi-abandoned ones."

EXPERIMENTS.

The main object the Committee kept before them was the comparison of the colour of coffee : (*a*) growing. (*b*) cured under different conditions, and to attain this end the following samples of coffee specially picked were sent to Mr. Jowitt at Culloor, who had erected a shed and tables expressly for carrying out these experiments, so that there should be no possibility of the different samples being mixed or the treatment varied during the course of the experiments.

The samples referred to above were—

Grown under different conditions.

No. 1	Grown under shade, cattle manured.	
„ 2	„	in open do.
„ 3	„	under shade, artificially manured.
„ 4	„	in open do.
„ 9	„	from abandoned land.
„ 10	„	from a well cultivated, highly cattle manured field.
„ 11	„	under jungle shade artificially manured.
„ 12	„	„ in open do.

Nos. 1, 2, 3, 4 were from the same estate in the Maypadie Sub District.

Nos. 9, 11, 12, were from an estate in the Vythery, and No. 10 from one in the Culpettah Sub-District. These eight samples were all cured in the ordinary way.

Cured under different conditions.

No. 5	Taken from the cistern and exposed to the sun for half-day, after which it was dried under shade to peeling point.	
„ 6	Dried in the open.	
„ 13	Ordinarily estate-cured coffee, dried in the open.	
„ 14	Coffee from same estate as No. 13. Dried under shade from the time it left the cistern.	
„ 15	Ordinarily estate-cured coffee, dried in the open.	
„ 16	Samples 32 lbs. on receipt	Sun dried.
„ 16-a		Shade dried.
„ 17		Sun dried.
„ 17-a		Shade dried.
„ 18		Sun dried.
„ 18-a		Shade dried.
„ 19	Samples taken from 300 bushels dried under shade to 40 lbs., and then to 35 lbs. in the sun.	Sun dried.
„ 19-a		Shade dried.

Of these samples, Nos. 1, 2, 3, 4, 9, 10, 11, 12 were more especially taken to show different conditions of cultivation and effect of climate.

No. 1 was adjudged the best of all the samples, whether cured in the ordinary way or shade dried.

A comparison between 1, 2, 3 and 4 showed that coffee grown under shade was superior to that grown in the open irrespective of the manure applied. This, however, was not confirmed by samples 11 and 12, where no difference could be detected.

Samples 9 & 10.—Sample No. 9, though comparing unfavourably with No. 10, as regards size and evenness, contained a large proportion of good colory beans very little, if at all, inferior in colour.

The rest of the experiments bear more directly on the question of curing under shade, and a number of different experiments were tried : (*a*) such as dryingslowly down to 35 lbs., then finishing in the open ; (*b*) drying at first in the open and finishing under shade; *c*) never exposing the parchment at all to the sun, but drying under shade from first to last, and so on with the result that the differences in colour were so very slight that the Committee were not agreed as to which took the palm.

One conclusion arrived at by Mr. Jowitt, which was confirmed by experiments, carefully conducted by Mr. Abbott, was that all coffee, however grown and however cured, showed its best colour at 35 lbs. weight per bushel, which faded more or less in subsequent curing.

The Committee not being satisfied with their own opinions, as the judging of coffee especially requires an educated eye, sent the samples home, where, through the courtesy of the

Managing Director of the Tambracherry Estates Company, they were submitted to an eminent Broker, the verdict being as follows :—

"A comparison of the whole shows unmistakably that the "shade dried are not equal to the sun dried (with only one "exception too slight to be of much importance), and that, in "almost every case, the shade dried samples are mottled, *i.e.*, "mixed with faded or fading beans. The sun dried, too, are "perceptibly harder and generally better looking.

"Samples 11, 12, 13, 15, on the whole, are the best. Nos. "1, 2, 3, 4, though good, were apparently packed while "moist, as they show a little foxiness.

"The sample 19, dried on the Coorg system and finished "in the sun, is better than 19-*a* finished in shade, but not so "good as your ordinary drying like No. 13: 16-*a* is also poor "in comparison with 16, the sun dried. After very careful "examination of a great deal of coffee this year, I am inclined "to believe that the colour depends, in a great measure, on "great care in drying. We see differences which can hardly be accounted for in any other way."

A great deal was said last year, and in fact led to these experiments, as to the beneficial and important results obtained in Coorg by drying to 40 lbs per bushel under shade and then curing in the ordinary way. The experiments have not confirmed this, and this is borne out by the above report as well as in another case that has been brought to our notice.

"So far as we have gone this season, we have not gathered "anything very reliable as to the merits of Shade *versus* "Open-drying, and, in two cases, where both systems were "tried on each estate, the results were exactly reversed."

To answer, then, the questions we originally set ourselves, we find—

(1) There can be no doubt that shade-grown coffee is generally superior in colour to that grown in the open.

(2) That no system of estate curing will put colour into coffee, but any carelessness in estate curing will rob the bean in a greater or less degree of such colour as it possesses. The Committee are of opinion that the amount of colour depends, in a great measure, on climatic influences. They are confirmed in this opinion by the fact that Wynaad Coffee this year has been reported on at home as having plenty of colour, and that, too, in cases where no difference whatever has been made in the system of curing.

Coffee cured under shade in Coorg this year, according to the system that apparently proved so successful before, has realized a lower price than sun dried, and the Committee, both from their experiments and from all they have heard, can see no reason whatever for recommending shade drying. What they would recommend is strict adherence to the old well-known rule of keeping your coffee constantly turned in course of drying, and, when once dried, to keep it dry and cool.

(3) The Committee have no precise information on this subject, but believe there is little or no difference.

(4) Although it cannot be said that manures affect the colour of the bean directly, there can be no doubt that high cultivation improves the boldness and weight of the bean. These again undoubtedly are intimately connected with the colour and in this way manures seem essential to obtaining and maintaining colour in the bean.

(5) From experience the Committee cannot speak ; but the following information has been placed at their disposal :—

"As to packing we have not hitherto found any disadvantage in double bags as compared with cases, and both have "been tried separately and together, while our buyers prefer "bags to cases as the bulk of our coffee goes to the Continent." "And again, "we have no reason to suppose that coffee "suffers in bags, as we have had plenty of good colour in "bags before."

In conclusion, it is to be regretted that no infallible method has been found for improving the colour of coffee, but it is statisfactory to know that everything tends to prove that the main cause of its deterioration was beyond our control.

Still it must not be forgotten that last year both planter and curer were fully aroused to the importance of taking increased care of their coffee, and a great deal of the improvement this year may be fairly attributed to the attention paid to this department by the planter on the estate, which was ably seconded by those in authority on the Coast.

R. LAMB. | R K WALKER.
H. B. WINTERBOTHAM. | T. J. BOOSEY.

JOHN F. JOWITT, *Honorary Secretary.*

COFFEE APPEARANCE *vs.* FLAVOR.

The *American Grocer* says :—

The importance of developing a profitable coffee trade in these days of large sales and small profits connot be too strongly emphasized. There are grocers who are satisfied to sell cheap package coffee at next to no profit, and go without a reputation for selling fine coffee. There are others who believe in quality as the first consideration, and that a reputation for keeping the finest coffee brings trade to a store, and is not incompatible with a generous profit. Bearing upon this matter is the interview printed below, with one whose twenty-eight years of experience with some of the largest and best firms in the trade give to his words great value.

(INTERVIEW WITH DANIEL K. YOUNG, OF BAKER & YOUNG.)

We cannot understand why a very large majority of the retail grocers make the serious mistake of buying coffee on its appearance, rather than for its drinking quality. We maintain that this is radically wrong, and in our business we sell roasted coffee on its merits in the cup and not its appearance in the bean.

A customer goes into a grocery store for a pound of coffee and asks to have it ground. The grocer turns it from the scales into the grinder, and the customer never sees it until it is ground. All coffee looks alike when ground, and yet the grocer will buy his coffee because it looks well rather than because it drinks well, and will pay more for a good-looking than for a good-drinking coffee. This is one reason why so many consumers say "it seems impossible for me to get a good coffee in the neighbourhood." From experience we know that the retailer who pays every attention to the drinking quality of a coffee when buying, and very little attention to its appearance, will largely increase his trade in the article.

Mocha is one of the smallest bean coffees grown and one of the meanest looking when roasted, and yet it is of very fine flavor, while Liberian is the largest bean coffee that is grown, and yet absolutely useless for drinking purposes.

We have many customers who at first are timid about taking this new departure, but whose trade in coffee has doubled and even quadrupled by following our advice in this direction. The fact that we never hear any complaints from the consumer, who is the retail grocer's customer, makes us aim rather to please the grocer's customer than to please the grocer himself ; for so long as the customer tells the grocer that he wants coffee like the last which was sold him, we are satisfied to have the grocer complain of the appearance of the bean. Indeed, so particular are we about the drink of a coffee, that in all our blends every lot is tasted in the cup, both separately and in combination, and not tested, as others do, by pouring hot water on the grounds, but is made just as it appears on the consumer's table We are thus able to guarantee every pound which leaves our place. This matter of Appearnce *vs.* Flavor is not confined to coffee.

The small, wild strawberry is far superior in flavor to the large, highly-cultivated one, although the latter is much handsomer.

The handsome California peach bears no comparison to the smaller but better-tasting Delaware peach, and the "Flemish Beauty" pear does not please the palate nearly as well as the almost contemptible-looking Seckle pear. Moreover, there may be two coffees from the same country, which look exactly alike when green and when roasted, yet there will be a very large difference in flavor between them, sometimes reaching 5 or 10 cents per pound.

Why should the retailer not buy fine-drinking coffee when it may be bought at the same price as the poor one, and let customers have the benefit? The test of tea is in its cup quality, and we cannot understand why that is not made the test of coffee. These remarks may appear self-evident to the consumer, who does not understand how the retail grocer is influenced in his purchasing by a given coffee having a large bean, smooth, even roast, and being free from what is technically known as "quakers" or light-colored beans, and yet not compare in flavor with small-bean coffee, having a rough roast and a few quakers. This foolishness on the part of the retail grocer has obtained through the greater foolishness of grocery salesmen with a superficial knowledge of coffee, and who, in selling coffee of good appearance, compare it in the hand with coffee in the grocer's bin, pointing out the difference in the size of the bean, evenness of roast, etc., but saying nothing about the drinking qualities; consequently the retail grocer comes to believe that because a coffee looks well, it must drink well, and no greater fallacy exists in the grocery trade.

Our advice to a retailer would be, if you want to increase your trade, buy your coffee because it drinks well and not because it looks well.

We are selling a coffee at 20 cents a pound, which we guarantee to be composed of only the finest drinking coffees grown in the world, and yet we frequently see in retail grocery stores coffees labeled 40 cents per pound, which, while they are of larger bean and handsomer appearance, do not compare in flavor with the coffee mentioned above.

MOOPENAAD ARABICA-LIBERIAN HYBRID.

Apropos of an advertisement that appears in our present issue, we quote *in extenso* the report, dated 8th August 1899, of Mr. J. Williams Hockin, of Vyitri, on the above Coffee :—

At Mr. Mackinlay's request I inspected his Hybrid Coffee tree and plants put out one and two years in the field from the seed of the same ; the plants being respectively eighteen and thirty months old from seed. The parent plant is a fine well-grown tree 7 feet high (being topped at that height) with a spread of about 8 feet It has twenty fine branches on it, besides five or six smaller ones on the bottom dwarfed by the overhanging of the upper branches ; the lowest of which sweep the ground all round. All the branches, except the top ones, have a very considerable droop, especially where heavily laden with crop. I counted 325 well-set and half-grown berries on an average branch, which would give, say, 6,500 berries on the tree. Half these were peaberry, so that the yield of seed would be 9,750 seeds or about quarter bushel of dry parchment. At 10 ft. × 10 ft., which is probably as near as these fine trees could be grown, these would give a yield of 109 bushels per acre or, say, 20 cwt. This tree was found growing in a Liberian field, showing the mother plant was Liberian and the father plant Arabica. It was then about 2 feet high with two or three pairs of primaries and very badly grown, as it was under the shade of a bamboo clump. It was transplanted in October 1894 to its present position on the edge of a twenty-year old Arabica field. The tap root was very crooked and had to be cut very short. In spite of this, the yield has been as follows :—

In June	1897	450 plants
,,	1898	2,100 ,,
,,	1899	650 ,,

The blossom in the last year failed on account of insufficient rain ; but, if, as I calculate, it will give over 9,000 seeds January to March next, it will more than make up for year's shortage. I noticed a great many small berries shanked off from damp fungus and think, if the branches been supported so as to admit air into the interior of the the yield might have been half as much again as it is. tree is a picture of health and free from leaf-disease, except a few of the leaves of the lowest boughs, chiefly those lyi on the ground. It has been equally healthy from the time its transplantation five years ago, and I have often seen it in t time, and have always been struck by its vigor and heal iness. In habit the tree is half-way between Arabica Liberian. That is to say, two Arabica leaves are equal in s to one Hybrid leaf and two Hybrid leaves to one Liberi Arabica usually has five petals to a flower, the Hybrid six Liberian seven. Liberian blossoms seven days after rain, Hybrid eight days, and Arabica nine to ten days. The s at the end of the berry is very large in Liberian, smaller the Hybrid, and very small in Arabica. The Hybrid che is half-way in size between Arabica and Liberian, but has thin Arabica pulp and a bean of an Arabica character. size is so much thought of in the London market now, boldness of the bean, combined with its Arabica colour, sho make it very valuable. Arabica crop ripens in November January on the Moopenaad Estate, the Hybrid from Janu to March, and Liberian from March to May. The Hybrid t ripens at the most convenient time of year, that is, in the dri months.

The most important point to consider, however, is character of the offspring from the Hybrid. Unfortunate like all Hybrids, it is liable to soprt. Mr. Mackinlay carefully uprooted nearly every plant which got leaf-dise or showed a bad habit of growth. The result is that his t year old plants (thirty months from seed now) show 47 out 130 typical plants counted, sufficiently true to type to fo healthy vigorous and well cropping trees, or, say, 33% near These will give a virgin crop varying from 2 to 4 cwts. acre at three years from seed. I found the proportion good plants in the one year old field (eighteen months fr seed) the same, 33% at fifteen to sixteen months from se and one year from planting out. It is therefore possible to d tinguish between the valuable and worthless plants (the wor less having been eradicated and supplied in June last) ; the end of the second year, it would be possible, by eradic ing bad plants and supplying, to have a field with 39 % good plants ; at the end of the third year, 76 % ; the fou year, 87 % ; the fifth, 95% and the sixth, an even field of go plants. I had thought that, by keeping plants one year the nursery, it would be possible to distinguish good pla from bad, and Mr. Brooke Mockett, of Mysore, says his sup intendent can do this. But the growth of these Hybrid so rapid the plants would then be very large, and it would difficult and expensive work to transport them any dista to the field, not to mention the shock to the plant. The o year old plants (eighteen months from seed) I saw averag 30 inches in height and 36 to 40 inches in spread ; the t year old plants are about 5 to 6 feet high and 6 to 7 f in spread. I think a better plan would be to plant 5ft. × 5 and, in the second year, eradicate the bad plants a carefully transplant with large balls of earth, the plants in their right places to the nearest position, which wo bring the plants to 10 ft. × 10 ft. This plan would s a long and troublesome carriage and consequent injury

the plants. Having thus *in situ* four times as many plants as are wanted, it would be possible to plant the whole acreage in the second year with good selected plants. Last year I reported on another Hybrid, equally healthy and vigorous, which had then been eight years in its present position. The crop at five and six years old was, like that of Mr. Mackinlay's tree this year, about quarter bushel; but for the two following years it was about half bushel. Both parent trees have, of course, been liberally manured; but neither the parent trees nor their offspring were growing in, what I should call, good, fresh coffee soil. In rich virgin forest land, they would probably do better than they have, if similarly treated, or quite as well without any manure. I have seen two other Hybrids grown in good forest land without manure which, for their age, have done as well as either of the above. I am of opinion that, with careful selection of the best types of plant, we have in this Hybrid a prospect of establishing a new and very vigorous type of coffee, practically immune to leaf-disease; but careful selection and ruthless extermination of all poor types are absolutely necessary to success in this experiment. The reports of the Hybridisation Conference of practical experts held at Chiswick, on July 11 last, under the auspices of the Royal Horticultural Society, shows how much importance is attached to Hybridisation for improving the vigour of plants and attaining and perpetuating any particular properties of plants. One speaker stated varieties are perpetuated in crossing, and are not, as a matter of fact, obliterated. Another that, in later generations, the seedlings give a greater proportion of the "variety" desired; so that, in the third generation, it may come up to 50 %, and in the fourth to 75 to 80 %, but, of course, selection is necessary to fix the "variety." This is in spite of the fact that, in some cases, in the first or second generation, nothing new is seen. It was also stated Hybrids are not, as a rule, infertile, and, where they are, it is due to some special circumstance. We have, in Wynaad now, Hybrids, or the second and third generation, and there is no reason why we should not get further generations, and eventually establish a variety true to type or practically so.

THE CAMERON (CENTRAL AFRICA) DISCOVERY.

The Chamber of Agriculture having been requested to issue the report at an early date, decided to close the subscription list on 26th ultimo, on which date the discovery was to be made known to subscribers. At about the end of July the list of subscribers was as follows:—Scottish Central Africa Syndicate, Pettitt Brothers, Buchanan Brothers, A. L. Bruce's Estates, R. S. Hunter, Hynde and Stark, Paget Baxter, Cox Brothers, S. Israel, T. H. Lloyd, Nyasa Industrial Mission, Zambesi Industrial Mission. The *B. C. African Times* announces that the investigations, then completed, fully bear out the claims it made on behalf of the discovery. All the investigators are stated to have agreed in bringing in a favorable report. There were two members of the Chamber of Commerce Committee, and one member of the scientific department nominated by H. M. Commissioner. All these gentlemen report favorably, and, as one result, the Chamber lately passed a resolution:—"That this Committee in view of the report of Mr. Mahon and of the Sub-Committee appointed by the Chamber to investigate Mr. Cameron's discovery, ask H. M. Commissioner if he could see his way to join with the planters in remunerating Mr. Cameron, by recommending the Government to give a monetary grant either direct to Mr. Cameron, or through the Chamber by adding it to the fund now being raised." The Committee point out that, as the discovery cannot be kept secret once it has been declared, they trust to the honour of all planters to contribute their quota to the fund.

TEA FROM SEED TO CUP IN SOUTHERN INDIA.

(By Thomas Brown, Glendale, Coonoor.)

XIV.

Speed of Machinery—is a point upon which a little information is sure to be useful. Very few men in coffee have ever troubled themselves with the speed of their pulpers, and it will be news to them that men turning one, run it at 60 revolutions per minute, except when it is not feeding full, or the men put on a spurt, when the speed goes up to 90. A hand-turned tea-roller is run at about the same speed. A shaft makes the same number of revolutions per minute as does every pulley it carries, whatever may be the diameter of the pullies. This is the first point to bear well in mind. A pulley on a driving shaft turns the one it works faster or slower, according to whether it is larger or smaller in diameter, than the follower, so that if the driving shaft makes 100 revolutions a minute, and it is desired to drive a roller at 60, the pulley required must be of less diameter than the pulley on the roller. The correct size will be $\frac{60}{100} = \frac{3}{5}$ths of the diameter of the pulley on the roller. Suppose the latter to be 15 inches, then the correct size of the driving pulley is $\frac{3}{5}$ths of 15 or 9 inches.

Speed of Fans—is always very high, and it will be found, therefore, that a pulley of large diameter is made to drive one of very small diameter. So also is the

Speed of Turbines—*viz.*, from 700 to 1,000, and, therefore, a small pulley is used to drive a large one, so as to *reduce the speed*.

Speed of Steam Engines—is usually from 100 to 300, and often the driving wheel is of the same diameter as the shaft driven, or the variation is very small. These speeds are called

Normal Speeds—and are such as to secure the greatest power from the engine. The speed of an

Oil Engine—is very high, like that of a turbine, and this fact militated against their use in Tea Factories as, unlike the turbine, the power is not continuously applied, and the need of two or three cylinders becomes advisable (as in the case of locomotives) to carry the engine over the dead points. We write without any practical knowledge of the working of an oil engine and are open to correction. These are our impressions in thinking over the subject.

To count Speed—hold a stick against any projection, such as a key, on a shaft, and, as it clicks against it, count the number in 10 seconds by your watch, which, multiplied by 6, will give the speed per minute. If the speed is too great to count thus, take the speed of the other pulley and multiply by the quotient of the two diameters; or count the revolu-

tions of the belt and multiply by the quotient of the length of the belt and the circumference of the wheel.

Thus speed of belt = 20
Length of belt = 44 feet.
Circumference of pulley = 11 „
Speed of pulley = $20 \times \frac{44}{11} = 80$

This latter plan is not always reliable, as there may be skidding.

REMARKS BY CORRESPONDENTS, Etc.

A correspondent writes anent "Tea from Seed to Cup in Southern India" :—

Multi-Stemmed Bushes—"Your statement that you were under the impression that the superiority of the Darjeeling Teas was, in great measure, attributable to their bushes being grown as standards so alarmed me that I wrote on the subject, and, in reply, was assured that you are mistaken, as many of the best estates in Darjeeling have *many-stemmed* bushes!"

In reply to our correspondent's remarks, which we take the liberty of publishing, we have to state that a many-stemmed bush may be grown as a standard and give very good tea, quite as good if not better under certain conditions of the single stem, so long as the bush does not become a multi-stemmed one with a hair-brush arrangement so common upon these Hills. We have no doubt also that fair tea can be made from a multi-stemmed bush upon good soil, in a good climate; but consider that such will not be one-half as good as the tea from standards under similar conditions.

The same correspondent writes :—

Pruning *versus* **Topping.**—"I noted your remark about the yield following the topping of tea bushes instead of pruning! Come round here, and I will show you and give you some rather different statistics on that subject."

In reply, we state that the topping of tea is frequently, when rain does not fail, followed by a good yield; but the quality is far from satisfactory: spongy, tipless, Congouish leaf being the result most generally. Should, however, the soil be rich, the bushes heavily pruned the previous season and run from want of sufficient hands, then good tea will be made after topping. Depth of topping, too, has much to do with the result.

Topping down to Pencils of wood giving very good leaf, particularly if done just before the Spring. At elevations of 5,000 to 5,500, topping in Autumn (September) will bring out a blossom that would gladden the heart of a coffee-planter. It is in fact the same as the pinching of the shoots of a vine to cause it to blossom.

The low-collar Prune—advocated by Dr. Watts—will bring on a many-stemmed bush, but provided it was a standard of single or few stems previously. The multi-stemmed China or Hybrid will come out again as it was, throwing out a mass of wire shoots from its varicosed roots.

Thinning-out Shoots—improves a multi-stemmed bush; but is expensive.

NOTES.

Cinchona Cultivation in Java. A copy of Mr. Standen's report on this subject has reached us; but we must defer comment until next week.

The Bishnauth Tea Co., Ld. The actual net profit for the year was Rs.22,631-15-7, and profit-and-loss account now shows a debit of Rs.18,832-15-6.

Venezuelan Coffee. A revolution was lately reported from the province of Zulia, Venezuela, and was thought likely to interfere with the shipments of Maracaibo coffee from the interior.

The Green Tea Bonus in Ceylon. The "Thirty Committee" has resolved that, before taking any steps to stop the grant on green teas, the matter be referred to Mr. Mackenzie for advice and report.

African Coffee. It is reported that Messrs. Perritt Brothers (in B. Central Africa) are obtaining over 80 tons of coffee from their estates this year. Coffee of good quality is said to be grown in the Transvaal—a successful start having been made in DeKaap Valley, near Barberton.

Tea Machinery and Import Duty. As a consequence of representations made by the Planters' Association of Ceylon, at the instance of Messrs. Davidson and Co., Ld., of Colombo, tea-breakers have been exempted from import duty in Ceylon. Driers and rollers would appear to have been exempted from the beginning.

Bone Manure. A Home-paper expresses surprise that so few tea-planters are sufficiently up-to-date to produce their own bone manure, especially as from time to time bones in large quantities are shipped from India to England, and are ground there and then re-shipped to India and Ceylon.

Ceylon Tea in Sweden and Norway. The "Thirty Committee" has expressed its readiness to grant £100 sterling for pushing and advertising Ceylon tea in Sweden to Mr. Dickson, on his producing accounts and vouchers shewing expenditure of £300 sterling with copies of newspapers shewing the advertisements inserted therein.

Adulteration of Cacao. The new Standing Cacao Committee of the Planters' Association of Ceylon has passed a resolution:—"That this Committee recommends to the Committee of the Planters' Association that analyses should be made of the principal brands of cacao in order to ascertain if any adulteration exists, which might prejudice the interest of Cacao Planters."

The Belgian Market. Among "special imports" (that is, imports declared for consumption in the country) into Belgium from Great Britain during 1898, were the following items :—

	£
Cocoa to the value of	28,720
Coffee, do, ...	11,800
Tea do, ...	6,680

The "order of precedence" is noteworthy.

At Home. Mr. H. G. Parsons, of Beechlands, Pollibetta, has won the silver challenge cup for gentlemen's singles at the Launceston Tennis Club. He and Miss Smythe also won the ladies' and gentle-

men's doubles. Mr. Parsons is tennis champion of North and South Coorg and has been for several years, and Mrs. Parsons in 1889 won the best ladies' prize ever given, then valued at £40.

Mr. R. H. Elliot on Coffee Prospects.

Beginning (?) with the *Morning Post*, a number of papers have been publishing a long letter from Mr. R. H. Elliot, reflecting a very gloomy view of Coffee, and offering hints as to what planters should do. We have neither space not time available this week for a review of Mr. Elliot's remarks, but we shall probably have something to say on the subject in our next issue.

The London Tea Market.

In their weekly cable, dated 14th instant, Messrs. Gow, Wilson and Stanton reported that the market generally showed an advance. Fair liquoring Ceylon Pekoe Souchong 6¼d., average 7⅝d. (¼d. up). Reuter stated that fine qualities were ¼d. up, and that 28,000 packages had been sold out of 29,000 offered. Of Indians, 39,000 were sold out of 41,000 offered, the average being 9⅛d.—an advance of ½d.

Calcutta Tea Sales.

The average price realised on 8th instant was 6as. 1p. On 15th idem 19,525 packages were sold. A good demand existed for common and medium teas, especially leaf kinds, which were about three pies dearer, owing to favourable news from London. There was less enquiry for Darjeelings. Generally the quality showed an improvement. The estimated total quantity of tea, available for Great Britain, will not exceed that supplied last year.

The Proof 's in the Drinking.

On the recommendation of the Chairman, the Planters' Association of Ceylon has written to the Secretary of the Ceylon Tea Company, asking him to place himself in communication with the Chairman of the various Provincial Road Committees, with a view to supplying a uniform tea at all the resthouses in the island. Unfortunately, uniform water and uniform capabilities for *making* tea cannot be guaranteed !

Leguminous Shade for Coffee.

The *Revue Agricole* of Réunion has commenced what may be already described as an appreciative review of Mr. B. Nelson's system of using *Erythrina lithosperma* as a shade tree for, and fertilizer of, Coffee. It is believed that some *E. lithosperma* are growing in Réunion. The same review, by the way, has begun publication of a translation of Mr. John Cameron's report of his visit to Coorg as published in this paper.

Paid in kind !

That is not a bad idea of Dutch planters in Africa. When your produce depreciates in value, pay your coolies in kind. A Dutch newspaper, which unfortunately does not say where the plantation referred to is, is responsible for the statement that "in the north-end of the Kloet, one plantation has started to pay the costs of picking not with money but in kind. One-third of the coffee picked is for the picker and these sell the coffee obtained in this way to a Chinese buyer. The women who have been picking receive from the plantation a certificate that their services have been paid in coffee." Mysore planters willplease receive this intimation.

Horticulture in Nyassaland.

The Nyassaland Agri-Horticultural Society is pushing ahead, going in for opening-up its grounds properly, and issuing quite a lengthy price-list in regard to its Second Annual Show. The list embraces Live Stock (pigs, terriers, cats, ducks, and monkeys not forgotten) ; Produce (including coffee in parchment and hulled, tea, &c., flowers, hens'-eggs, ducks'-eggs, honey and bees, jams, horns, &c.), and a Department of Native Industries and Produce (open to Natives only). There is a Prize Essay Competition:—(*Subject* —"The most suitable native trees for shading coffee. First prize, 5 guineas ; second, 3 guineas); also a Tennis Competition.

Export Duties in Brazil.

These are levied by the respective States, the Federal Government levying none, except on gunpowder. The following are details in regard to duties on coffee :—

	Per cent.
State of Rio Janeiro	10
,, ,, Bahia	16
,, ,, S. Paulo	11
,, ,, Pernambuco	4
,, ,, Minas Geraes	11

This last is in market value, and will be reduced by degrees and probably abolished ultimately. Bahia levies 18 % on Cocoa, 20 % on Rubber : Pará 4 % on Cocoa, 23 % on Rubber : S. Paulo 13 % on rubber : Pernambuco 4 % on Cocoa, 6 % on Rubber.

Planting in Java.

The *Straits Budget* says :—In Java, coffee is falling rapidly into disfavour among planters, and is giving place to sugar. Sugar-planting is hence now making headway in districts where hitherto coffee-growing had held sway. Money for the purpose is now readily available. Capitalists, so report runs, will have nothing to do at present with coffee cultivation ; but they are interesting themselves more and more in sugar-growing. Sugar-planters in Java have made enormous profits this year. The approaching sugar crop there is expected to be heavy. Quotations have latterly, indeed, so fallen that despair has seized upon coffee-planters in that island. Some of them see salvation in cinchona only and have rooted out their coffee trees.

The Ceylon P. A.'s Scientist.

To a letter from the Ceylon Planters' Association expressing a hope that the Lieutenant-Governor will assist the planting community to retain the services of Mr. Kelway Bamber, the Agricultural Chemist, the official reply is that His Excellency and the Council are of opinion that, as Mr. Kelway Bamber will be entirely engaged in the interests of the planters, it will, in every respect, be more suitable, and be productive of better results, if he continues to be employed by the Planters' Association, and be entirely under their control. Further, having regard to the recent appropriations of the Tea Fund, the Lieutenant-Governor and the Executive Council feel unable to admit the inability of the fund to meet the charge of Mr. Kelway Bamber's continued employment.

Tea Warehouse Charges.

Capital says :—From the report of the proceedings of the Tea Association . . ., it is evident to us that the Committee have no stomach for any agitation to reduce the warehouse charges in London.

They have decided that the agitation for the abolition of the import duty should be carried on concurrently with that of the reduction of the warehouse charges. It seems to us that the tea gardens that have addressed the Association on the subject should now withdraw from the Association and save their money. We have no doubt that the tea industry would be strong enough to start a tea warehouse at home of its own, or to get a new warehouse licensed by the Government if they went about it in the right way. As the matter stands at present, warehousing tea is far more profitable than growing it.

Tea in Italy.

The practice of drinking tea is extending very much in Italy ; but, says Mr. Consul Neville-Rolfe, a good deal of the tea sold is not only very poor in quality, but very dear. Italy affords now a field which an enterprising house might take up with considerable advantage, for not only do hotels use large quantities, but in all the towns resorted to by strangers are found shops whose business consists largely in providing five o'clock tea for travellers. In Italian private houses, too, the fashion of tea, both in the afternoon and after dinner, is spreading notably, and recently the members of one of the principal clubs in Naples gave a five o'clock tea to their lady-friends. Many English families obtain their supplies by parcel post from London, the duty charged being about 60 per cent. on the original cost.

Government Horticultural Gardens, Lucknow.

The report for 1898-99 is very interesting to horticulturists. It is printed at the North-Western Provinces and Oudh Government Press, Allahabad, and priced 8 annas a copy. There has been no demand for Sisal Hemp ; but Mr. Ridley, the Superintendent, writes that Mr. A. Silburn visited the garden this year and informed him that he preferred *Furcræa gigantea* to all other plants of that family, as it gave more fibre in proportion to bulk, and also of a greater length than any of the Agaves. Mr. Ridley says : "An indent was received for a large supply of Furcræa plants, but our stock was not able to furnish more than 3,000 bulbils of various sizes. As a number of large plants exist in the garden which are likely to flower before long, it is probable that they will furnish enough bulbils or seedlings to meet any demand that may arise."

Tea in the United States.

A Tea Importer writes in a Chicago journal : "Whilst the Government standards have largely put a stop to the importation of actual rubbish, the average quality of teas now selling is probably as low or lower than ever before. This condition of affairs is most discouraging, and it will generally be conceded that the duty, from which so much was expected by some people, has proved a severe blow to the prosperity of the trade. Probably outside of the duty, the chief cause for the depression may be found in the fact that whilst tea is taxed so heavily for war purposes, its sister commodity, coffee, remains on the free list. Had the Government placed a duty on both tea and coffee they would have obtained much larger revenues than at present and would not have been open to the accusation of unfairly distributing the burden of the war taxes. There can now be no excuse for a continuance of the present unjust discrimination and the duty on tea should be removed, or a corresponding duty should be levied on coffee."

Production and Consumption of Coffee.

O Estado de S. Paulo of 26th inst. discusses the future of coffee and comes to the conclusion that, whereas in 1897-98 deliveries of coffee in consuming markets exceeded 15,710,000 bags whilst the consumption did not exceed 13,500,000 leaving an unsaleable surplus of 2,210,000 the position is hopeless and prices bound to fall unless something is done to prevent it. The remedies which are proposed for discussion are :

1. A Government monopoly of coffee.
2. Formation of a trust with favours from the State.
3. Limitation of output by planters themselves.

O Estado de S. Paulo seems to lean towards the last, which is undoubtedly the most natural and rational means, though it is to be feared it may be the most improbable, so long as planters can muster up a vestige of hope. Our contemporary further advises Government to limit the supply of coffee by prohibition taxation of low grade coffee.

Effects of the Tea Fight.

Alluding to the recent 1-lb. draft struggle, Mr. A. J. Giles observes in his "Notes on Trade Topics" in the *Grocer* :—"It has perhaps been one of the most important fights for trade rights that have been waged for many a year. As has already been pointed out, even those who buy blended teas have been indirectly benefited, whilst those who buy in original packages know full well the importance of that pound draft to them. But the success which was accomplished not merely affected tea, but every other article in which a draft allowance is made. Had the tea draft been lost, the other drafts would soon have been the subject of attack. Now it has been won, these other drafts will doubtless remain undisturbed. If only the buyers of original packages of tea will give a moment's consideration to the matter, they will see how much friction in the conduct of their business has been saved by the continuance of the draft."

Advertise !

In a letter to a Colombo paper, Major Horniblow, D.A.A.G., remarks : —How is it that the Ceylon Government Railway has not caused a coloured print, containing sketches of the interesting points on the railway, to be circulated in England, America, and elsewhere ? And could not the Ceylon Planters' Association come to terms with the local authorities to allow the above to also form an advertisement for their teas ? If a prettily-got up advertisement, on the same line as that published by the Natal Government Railway, were forthcoming at the various home railway stations, it would serve two purposes :—(1) An advertisement for the railway itself in view of seeking more globe-trotter traffic, benefitting also the hotels *en route*, &c., &c. (2) As an advertisement that the railway passes the finest tea plantations the world produces. There are thousands of people—well educated—in England and elsewhere, who recollect being taught from their school-books that Ceylon was noted for its coffee, and not for its tea ; and there are many thousands who are totally unaware that a railway system exists in this Colony.

Cocoa in Ceylen.

The following resolutions show that the Cacao Committee of the Planters' Association of Ceylon means to display as much activity as the Association generally does. (*a*) "That the Director of the Royal Botanic Gardens be asked to kindly furnish this Committee, from time to time, with any informa-

tion from other Colonies where cacao is grown, giving their system of grafting, manuring and shade trees, and what special treatment has been found successful in connection with canker and fungoid disease." (*b*) "That the Committee recommends the appointment of a Mycologist in connection with the proposed Agricultural Department, as being of the utmost importance to the Cacao Industry." (*c*) "That the Director of the Royal Botanic Gardens be asked to undertake experiments in grafting and the improvement by selection of the various varieties of cacao, and to advise as to the different varieties of shade for cacao." Still, it is a little difficult to understand why the Director of the Royal Botanic Gardens should be troubled about the matter referred to in the first resolution. Whatever information is needed could be easily obtained by the Association itself.

The Coffee Revolution. The following remarks by a well-known firm are worth noting, especially the concluding sentence :—"Another two years of low prices, and then . . . seems to be the verdict of some,—others, more sanguine, look for a nearer swing of the pendulum. *Over*-production, it is certain, cannot go on for ever, and must work its own cure, but a *much larger* production *may* continue, and, as far as we can see, *must* contiue to be the order of the day especially in the districts supplying Santos Coffee, where the total cost of production is lower than in any other part of the world All the world, however, will not drink pure Brazil Coffee, when anything finer and more choice in quality is to be had, specially when these qualities have fallen at least 50% in price without any increase in supplies ; at the same time medium qualities with no great intrinsic merit of flavour and only a merit of appearance will have to take rank with Santos Coffee, however painful may be the process to the producers of such kinds ; thus a complete revolution in relative values is slowly and surely being accomplished, such as we long ago pointed out would happen ; nothing can prevent or retard it, and ultimately every description will have to stand on its merits in relation to Santos Coffee as the standard of value."

Ceara Rubber in India. Mr. P. Lancaster, Secretary of the Agri-Horticultural Society of India, Calcutta, writes that there is one Ceará tree now alive in the gardens of the Agri-Horticultural Society of India, Calcutta, a little over twelve years old. In the winter of 1886, a consignment of Ceara seed was received for experiment, a portion was distributed and the balance sown. At the close of 1887 thirty seedlings appear to have been planted out on good soil previously well manured. In September, 1892, there were twenty young trees, over twenty feet high, alive and in apparent good health. During the following year five of these were tapped, each month throughout the year, with the object of ascertaining the proper period for "bleeding," but all seasons appeared alike, as the sap did not seem to run at all. These five trees died in the following year In 1894 five more were tapped and cut very severely, but they died ere the close of the year. Since then four trees have been lost from one cause or another, leaving a single specimen, above alluded to, which now appears to be strong and in good health, its height being about 35 feet. This tree has been well treated and manured in various ways, but like the rest has not produced one ounce of rubber in the year. Thousands of Ceará seeds, have been distributed by the Society during the past twelve years in Northern India, especially Assam, but, from correspondence and conversation with some of those who have experimented with this tree, Mr. Lancaster finds that they do not appear to have met with any better success, many having failed to grow the plants beyond the seedling stage.

GENERAL ARTICLES.

THE INDIAN CURRENCY COMMITTEE'S REPORT.

THE SUPPLEMENTARY NOTES BY MEMBERS.

THE SUGGESTED BANK OF INDIA.

Although I am aware that the question of the banking facilities of India was not referred to the Committee, I venture to call special attention to the first part of paragraph 22, where it is pointed out that they have not of late years kept pace with the increasing trade, and, further, to draw attention to the fact that it has been considered wise in Europe to entrust the carrying out of currency laws to banks established or strengthened for that purpose. In my opinion, a strong bank, properly constituted, would be a powerful assistant in giving effect to any regulation having the convertibility of the rupee in view, and that, working under proper currency regulations, such a bank would be likely to carry them out in a more effective way, and in a manner more in harmony with the trade wants of the country, than any Government Department, however well administered, could possibly do. I venture to call attention to this point because I believe that the success of the recommendations of the Committee, if adopted, will very much depend on the banking wants of the country being assisted in times of pressure, and curtailed in times of slackness : and this, in my opinion, could only be done by the establishment of some institution having ample facilities, at its disposal, and framed on somewhat similar lines to those of either the Bank of England or the Bank of France.—(Signed) E. A. Hambro.

THE PLEA FOR DELAY.

Since the Committee was appointed, the condition of the money market in India has so greatly improved that the immediate settlement of the currency question has, in my opinion, become less urgent than it was in the spring of 1898. Under existing conditions, gold is not—in form—a legal tender in India ; yet, for all practical purposes, the sovereign is now a legal tender for 15 rupees, because the holder of a sovereign can obtain for it 15 rupees at the Government Treasury, and these 15 rupees constitute a legal tender. To make the sovereign a legal tender at the rate of 15 rupees is therefore only a change in form and not in substance, and will neither strengthen exchange, nor be likely to lead to a greater import of gold into India. It may be that further experience will show the balance of advantage to lie with a lower exchange than 1s. 4d. ; or. on the contrary, circumstances might conceivably arise (*e. g.*, silver legislation in the United States) which would necessitate a higher rate. In view of these possibilities, and of the fact that the existing monetary conditions of India are not, in my judgment, producing any serious evils, I am of opinion that no action should be taken at the present time, in the direction of finally setting the rate between the sovereign and the rupee ; but that the question should be left to be decided in the fuller light which would be afforded by further experience. Subject to these remarks, I am in general accord with the principles of the Report. (Signed) W. H Holland.

THE PROTEST AGAINST A 1s. 4d. RUPEE.

We do not admit that the experience of the last six years justifies the adoption of a 1s. 4d. ratio. For five years after the closing of the mints exchange never effectively reached that level in the sense of bringing gold to the currency ; and while giving due weight to the fact that during the last six months the Currency Department has received a considerable amount of gold, we cannot agree that a single year of unprecedentedly large exports, arising from exceptional causes, is a sufficient basis for assuming that this will continue to the extent necessary for India's currency requirements. The great rise in the price of wheat in April-June of last year increased the Indian exports of that article to Rx.9,720,333, as compared with Rx.1,341,151 in 1897-98 and an average of Rx.2,750,137 in the five years 1893-94 to 1897-98 inclusive. The exports of rice were also Rx.3,500,000, above the average of the previous

five years. But for these exceptional causes, last year's total exports would not have been unusually large, and it may be questioned whether gold would have found its way to India as currency in any quantity.

A review of the circumstances which accompanied the closing of the mints is sufficient to show that the violent disturbances which unsettled exchange for several years were mainly due to the arbitrary enhancement of the rupee to 1s. 4d. On 31st May, 1893, the date of the Herschell Committee's Report, exchange stood at 1s. 2⅞d. It will be remembered that, although the Report was not made public till the 26th June, the day the mints were closed, its purport became known to a group of speculators almost as soon as it was signed (a correct summary was published in a continental newspaper on the 7th June). This led to immense speculation in exchange and rupee paper, in connection with which unusually large remittances were made to India. Between the 31st May and the 6th June no less than Rx.3,780,000 Council bills were taken, and in addition £1,180,000 of bar silver was shipped. It was then believed that the closing of the mints would establish a 1s. 4d. rate, and consequently there was a strong movement to remit money out at anything under it. Exchange touched 1s. 4d. for a day on the 27th June, but it soon became apparent that the rise had been overdone, and the downward movement which followed, assisted by the plethora of money arising from the above operations, carried exchange as much below its level as it had previously been forced above it. Had a 1s. 3d. rate been adopted, these wide fluctuations would not have taken place; and we believe the market would have settled down to it without much difficulty, that gold would have gone to India as currency to a fair extent in 1896-97 if not earlier and to a larger extent in 1897 98, and that the intense monetary stringency of these two seasons would have been avoided.

EXCHANGE.

When exchange began to advance after touching its lowest point on the 23rd January, 1895, it gradually recovered without any pressure on the money market till 1s. 3d. was reached in November, 1896 The Presidency Banks' rates were then 6 to 8 per cent., the latter being the highest rate touched during the period in question. It was only when exchange began to rise above 1s. 3d. that stringency was experienced; and that the raising of the rate by the additional penny-required to bring relief in the shape of gold became a difficult process accompanied by extreme monetary pressure.

These considerations appear to us to point to 1s. 3d. as the ratio, which should be adopted, rather than a forced ratio of 1s. 4d.

ARGUMENTS FOR THE 1s. 4d. RATIO.

The advocates of a 1s. 4d. ratio point to the fact that this rate has now been, more or less, effective for the last 18 months, thereby establishing a *status quo* which it would be unwise to disturb. This argument would have greater weight if the *status quo* had been arrived at in a natural way; but the circumstances under which it was reached have only to be considered to deprive it of any value. With no fresh currency otherwise obtainable, the monopoly rupee was bound in time to rise to whatever gold point the Indian Government chose to fix, and the fact of its having risen in five years to 1s. 4d. is of itself no more a proof that 1s. 4d. is an equitable ratio than it would be in regard to 1s. 6d. or 1s 8d., which could equally be reached in course of time. To arrive at a rate in this manner and then point to the accomplished fact as disposing of any question of its propriety is not convincing, especially if there is reason to believe that a rupee so greatly enhanced is calculated to have an injurious effect on the country's interests and to retard or even jeopardise the success of the gold standard.

We approve of the principle that India should be allowed to acquire the necessary gold by means of the trade balance in her favor. But to enable her to do so, anything calculated to injure that balance should be avoided. This is equally imperative on the ground that it is on the trade balance that India also depends for the power to meet her foreign obligations; and the rate of exchange, or the ratio fixed between gold and the rupee, is of the greatest importance in its bearing on her ability to maintain a balance of exports over imports, sufficient to meet both these requirements.

THE EFFECT OF EXCHANGE ON TRADE.

The Committee have obtained a great deal of evidence as to the effect of exchange on trade, and, although opinions differ, this at least is undoubted, that the rate of exchange has a direct influence on the rupee prices of articles of export and import. A lower exchange gives the Indian exporter a higher rupee price for his produce, without raising the gold price to the foreign buyer, while compelling importer of foreign goods to exact a higher rupee price to cover his gold outlay. A higher exchange on the other hand lowers the rupee price of native produce, while enabling the foreign importer to sell his goods cheaper. An appreciated exchange through its action on prices has thus a double effect on the trade balance, by checking exports and stimulating imports. And that this is not of the temporary character which some maintain is shown in India's opium trade with China.

Owing to the closing of the mints, China exchange on India has fallen from about 306 rupees per 100 taels in 1892-3 to the present level of about 204 rupees, it has been even lower; thus necessitating a higher price for opium in China to give the Indian exporter the same rupee return. Viewed in this light, the course of the trade is instructive.

CHINA'S POINT OF VIEW.

There has been an advance in the tael price in Shanghai from an average (Patna, Benares, and Malwa together) of about 397 taels per picul in 1892 to 556 taels in 1897, notwithstanding which the price in India has fallen from an average of about R.1,202 per chest in the former year to about R.1,114 in the latter, while Indian exports have diminished from 75,384 chests in 1892-93 to 56,69 chests in 1897-98.* We thus see the effect of the enhanced rupee in a falling off in the Indian exports and a lower rupee price – the rise in the tael price, large as it is, not having gone far enough (being checked by the stimulus given to Chinese native competition) to enable India to export to the same advantage in face of adverse exchange. Looked at from China's point of view, the effect of the fall in the tael exchange in checking imports into China is equally apparent, and the truth of the principle that a rise in exchange checks exports and stimulates imports, while a fall has the contrary effect, is thus shown in the trade of both countries. In the Budget Statement of March, 1899, paragraph 166, the Finance Ministes makes the following comment in his remarks on opium:—"The growing competition of the China drug has prevented the price in China from rising in proportion to the increased value of the ruper due to the currency legilation of 1893." For "increased value of the rupee" read "fall in the China exchange on India," and there could not be a clearer confirmation of the effect of the enhancement of the rupee on India's opium trade. It must be added that the export of opium to China increased last year to 67,128 chests, which is explained in the same paragraph to be "largely due to a scanty crop in China."

The opium trade has been described as a dwindling trade at the best, but it is impossible to doubt that the falling off in the last six years is largely due to the enhanced rupee.

THE COTTON INDUSTRY.

Another branch of India's trade with the Far East—her exports of cotton, cotton yarn, and goods—is also exposed to a danger which it would be unwise to aggravate by pushing the enhancement of the rupee too far. Within the last few years an important cotton mill industry has sprung up in China and Japan for the supply of their home markets, although the effect on India has scarcely yet had time to manifest itself for two reasons,—first that Japan uses Indian cotton largely in her mills, which, so far, places her products on a level with those of India,† and, secondly, because the China mills only came into operation in the end of 1896 (Q. 12,493), so that the industry is still in its infancy. The conditions, however, which have assisted the competition of China-grown against Indian opium may in time be equally effective in regard to cotton. There are indications that the cultivation of cotton is extending (Consular Report, p. 57, Vol. II.), and, if Japan should find it more advantageous to buy her cotton in China, a serious blow may in time be dealt to another branch of India's export trade.

We do not ignore the evidence as to the appreciation of copper cash, which as the usual wage-paying medium in China must largely govern the cost of production. We are told (Q. 8,250-2) that it has appreciated in relation to silver about 15 per cent. in the last five or six years. This represents less than half the fall in the China exchange, so that a modification of the present enhancement of the rupee is still necessary to put India on fair terms of competition with China.

[* These figures are taken from the "Financial and Commercial Statistics, up to the end of 1897, published by the Government of India. The volume embracing 1898 is not yet issued.]

[† Although Japan is on a gold basis, it is at a ratio equivalent to 11¼d. per rupee as compared with India's 1s. 4d.]

AS REGARDS TEA,

India's disadvantage is not less real in her competition with silver standard countries for the export trade to neutral markets. As regards tea, China with her dollar at its bullion value will be greatly assisted by an enhanced rupee in her endeavours to recover her former predominant position. Although her exports of tea to the United Kingdom are now comparatively small her total exports amounted to 205,000,000 lbs. last year. Her productive power is, therefore, by no means crippled, and it would be a mistake to think that India can afford to disregard her competition.

In principle, the effect of an enhanced rupee equally applies to India's trade with gold standard countries, although as sterling exchange has never fallen to the silver bullion point it may be less marked.

THE REPORT OF THE HERSCHELL COMMITTEE.

Without going so low as that point or even the lowest rate touched since 1893, the arbitrary enhancement of the rupee has been considerable, and the step taken that year went a good deal beyond merely checking a further fall Referring to the Report of the Herschell Committee, we find that, after discussing at some length the probable effect on Indian trade of a rupee divorced from its bullion value, they made the following important statement in paragraph 135 : —"It is impossible, in view of these considerations, not to come to the conclusion that to close the mints for the purpose raising the value of the rupee is open to much more serious objections than to do so for the purpose of preventing a further fall" The value of the rupee on the 31st May 1893, the date of the Committee's Report, was 1s. 2⅝d., and it is difficult to reconcile the above declaration with their conclusion recommending a ratio of 1s 4d., or more than 9 per cent. higher. Even applying the expression "preventing a further fall to the date of their appointment, the 21st October 1892, the rate of exchange then was 1s. 3·06d., on which 1s 4d. represents an enhancement of 6 per cent.

COMPENSATING ADJUSTMENTS.

As to the compensating adjustments which are said to make up to the producer for the smaller rupee price he has to accept for his produce in consequence of a higher exchange, we are unable to see where they are to come from—they have not yet been arrived at in the case of opium. The evidence shows (Q. 9612-6) that wages in India that is cost of production, have not fallen since the rupee was at 12½d., four-and-a-half years ago, nor does it appear that any fall is likely, even if such a thing were desirable, so that there is no compensation to be looked for in that direction, nor do we think it can be expected from a rise in the sterling prices of those articles in which India competes with other countries. Indian wheat, for instance, has to compete in the European markets with the wheat of Europe, the United States, Canada, Argentina, &c., and forming but a small proportion of the total supply can have an equally small influence in determining movements in the price. If a rise in the sterling exchange renders it necessary that India should get a higher price for wheat in England to give her the same rupee return, is it likely that the holding back for a higher price of a few thousand tons of Indian wheat will have any appreciable effect in that direction while the home supplies and the imports from these other countries are pouring in as usual? Any attempt to establish a rise for India's benefit would at once be swamped by increased supplies from other quarters. The market will not concern itself with the larger or smaller rupee out-turn realised by the Indian grower, who will either have to take the current price or do without; and the lower rupee price caused by the higher exchange must therefore represent a loss to the producer.

AN UNFAIR TAX ON NATIVE PRODUCTION.

It is on this aspect of the question that we base our strongest objection to the 1s. 4d. ratio—its effect as an unfair tax on native production while conferring a bounty on imported goods. It is not a sufficient reply to this to say that, as imports are paid for by exports, the gain and loss to the community are equal. This is evident when we consider that the native producer is the class which loses, while the class which gains is the consumer of imported goods. It can never be sound policy to handicap native industry while giving a bounty to foreign imports, and in the case of India with large foreign obligations, which can only be met by surplus exports of produce, it would be a fatal course to pursue. But beyond the effect on exports and imports so far as they balance each other, it still remains that with a 1s. 4d. exchange the cost of providing at Rs 15 each the 17 million sovereigns annually required for the home charges is a tax which falls entirely on the producer. The more the rupee is enhanced—the lower the sovereign is valued in rupees—the more cheaply can the Government make its annual remittances But this advantage is not obtained without being paid for, and the question who pays is not difficult to answer; it is the producer, who has to accept so many fewer rupees for the produce he has to sell. If with a 1s. 4d. exchange the holder of a sovereign can only get Rs.15 for it, he cannot afford to pay so many rupees for a ton of Indian produce as if with exchange at 1s. 3d. he could convert his sovereign into Rs.16. To deny that arbitrary enhancement of the currency is a tax, and to argue that the producer is no worse off in the long run, that wages and other charges must in time adjust themselves to its altered value, is to maintain the dangerous principle that the Government may lighten its liabilities without injury to anybody by a step of this kind Such a step is undoubtedly a tax on production, and if the Government plead that in the absence of any other available source of revenue trade must bear it, it is unwise to throw the whole of it on one side of trade, the side which it is least expedient to tax, and to penalise production while giving a bounty to foreign imports. The present duty on imports does not counterbalance the bounty conferred by a 1s. 4d. exchange, and the burden would be more equitably adjusted by reducing the ratio to 1s. 3d. In addition to its beneficial effect on trade this would relieve production by abont 6¼ per cent., while depriving foreign competition of a corresponding bounty, and last year's favourable Budget gives ground for the hope that the additional cost to the Government would be made good out of existing sources of revenue.

THE RATIO.

The ratio is still an open question. In his speech introducing the Act of 1893, Sir David Barbour stated that it was left open to be decided by the light of future experience. The Government, therefore, are not committed to 1s. 4d., they are perfectly free to alter the ratio now without exposing themselves to any charge of weakness or breach of faith. The desirability of adhering to existing conditions should not be allowed to weigh at the present stage. Whatever objections there may be to altering the ratio now, they are trifling in comparison with what will be experienced later, should the present ratio not be found practicable. To amend the ratio now would only be to act on the reservation made in 1893, to do so later, after having formally adopted 1s. 4d. would be a much more serious matter.

WHAT IT SHOULD EFFECT.

The test of a proper ratio is not merely that it should enable the Council Bills to be absorbed, or even its power to attract gold in an exceptionally prosperous year. It should be such as to do so in normal times sufficiently to provide for any drain occasioned by an exceptional adverse season, and to allow gold to gradually accumulate and supplement silver in the currency To aim at a ratio which would fail to accomplish this for the sake of getting a high price for the Council Bills, would be to starve the currency, injure trade, and invite an ultimate breakdown. As India is debarred from obtaining any fresh silver currency, no difficulty should be placed in the way of her requirements being satisfied by gold. The ratio adopted should, therefore, be one which will encourage the free inflow of gold rather than one which, even if it might attract some gold in a year of unusually large exports, would fail to do so in ordinary times It the one case Indian trade would have the advantage of a full supply of currency and easy rates of interest; in the other it would be continually harassed by monetary stringency and by a lame and inefficient currency system which would, sooner or later, prove a failure.

THE GOLD STANDARD.

The success or otherwise of the gold standard will largely depend on the rupee value put upon the sovereign. The higher the rupee is raised above its bullion value, the more difficult will the establishment of the gold standard become. On the value put upon the sovereign will depend not only the extent to which gold is brought into the currency, but also how far it will be allowed to remain in circulation, or will disappear, driven out by the over-valued rupee. It is significant that, of the immense amount of gold held in India, practically none has been tendered to the Currency Department, even during periods of extreme monetary pressure. What has been acquired has, with a trifling exception, been imported gold. This is not reassuring as to the result when gold is made legal tender and a sovereign and Rs.15 are supposed to be mutually interchangeable. India is a large consumer of gold, and to undervalue it in relation to the rupee will have the effect not only of discourag-

ing its tender to the Mint, but of encouraging the market to supply itself by withdrawals from the currency. The successful establishment of a gold standard will not be promoted by insisting on getting gold too cheap.

1s. 4d. AN EXTREME RATIO.

Going back to 1893, the conditions then prevailing clearly pointed to 1s. 4d. the ratio which should have been adopted then; and we can see nothing in subsequent experience to justify the belief that 1s. 4d. is the more suitable ratio now. On the contrary, we consider 1s. 4d. an extreme ratio, which imposes too severe a tax on production, and is calculated to injure the trade balance necessary for India's solvency, and that the corresponding ratio of Rs.15 per sovereign, by putting too low a value on gold, will tend to prevent its going into or remaining in circulation, and thereby endanger the success of the gold standard.

THE PROPER RATIO.

We believe 1s. 3d., or Rs.16 for a sovereign, to be a ratio which would not be injurious to India's interests, and under which she would be able to acquire by trade influences the gold necessary to make the gold standard effective. We therefore recommend that the ratio should be altered from 1s. 4d. to 1s. 3d., or to Rs.16 per sovereign, instead of Rs.15.

In making this recommendation, we cannot be regarded as advocating a depreciated currency, in the true sense of the phrase. We are a long way from the point at which the term depreciation would be appropriate;—the rupee at 1s. 4d. is, on the contrary, immensely appreciated, and in urging a change to 1s. 3d. we are only seeking to correct what we consider to be an excessive, arbitrary enhancement.

(Signed) ROBT. CAMPBELL.
(„) JOHN MUIR.

ENFORCING THE ARGUMENTS AGAINST STERLING BORROWING.

Sterling borrowing in order to acquire gold is so prominent a feature of the Government of India's proposals and of other schemes which have been put before the Committee, that we consider it desirable that the principle of borrowing for such a purpose should be thoroughly examined.

Sterling borrowing is in itself objectionable on the ground that it aggravates the exchange difficulty by permanently increasing the home charges, but there are special reasons besides against borrowing for the purpose of establishing and maintaining a gold standard. If India is unable to acquire gold except by borrowing, that alone would go far to prove her unfitness for a gold standard and her inability to retain gold so acquired. Gold attracted to the currency by trade influences might reasonably be expected to remain in circulation, but there could be no certainty that gold brought in by borrowing would do so; the presumption would be rather the other way, because, short of withdrawing rupees to make room for it (a proposal which has been universally condemned), is difficult to see how borrowed gold could be introduced into the circulation without creating monetary conditions which would drive it back to England again.

BORROWING.

If, however, as we believe, India is able to obtain the necessary gold by means of the trade balance in her favour in the same way as she formerly obtained her silver currency, why should the expensive and objectionable method of borrowing be restored to? The only advantage of borrowing would be to hasten convertibility, an advantage which would be gained at the expense of any assurance of ultimate success, or any certainty that the borrowed gold would not begin to disappear as soon as convertibility, was attempted, while the disturbing influence on the Indian money markets of bringing in large amounts of borrowed gold would not be wholesome. A measure on the other hand under which gold would flow to India gradually as trade and currency requirements dictated, even if it took several years to introduce into the circulation sufficient to make the standard fully effective, would carry with it a confidence which could never be inspired by the sight of gold forced in by artificial means, while the automatic supply of currency as from time to time required would keep the money markets from either undue plethora or stringency.

THE CASE OF ITALY.

Italy furnishes a practical illustration of the result of attempting to establish a gold standard by means of borrowed gold. The Italian Government obtained by sterling loans a large amount of gold for that purpose, but they have not succeeded in their endeavour.

They dare not allow the gold they borrowed to go into circulation because it would at once be exported. At the present rate of [illegible] exchange the gold, if obtainable, would give a profit of 6 to 7 per cent to send abroad, and, with the foreign exchange so much above the gold point, the gold standard has disappeared.

A further objection to forcing gold into the currency by borrowing, is the effect it would have in obscuring the proper ratio between gold and the rupee, the ratio at which a gold currency would be practicable, and the mischievous effect it might have in enforcing for the time a ratio which without the continued support of borrowed gold might prove to be unworkable and would therefore ultimately break down. With 120 crores of rupees in circulation which must continue to be unlimited legal tender for years to come, the change from a silver to a gold standard is not the simple question of raising so much gold and putting it into circulation at any arbitrary ratio to the rupee which may be chosen. The lower gold is valued in relation to the rupee, the greater will be the difficulty of keeping it in circulation and the greater the danger of the under-valued gold disappearing, leaving the sterling debt as the only lasting result of the operation. A gold standard and currency can only be established and maintained on conditions which will permit of gold flowing freely to India in obedience to trade requirements, and any measure which attempts to override these conditions and force gold in by artificial means will break down sooner or later.

OPPOSITION TO STERLING BORROWING.

For these reasons we are opposed to sterling borrowing, whether for the establishment or the maintenance of a gold standard. Borrowing to support the standard once resorted to, it would be impossible to know when to stop, and the only safe course is not to begin. It is on trade support that the maintenance of the gold standard must in the long run depend, and any saving of delay through borrowing would not be worth the risk of finding, after having incurred a load of sterling debt with its consequent addition to the home charges, that an impracticable scheme had been pursued which when left to its own merits would break down.

(Signed) ROBT. CAMPBELL.
(„) W. H. HOLLAND.
(„) JOHN MUIR.

INDIAN TEA ASSOCIATION (CALCUTTA).

The following is an abstract of Proceedings of a Meeting of the General Committee, held on 5th September, 1899:—

Mr. H. S. Ashton (Chairman) presiding.

Letters of 21st and 28th July, and 3rd, 11th and 18th August from Mr. Ernest Tye, Secretary, Indian Tea Association, London, came up for final consideration after previous circulation. The chief matters dealt with in these letters were

(*a*) 1-lb. DRAFT ALLOWANCE. The progress of the dispute with the buyers in London was detailed in the letters, and the terms of the settlement agreed upon were also given. With the letter of 3rd August, copies of the London Joint Committee's Circular, dated 2nd August, in which these terms were specified, was enclosed. These particulars had been published by the General Committee in Calcutta under cover of their Circular No. 500-O. of 23rd August addressed to all members of the association. Mr. Tye also forwarded with the same letter copy of the London Joint Committee's petition of 4th August to the Board of Commissioners of Customs in London, asking that the modification of the system of weighing tares should be adopted by the board. The reply from the board, giving their consent under certain conditions, was contained in Mr. Tye's letter of 18th August, and the General Committee directed that copies of the petition, together with the reply, should be printed and circulated to all the members of the association.

(*b*) REGULATION OF SALES IN LONDON.—The question of so regulating the sales of Indian tea in London as to prevent any over-supplying of the market was also dealt with in detail by Mr. Tye. The London Joint Committee of importers had drawn up rules for the purpose in question, which rules were unanimously adopted at a general meeting of producers and importers of Indian and Ceylon tea held in London on the 26th July. Copies of these rules had been circulated to the members of the association in Calcutta under cover of the General Committee's Circular No. 500-O of 23rd

August. In the letter of 11th August it was stated that adhesions to the proposed scheme from firms and companies representing about 90 millions of pounds of the Indian tea crop had been received. It was also believed that the support of the representatives of not less than 100 millions of pounds would soon be forthcoming. The rules had been adopted by the Tea Brokers' Association of London, at an extraordinary general meeting, held on the 9th August when a Regulating Committee had been formed.

BRAZIL COFFEE STATISTICS.

(From *The Brazilian Review.*)

Comparative Entries for the Crop-years 1896-97 to 1898-99 in Bags of 60 Kilos.

	Rio de Janeiro.			Santos.			Both		
	1896-97	1897-98	1898-99	1896-97	1897-98	1898-99	1896-97	1897-98	1898-99
July ..	335,462	357,206	248,951	473,983	609,261	449,589	809,445	966,467	698,540
August ..	347,283	634,521	390,697	641,264	1,032,875	836,633	988,547	1,667,396	1,227,530
September	409,431	472,142	385,443	711,461	929,861	877,812	1,120,892	1,402,0 3	1,263,255
October ..	381,831	459,187	329,358	664,804	818,436	716,399	1,046,615	1,277,623	1,045,757
November.	379,430	429,557	198,992	659,118	572,256	428,721	1,038,548	1,001,813	627,713
December.	333,688	369,265	216,152	450,199	452,629	474,866	783,887	821,894	691,018
January ..	258,622	289,228	321,392	303,605	401,227	421,620	562,227	693,455	743,012
February	200,779	298,135	242,240	269,811	310,272	322,901	470,590	595,407	565,091
March ..	264,327	347,100	283,803	332,670	378,034	326,250	596,997	725,134	606,053
April .	237,232	236,220	151,496	247,901	263,411	218,058	485,133	499,661	369,554
May ..	202,441	241,340	185,113	165,620	208,507	181,862	368,061	449,847	366,975
June ..	227,275	183,874	218,244	184,622	172,794	319,105	411,897	356,668	537,349
Total Entries for the Crop-year ..	3,577,781	4,314,775	3,172,081	5,105,058	6,152,593	5,573,816	8,682,839	10,457,368	8,745,897

Comparative Monthly Exports for the Crop-years in Bags of 60 Kilos, 1896-97 to 1898-99.

	From Rio de Janeiro.			From Santos.			From Both.		
	1896-97	1897-97	1898-99	1896-97	1897-98	1898-99	1896-97	1897-98	1898-99
July ..	244,762	324,148	200,088	306,729	373,137	341,207	551,491	697,285	541,295
August ..	281,373	445-534	322,972	463,984	623,330	638,506	745,357	1,068,864	961,478
September	339,359	473,819	268,644	627,775	714,808	473,341	967,134	1,188,627	741,985
October ..	429,110	491,353	383,129	764,089	730,465	833,532	1,193,199	1,221,818	1,216,661
November	294,348	373,584	315,216	429,461	689,419	500,584	723,809	1,063,003	815,710
December.	285,329	463,915	275,248	549,068	647,468	610,610	834,397	1,111,383	915,858
January ..	285,287	271,096	319,720	353,497	402,570	448,970	638,784	673,666	768,690
February..	255,827	314,216	237,698	420,340	385,789	389,555	676,167	700,005	627,253
March ..	233,432	347,506	285,621	253,559	544,076	420,426	486,991	891,582	706,047
April ..	277,486	437,980	165,673	319,057	532,067	317,481	596,543	970,047	483,154
May ..	210,366	190,046	192,583	322,624	226,957	241,727	532,990	416,997	434,310
June ..	232,021	114,588	225,894	170,496	202,269	291,912	402,517	316,857	517,806
Total Exports for the Crop-year.	3,468,700	4,247,785	3,192,586	4,980,679	6,072,349	5,537,851	8,449,379	10,320,134	8,730,437

Stock at Rio and Santos.

	1898-99	1897-98	1896-97
July	718,169	714,182	495,977
August	984,221	1,312,714	683.429
September	1,505,491	1,526,090	855,472
October	1,418,336	1,581,896	737,408
November	1.146,500	1,520,746	1,082,717
December	870,900	1,231,257	773,853
January	895,222	1,161,627	853,466
February	833,110	1,057,029	647,899
March	737,116	890,583	757,594
April	623,516	500,993	646,485
May	556,181	531,539	481,557
June	575,724	560,924	490,937

Deliveries at the Eight Principal European Markets since 1892-93 in Tons.

	1898-9	1897-8	1896-7	1895-6	1894-5	1893-4	1892-3
July	30,260	36,520	27,930	32.610	31,480	30.510	32,560
August ...	29.990	37,210	33,480	31,300	30,100	27,800	34,910
September ...	42,200	51,630	42,180	29,620	29,720	41,380	33.370
October ...	41.270	48,970	47,880	41,320	36,000	34,070	36,890
November ..	42,980	38,880	43,600	32.230	42,020	28,310	33,390
December	44,460	47,760	37,290	31,850	30,000	23,580	23,650
January	37,000	42,930	30,210	37,320	35,350	31,420	31,940
February	35,850	40,040	31,700	31,160	29,840	27,410	37,510
March	38,110	40,190	37,460	37,150	36,380	34,030	29,100
April	40,150	50,860	33,910	33.800	29,370	35,610	30,000
May .	44,450	52.260	36,630	34,260	38,770	34,590	47,550
June	39,700	42,730	37,830	29,580	31,690	28.670	40,470

JAPAN TEA TRADE.

America has always been the largest consumer of Japan tea, and consequently the action of the United States Government in imposing a duty of 10c. gold a lb. from June 14 on all tea imported had a marked effect upon the Japan tea season of 1898. The new Restriction Act, prohibiting the importation into the United States of inferior teas, continues to be strictly enforced, and many cases of rejection occurred during the year. Common teas have, therefore, for the most part been forced to seek a market in Canada, which has so far imposed no restrictions upon its admittance, but where, to judge from recent discussion in the Canadian Houses of Parliament, it appears by no means unlikely that similar precautionary measures will be taken for the exclusion of inferior teas. The total export of tea from Japan to Canada amounted to 11,512.145 lbs., as compared with 8,605,492 lbs. during a corresponding period of the year before, an increase of 2,906,653 lbs. The prospects of the Japan tea trade can by no means be said to be bright; 4 lbs. of coffee can be bought in the United States for 25c. gold per lb and tea costs 40c. gold per lb., with the new duty of 10c. gold per lb., and the latter beverage is therefore at a great disadvantage. General depression of business followed the announcement of the enforcement of the duty, and in several cases large orders were cancelled. Most of the tea shipped to America has remained in bond owing to the lower price of that which reached the country prior to June 14. As nearly all last season's tea remain unsold, it does not look as if the season of 1899 would be a prosperous one. In Japan, moreover, the cost of tea-firing materials and labour has continued to increase, as compared with former years, and, strange to say, since the imposition of the new duty the prices asked for by the growers have likewise risen. The total export for 1898 amounted to 41,102,118 lbs., valued at 838,740 *l.*, as compared with 43,510,244 lbs. valued at 798,327 *l.* in 1897. Of this quantity, 31,861,149 lbs. went to the United States of America, 7,680,644 lbs to Canada, and the remainder to various other countries, of which China, with 501, 660 lbs., took the largest proportion.

A LESSON IN TEA.

This is not a made-up story, but a true narration of facts. Many readers may at once recognize the parties concerned: for my part I am under a promise not to mention names.

A certain firm purchased a large quantity of tea in the foreign markets two years ago. Almost immediately after the purchase the price of tea went down, and the speculation turned out to be a failure. The firm was in a quandary, as it had over $100,000 expended in the purchase, which would not then realize more than three-fourths of that amount. The dilemma was explained to a wise man, and he said he would think over the matter and report next day. When he came back in the morning he asked the firm if they would turn over one-fourth of the stock to him and he would guarantee to get full price for it. They did so, and a large

quantity of tea, which was then stored, was consigned to the wise man.

About three weeks afterwards a new brand of tea was widely advertised. It was in pound and half-pound packages, and had a pretty and distinctive name. It was advertised at 40 cents a pound, and in less than two weeks the supply was exhausted. The name of the tea and its peculiar quality was widely talked about.

Another lot was put on the market and the advertising kept up, and then a third and last lot was advertised, but in the meantime the firm had "smelled a rat" and had been let into the secret. They went out into the market and bought a whole lot more of the tea they had been "stuck" on, and in another month they had duplicated the order. Their failure turned out to be a howling success, and all through the machinations of the wisemen, who had conveyed the idea of giving this tea which was of the most ordinary qualities and cost but 25 cents a pound in bulk—a distinctive name and putting it on the market as a package tea, well advertised to the consumer. It cost 3 cents a pound to pack it in neat shape and about 4 cents a pound to advertise it, leaving a profit of 18 cents a pound on 400,000 pounds of tea—$72,000 profit in about nine months!

The whole scheme, be it remembered, orginated in a direct loss of 25 per cent. on the first purchase, and it was only the genius of the wise man who was called into council that turned the failure into a success by the simple process of giving the goods a distinctive name, putting them up in attractive form and advertising them liberally to the public. The same tea was being sold by grocers at the time for 30 cents a pound, in loose form, but the wise man rightly conjectured that in a better and more presentable shape it would sell at a better price, provided that it was properly advertised.

The same tea is being advertised and sold to-day, and that is why I cannot mention its name.

But there is a great advertising moral for consideration. To take any article that is a failure at its own price, make no change in the goods intrinsically, but merely in the outside appearance; advertise it judiciously and create a steady demand for it at twice the price in the short space of a few months, ought to be the best kind of an answer to the cranks who have the audacity to tell us, in these enlightened days, "advertising does not pay."—*John C. Graham, in Printers' Ink.*

The above is very suggestive of the power of advertising to create demand; that a convenient package is a great factor in securing public favor; that cutting prices is not essentially a factor in winning trade; that it is easy to humbug some of the people at some time; that grocers are forced to sacrifice a liberal profit on bulk goods for a small profit on proprietary brands of inferior quality.

We also note that this tea episode is denominated "a scheme" and that its author deliberately states that the tea sold at 20 cents per pound in packets, was the same tea that was sold in bulk, at the same time, for 30 cents per pound.

The moral is plain that consumers are willing to pay more for goods put up in attractive shape than for the same articles in bulk at much lower price. This fact is clearly demonstrated by the preference given to crackers, put up in neat packages, over the same sort sold at less price in bulk; to the sale of cereals in packages at double the cost to the consumer that the same can be bought for in bulk. It is evident that package goods are most in favor with consumers, and that they are quick to pay an extra price for the more convenient service.

Is not the above narrative of "facts" also illustrative of how the consumer pays for advertising and makes it possible and profitable for plucky fellows to avoid a failure and make a "howling success?"

There is a sermon with many valuable lessons in Mr. Graham's story, which grocers should take to heart.—*American Grocer.*

THE VELVET BEAN.

A few words about the velvet bean, as a source of forage as well as a renovator of the soil, would be very opportune, and I would suggest to those who are unaware of the value of this bean to try a small patch of it and just watch the result. Those who have already grown the bean will bear me out when I say that we have nothing in its own line to equal it. It is a great forage producer, and the grain, both in the green and dry state, is equal to anything grown for food for any stock, and it is not too much to say that everything that walks on four feet is fond of it.

The velvet bean grows and makes a fair crop where cowpeas would scarcely germinate the seed. It is an excellent improver of the soil in that it is the best nitrogen gatherer among all the known legumes. Its foliage is so dense that it shades the land completely during our hot days of summer, and by shedding the leaves nearest the ground, it forms a mulch that conserves the ordinary moisture in the soil. In short, we have in the velvet bean what the Southern farmer has so long been looking for, that is, something that will produce a good profitable crop and at the same time keep to put backbone into the poor sandy soils of the South.

I have said that it will make a fair crop on land too poor for cowpeas, but it will repay its grower for a little commercial fertilizer applied to the soil previous to planting time. Some farmers are sanguine enough to think that there will come a time when commercial fertilizers might be entirely dispensed with. There is no indication that will ever come; in fact the tendency is rather the other way, as every year sees a marked increase in the fertilizers used, and every broad-minded, observing farmer knows that for every dollar thus invested he gets back ten and sometimes twenty, according to the intelligence and wisdom exercised in the selection of the proper kind of fertilizer and the method and time of application.

Like every other crop, the velvet bean has a preference, if we may use the term, for a certain kind of food which is best suited to its requirements and which enables it to return the most profitable crops. It wants a fertilizer analyzing high in phosphoric acid and potash. Being a natural nitrogen gatherer, it does not require any nitrogen fed to it in the shape of fertilizers. If we cannot get a fertilizer containing no notrogen, the best way to get over the difficulty is to buy our phoshate and muriate of potash, and prepare our own fertilizer, bringing the analysis as near as possible to 10 per cent. potash and 7 to 8 per cent. phosphoric acid. Four to six hundred pounds of this per acre, broadcasted and mixed in the soil a short time before planting, will pay for itself at least twenty-fold. On poor, worn-out soils it is best to drill in the fertilizer and plant the bean in the drill after it has had a good rain on it.

In preparing the land for this crop the best method in my experience has been to run off furrows about five feet apart and drop a bean every ten to fifteen inches; this will give a good stand, and as the crop is a long season one it should be planted as early in the season as possible. Some time, in late June or July, make a very thin sowing of Giant beggar weed in the water furrow; this will spring up quickly and be ready just in time for the bean to climb all over it (for the latter undoubtedly does best when it has something on which to climb). If the bean has been planted early in April, which is really the proper time, a thin sowing of fodder corn in the water furrow in June will answer the purpose as well as beggar weed. This combination will give an exceptionally heavy forage crop, ready to cut in early September, and it will make a good second crop after that which can be allowed to remain in the ground and be plowed under in the winter to improve the soil and restore its fertility.

If simply grown as a soil renovator it can be planted four feet apart and every two feet in the furrow and allowed to remain where it grows. If wanted for pasture for stock or hog feed, beggarweed, millet, or anything of that kind planted [illegible] will prove a decided benefit, as in itself it is somewhat laxative at first in its effect on stock, and other forage mixed with it helps to counteract this effect somewhat.

In cutting to cure for forage is where the real trouble is encountered, as its growth is so enormous, and if it is growing on anything, the tangle of vegetation is such that it is a hard matter to get at it well. If cut in the forenoon, after the dew has dried off, and hauled to the barn without delay and spread over poles (I use my tobacco barn for the purpose), it cures excellently and makes the finest cattle forage I ever saw, and I feel confident that it only needs a proper trial by every Southern farmer to secure its general adoption all through the Southern States.

I do not think the velvet bean can be grown north of Kentucky successfully. A friend in Kentucky grew some of it last summer and he reports an extraordinary growth of vine, but no grain, the season being too short for it to form seed. He grew it in a field adjoining the turnpike road where a telegraph line ran along. The vines went through the fence and climbed to the very top of the telegraph poles, showing that Kentucky soil is well adapted for the vines at any rate.—*Hawaiian Planters' Monthly.*

PRODUCE AND PLANTING.

The Tea Trade of Japan.—The tea trade of Japan is not in a very flourishing condition. The action of the United States Government in imposing a duty of 10c. gold a lb. from June 14 on all tea imported had a marked effect upon the Japan tea season of 1898. The new Restriction Act, prohibiting the importation into the United States of inferior teas, continues to be strictly enforced, and many cases of rejection occurred during the year. Common teas have, therefore, for the most part been forced to seek a market in Canada, which has so far imposed no restriction upon its admittance, but where, to judge from recent discussion in the Canadian Houses of Parliament, it appears by no means unlikely that similar precautionary measures will be taken for the exclusion of inferior teas. The total export of tea from Japan to Canada amounted to 11,512,145 lbs., as compared with 8,605,492 lbs. during a corresponding period of the year before, an increase of 2,906,653 lbs. In the United States tea costs 40c. gold per lb., with the new duty of 10c. gold per lb., and the beverage is therefore at a great disadvantage as compared with coffee. General depression of business followed the announcement of the enforcement of the duty, and in several cases large orders were cancelled. Most of the tea shipped to America has remained in bond owing to the lower price of that which reached the country prior to June 14. As nearly all last season's tea remains unsold, it does not look as if the season of 1899 would be a prosperous one. In Japan, moreover, the cost of tea-firing materials and labour has continued to increase, as compared with former years, and, strange to say, since the imposition of the new duty the prices asked for by the growers have likewise risen. The total export for 1898 amounted to 41,102,118 lbs., valued at £838,740, as compared with 43,510,244 lbs., valued at £798,327, in 1897. Of this quantity, 31,861,149 lbs. went to the United States of America, 7,680,644 lbs. to Canada, and the remainder to various other countries, of which China, with 501,660 lbs took the largest proportion.

Her Majesty's Customs and Produce.—In the annual report of the Customs Department just issued, there is a table which analyses the items in our dutiable imports for the ten years 1889-98, showing the increase or decrease in each year of the quantities imported for home consumption. The most notable increase is to be found under the head of Cocoa, which recorded a growth, between 1896 and 1897, of no less than 32·7 per cent., the total figures being 28,270,562 lbs. in 1896 and 37,528,246 lbs in 1897. If the fiscal years 1896-97 and 1897-98 be taken, and the comparison confined to manufactured cocoa, an even greater proportional advance is observed, *viz.*, 80·4 per cent. We are glad to see, however, that the home manufacturer's competitive instincts have awakened, with the result that in the last fiscal year imported manufactured cocoa went down from 8,029,151 lbs. to 6,366,120 lbs—a decrease of 1,663,031 lbs.; while the imports of raw cocoa rose from 30,087,311 lbs. to 34,634,962 lbs.—an increase of 4,547,651 lbs. Going back to the table of calendar years, we find that between 1889 and 1898 the import of cocoa (both raw and manufactured) increased from 20,541,254 lbs. to 40,192,049 lbs, that is, nearly doubled itself: a testimony at once to the growing favour of the beverage and to the fact that the "masses" are taking their share in the national taxation. These facts are further exemplified in the case of tea, the consumption of which grew from 185,578,298 lbs. in 1889 to 235,353,767 lbs. in 1898—an increase of nearly 26·8 per cent. This increase is attributable also, in part, to reductions in duty and price; but it is noteworthy that with rising prices there was in 1898 an increase of 1·7 per cent. over the 1897 imports.

The Coffee Production of the World.—From figures compiled by Messrs. During and Zoon, of Rotterdam, some idea of the importance of Brazil as a factor in the coffee supply may be gathered. Since 1895, when 13,283,800 bags coffee were produced in all the countries of the world, the aggregate yield has considerably varied, sinking to 11,729,500 bags in the following year, increasing to 15,000,000 bags in 1897, and afterwards expanding to about 17,745,000 bags in 1898. This seems to have been the heaviest quantity ever raised in a single year, and was composed chiefly of Brazil descriptions, which filled no less than 11,332,000 bags; the remainder consisting of Central American, Indian, and African sorts. For 1899 the entire yield of coffee shows a striking deficiency, it being supposed to have fallen, as "estimated," to 13,609,000 bags; but it is satisfactory to learn from the same well-known authority that the estimates for 1900, already prepared, place the probable amount to be produced as high as 15,943,000 bags, of which 10,725,000 bags are computed to consist of purely Brazil coffee. The figures referred to also furnish particulars of the "imports, deliveries, and stocks of coffee" since 1893, and afford abundant evidence of the accelerated pace at which the world's trade in the article has been developed since that time. Then the grand total importations of coffee into the principal markets of Europe and the United States aggregated nearly 11,000,000 bags, gaining in volume till they reached between 15,000,000 bags and 15,250,000 bags in 1897 and 1898. The universal consumption of coffee cannot be said to have lagged behind the imports very much, for it has risen from 11,055,700 bags in 1893 to 14,325,800 bags in 1898, thus showing a solid increase of 3,270,100 bags in five years. At this rate it would soon overtake the supply, allowing that the latter remained stationary, and then stocks would enter upon a diminishing scale. At the end of 1893 the aggregate quantity of coffee on hand, so far as it could be ascertained, was only 1,585,000 bags; whereas at the close of last year it embraced 4,734,000 bags, or about treble the former amount, and this great excess has been looked upon as a very serious matter for the importers.

The Outlook—"As the natural result of the extraordinarily high prices of coffee established through a long series of years prior to 1897-98, the extension of the cultivation of the berry," says the *Grocer*, referring to the above figures, "was carried on with renewed energy in all parts of the world, until the climax of abundance was attained in that season. Till then it was no uncommon thing for planters in the Brazils and other places to reap a profit of 200 per cent. to 300 per cent. on the yield of their crops—so handsome were the returns derived from the inflated values of the bean in the American and European markets; and speculators were busy in fostering the idea that coffee never would be cheap again. As, however, the time drew near for the gathering and shipping of the crops of Rio and Santos coffee, as they came down from the interior of the country to the seaports, all scepticism as to their rare plentifulness had to be put to flight, and in the course of last year there was a sharp downward movement in prices for the commoner qualities, followed by a sensible reduction in the quotations for the medium and good useful kinds of plantation growths. This adverse turn, though eminently satisfactory to dealers and consumers, has been regarded as unfavourable to holders, who have lately been hoping for a rallying power in prices to assert itself, and bring them back the exceptionally prosperous times of 1895-96; but the prospect in that sense is not particularly encouraging at the moment. First, excessive stocks must be worked off; next, supplies must visibly decrease; and, thirdly, to strengthen the position all round, the consumption of coffee must steadily progress onwards without a break. With these conditions fulfilled, importers and growers may have the satisfaction of seeing their hopes of higher rates realised."

Assam Rubber Trees for the Soudan.—According to a report of Sir Willian Garstin, K.C.M.G., to the Foreign Office, there is a good prospect of the Soudan becoming a rubber country. There is, of course, an increasing demand for India rubber owing to its electrical and vehicular uses, while the natural supply is diminishing. It must, therefore, be cultivated, and it is believed that the rubber tree of Assam would flourish in most of the Soudan, especially south of Khartoum. The Assam tree takes twenty to thirty years to be ready for tapping, but then it yields about £3 worth of gum annually, so that its introduction into the Soudan is

FRESH GRAVILLEA ROBUSTA SEED.

GEO. HODSON.

Florist and Seedsman by appointment to

H. E. THE GOVERNOR OF MADRAS,

Residency Road,

BANGALORE.

[w. 1-4-99.—t.f.o.]

worthy of trial. However, there is, it appears, an indigenous rubber-yielding creeper (the *Landolphia florida*) on the White Nile, particularly in the districts of Rohl and Bongo. The plant has leaves like the laurel, and a white flower like the jasmine. It takes some years to grow fit for tapping, and the natives do it so carelessly as to kill it. The rubber is, perhaps, not quite so good as that of Assam, but it is considered good enough to be counted as an important asset in the future of the Soudan

Big Figures.—It is pointed out by a correspondent that the Chancellor of the Exchequer in his Budget speech on April 13 seems to have understated the revenue brought in during the past financial year by the tea duty. According to the annual report of the Commissioners of Customs the amount of the increase was not £62,000, as Sir M. Hicks-Beach is reported to have said, but £155,297. £4,024,503 was realised in the shape of tea duty, which appears to be the largest yearly sum received since Mr. Goschen in 1890 reduced the duty from sixpence to fourpence. In weight the tea on which duty was paid exceeded 240,000,000 lbs.—9,318,000 lbs. more than in the previous twelve months. The whole of this amount, however, must not be credited to the year's consumption. As the Commissioners point out, just before March 31, when the year ended, a big cheque was handed in at the Custom House, this large payment obviously covering tea which we are now consuming Still, after allowance is made for this, there was an advance in the clearance of about 3,000,000 lbs.

FUEL FOR TEA MANUFACTURE, &c.

There has been a good deal of discussion of late in the *Ceylon Observer* in reference to the cost of oil, or rather of the working of oil engines, and some exceedingly satisfactory results have been reported respecting more than one well-known engine, while a new favourite is now coming to the front. Some months ago that paper issued—at the instance of a planting friend—the following "Circular" with questions to be answered :—

FUEL FOR TEA MANUFACTURE.

Questions.

1. Which fuel do you consider to be best for Tea manufacture :—wood, coal or coke ?
2. What is the relative cost, and is it capable of being reduced ?
3. With regard to wood fuel, is the supply equal to the demand ?
4. Is the supply dependent on Government, or is it in private hands ?
5. Is the planting-up of fuel trees receiving attention ?
6. Do you consider that it would be any economy to have fuel plantations ?
7. If so, what kind or kinds would you recommend ?
8. Apart from fuel, would you plant timber trees, *i.e.*, for building and tea chests ?

In response, it received some fifty replies from responsible Managers in different districts of the country, and these it has now laid before its readers, first giving two communications. One is from a well-known visiting agent of wide experience, and runs as follows :—

"I have not had very much experience of coal in connection with tea factories, but even on estates close to the railway, with cheap freights and other transport facilities, wood fuel will require to be *very* scarce and expensive before coal can with advantage be substituted The latter must always be costly, and if one had to pay as much as R2 per yard for *good* wood fuel, it would probably pay better to do this than to get up coal from Colombo. The *best* fuel is that which is obtained from well grown forest Grevilleas, even when fully matured, burn quickly, and it is, therefore, better to use them in conjunction with forest fuel if it can be so arranged. Gums burn well, and grow again freely after being coppiced ; but the odour they emit is considered an objection by some.

"Speaking in a *general* way, the supply of fuel in private hands is, I should say, sufficient for present needs, and should continue so, for many years to come, if the planting of trees is kept up as it should be. Personally I know of very few estates which get their supplies regularly from the Government depôts.

"To shew what can be accomplished on a carefully-managed concern, I may mention that on an estate of about 250 acres in one of the young districts, where there is absolutely *no fuel whatever* beyond what is provided by gums and Grevilleas, &c., growing in the ravines and amongst the tea, the Superintendent manages to keep his factory going, there being two driers to feed besides an engine This estate, which is situated at an elevation of about 4,000 feet, gives an average of 609 lbs. of made tea per acre, shewing that well-regulated shade need not necessarily affect the productiveness of the bushes, and there is, moreover, nothing much to complain of in the quality of the teas. Besides the coppices, most of which survive, there is always a succession of young trees coming on, so there really is no reason why the supply of fuel should fail.

"Where there is a reserve of forest, planters will find it better, instead of felling trees indiscriminately, to make a clean sweep of a few acres at a time, stack the firewood, and replant the land with useful trees.

"Perhaps I cannot see far enough ahead, but I am no believer in planting trees for tea-boxes. I think we may safely look to the outside world to supply us with all we want under this head.—X. Y. Z."

The next communication is from a gentleman connected with the Forest Department :—

"I will take your own headings in accordance with the numbers :—

1. This would depend on the drying machinery. For example, if you used Davidson's, Jackson's or Brown's, the fuel would vary. For the two first, small branch wood will get up a sufficient heat, while the latter is all the better for larger timber. Coal is, I think, likely to develop too great a heat, and is not necessary for the purpose. I would certainly advocate coke or wood.

2. I have not sufficient data to go on ; as the price of imported fuel would be certain to fluctuate, and in a measure be affected by the state of exchange The price of firewood is directly proportional—in the case of estates—to the length of transport and its means. The difference in the quality, or hardness of the wood does not, to any great extent, affect its cost of cutting, but it acts directly on its cost of removal. I would not lay down a hard-and-fast line therefore, and say the price per pound of firewood should be so much, when, perhaps, certain local circumstances would completely alter the factors of calculation.

3. This is very difficult to answer. In districts where the white-ant does not eat-up the wood as fast as it is felled, a smaller quantity will last longer, but in low country districts, especially where the rainfall is high, I feel sure many estates will be very seriously inconvenienced, if they are not in difficulties already.

4. For low country places, both Government and private owners could help the planter. The former could supply most, but transport is the great difficulty.

5. In my humble opinion, I should say not sufficiently, generally speaking. The planter must not forget that it is not only his factory that wants firewood, but his coolies do too, to cook their food, and this should be provided for.

6. Yes ; I certainly do; but, if the plantation is to be on land that is too wretched and bad to produce tea, it is not good enough for fuel, and it would be very false economy to plant such places with anything but grass.

7. This depends on altitude, soil, aspect and rainfall, and, if the land to be planted is fresh or worn-out, I can lay down no very general rule with such combinations as the above conditions would bring about. I would advocate for low places, Casuarina, "Wa" (*Cassia siamea*) "Madatiya" (*Aderan thera pavonina*), "Gedumba (*Trema orientalis*) and a few rubiaceous plants, such as "Rawana Idella" and "Unkunda," all of which are good fuel. Above 3,000 feet I don't think one can do better than to plant gums and Grevillea, but they should be worked in a proper system, and upon a rotation that would be greatly indicated by the growth of the tree itself

8. It will always be worth while for low country places to plant jakwood for building wood, but I do not think it will pay to grow tea box woods for individual estates. If the wood is very soft it is liable to destruction by wind ; if hard, the proprietor won't wait long enough, so long as a quicker substitute can be found."

From the actual answers to the questions put, we select the following from a planter in North-East Matale :—

1.—No experience of coal or coke in tea manufacture. 2—Don't know. 3—Yes, here, from forest reserve ; grevillea fields and grevilleas planted throughout the tea 4 and 5 Depends on the estate proprietor. The Manager can easily keep up the supply by the

judicious planting of grevilleas throughout the estate. So far as I know this is being done pretty well all over the Matale district. 6—Yes, if not too far from the estate, or favourably situated for the fuel being transported by wireshoot. 7—For this district *Grevillea*, Pehimbiya, Dawata, Roseapple. These all do well, planted amongst the tea, without doing damage to the tea, unless when planted too close. 8—Timber for building purposes take so many years to get to maturity that it would be hardly worth my while to spend money on growing such trees. For boxes the new Acme chests will, I trust, in time take the place of the wooden chests.

While on the subject of tree-planting I certainly advocate the planting of fruit trees of all kinds. If more of this had been done by the pioneer planters, *most*, instead of the *few*, of the old estate Superintendents would have had a plentiful supply of fruit for their own use and to spare for their Colombo and other friends who were less fortunate. Even the present generation of planters, I believe, are doing more in that way than our pioneers did. Yet more might be done, and if every planter, *P. D.* and *S. D.*, were to do a little, a few years hence Ceylon might become as famous for its fruit as it is for its tea. I think more might be done for Ceylon residents by the Government Gardens, by advertising in the local papers monthly the fruit tree plants and seeds they have for sale, and stating the elevation or districts the various plants are known to do well. I know that plums, which are grown in Haputale without any trouble, grow, but do not yield any crop here. Pear trees the same. Peaches, I have not seen a ripe one in Matale. I have no doubt that the Government Gardens could supply fruit trees suitable to the planting districts were they to act on the suggestion. The railway ought to carry all plants from the Government Gardens free to encourage fruit culture.

This was written before Mr. Macmillan's useful "Circular" on fruit trees suitable for the lowcountry appeared. It should now be supplemented by similar advice regarding the country from Peradeniya upwards. Two other Matale residents favour us with their opinions, and first we have a well-known proprietary Visiting Agent who goes into figures to some purpose: –

1 Wood for driers—oil where an engine is necessary and where ample water power is not available.

2 The cost of wood fuel for driers is about ·35 per lb. of tea and oil about ·55 per lb. Where water is not available there is little or no scope for reduction.

3 Quite equal to the demand from trees planted from 10 to 13 years ago in many instances.

4. In private hands entirely.

5. All estates in this neighbourhood have planted largely, with the result that there will never likely be a fuel difficulty.

6 The planting of fuel trees on most old estates where there is no reserve jungle is necessary and economical.

7 Grevillea, Cedrella Toona and Albizzia stipulata amongst the tea and thornless dadap, not for fuel but for light shade and to aid in improving poor patches of tea.

8 No, though in due course Grevilleas and Cedrella Toonas grown amongst the tea will supply all that is necessary for estates in the way of ordinary rafters, reepers, &c., for lines.

Next, a resident Manager on a well-known Matale property tells us:—

1 I have only had experience of wood.

2 I have no experience.

3 I think so at present. Oil engines appear to be coming more into favour.

4 Private hands.

5 Not much I think at present, although a good deal has been planted in the past

6 I do. Firewood will be wanted in future, but trees for timber purposes and fuel should be combined.

7 Trees suitable for fuel as well as building purposes, such as Satin, Jak as well as Grevilleas.

8 Certainly. Timber for building purposes is very scarce indeed. For tea chests I hardly know what to suggest. Lunumidella grows very well in this district, and is a useful timber. Would it do for tea chests? Imbul are used by some.

One of the oldest residents in Rangala says :—

1 I only use wood, and have no experience of coal or coke.

2 I pay 25 cents per cubic yard, when cut and piled on estate.

3 In Rangala, Medamahanuwara and the Nitre Cave districts, the supply is plentiful: only a few estates buy firewood. Mr. Spence of Duckwari is the only one who uses coal or coke

4 All in private hands. No Government wood sold here. Not required.

5 Any number of grevilleas all over the estates, more for shelter and shade than fuel; but they will come in handy for fuel if required.

6 Not about here: the supply is plentiful. If necessary, grow grevilleas.

7 Nothing grows so well as grevilleas. Indigenous kinds take too long to grow.

8 No, life is not long enough. Would anything be worth using for timber under 20 years? Some of the softer woods might make tea boxes in that time. As a speculation or for one's children all waste land (poor) might be planted with grevilleas, albizzias, jak, &c, &c.

A well-known Manager comes next, and here again it will be seen that "grevilleas" are the favourite tree to plant, as both fast-growing and suiting the tea :—

1 Wood—being the cheapest, English coal costing about Rs.60 per ton on estate.

2 From 1 to 1¾ cent per lb. cured tea. Yes, it may be considerably reduced when the timber trees now planted on many estates come to maturity.

3 Yes, to most places in this district.

4 In private hands for the most part.

5 Yes, on large places such as this.

6 Great economy would be effected by early planting up of fuel trees.

7 Grevilleas for this district. They are fast-growing and can be planted with advantage throughout the tea.

8 Yes, timber is always in requisition on tea gardens for buildings and factory requirements.

Very interesting information respecting grevilleas do we get from the next Rangala correspondent, and his experience is sure to be of use to planters in other districts who have not thought of grevillea shingles :—

1 I have only had experience with wood which is good if you have enough of it.

2 As time goes on the last will increase. At present we are under half cent per lb. of tea made.

3 Quite equal to the demand; grevillea trees have been planted regularly every monsoon for years.

4 I would not like to have to depend on Government for fuel, and I hope I never shall.

5 Yes, and I do not think I shall ever have to apply to Government for fuel or other timber.

6 Certainly, rather grow your own timber than buy it.

7 Grevillea and sapu for buildings.

8 Yes, for both purposes. It might interest some of your readers to know that grevillea makes good shingles. I send you by this post a piece of a shingle that has been on a set of lines for six years, and you will see that the wood, although rather weather-beaten on the surface, is quite good and fresh inside This shingle was from a tree not over eight inches in diameter. I put on a patch of grevillea shingles when building a new set of lines, and the result was so good (as you will see from the piece I send you) that I have roofed a building with the same wood, but sawn in place of being split. Grevillea is not good as posts put into the ground, but is good for rafters, wall plates or reepers.

The shingle sample sent us is, says the *Observer*, all that our correspondent describes: from no other district do we learn of the tree being turned to this use.

A Manager in Allagalla or Kadugannawa North says :—

1. Wood is the cheapest if you have it good. Steam is more easily kept up with coal. I have not tried coke.

2. Coal costs about 1¾ to 2 cents per lb. tea, wood about 1⅝ cent, wood and coal together about 1½ cent per lb. made tea I have worked a Crossley's "Otto" oil engine and found the cost of made tea was under one cent per lb. and have been told the "Campbell's" is about 1¼ cent. This is cheaper than coal or wood.

3. At present there is plenty of firewood to be had from private hands.

4. In this district I think it is dependent on private hands.

5. Very little is being done in this line, and I think it should receive more attention.

6. It is very doubtful as long as firewood is available from private sources at a reasonable rate, there would be no economy in planting fuel trees, but we should look to the future.
7. Grevillea is a fast-growing and useful tree and makes splendid firewood.
8. Certainly, plant timber trees for building: a small clearing of say, jak, sapu, grevillea and lunumidella will be found most useful in the future.

From Lower Hantane a well-known Manager reports:—

1. Wood for driers, wood and coal for engine.
2. About one cent per lb made tea. No; more likely to increase.
3. Demand rapidly overtaking supply in this district.
4. No, Government forest in this district—most of the fuel bought from villages
5. Yes.
6. When the cost of planting, upkeep, &c., is taken into consideration the saving is very little or nothing.
7. If timber is planted I prefer grevillea, jak, sapu and A decurrens.
8. Yes, for building, no is land timber equal to momi or deal for tea chests; would recommend jak and sapu for building.

Crossing over to Pussellawa, we have the following report from a Manager:—

1. Wood alone I consider the best fuel, but in this district I use coal and coke, the latter in conjunction with the wood or coal.
2. Coal is 95 cents per lb. tea. Wood is 79 cents per lb tea. I am of opinion that the cost is not capable of being reduced.
3. No. In this district, taking it as a whole, in a few years wood will be very scarce.
4. In private hands.
5. On many estates fuel reserves are largely being planted.
6 Having no Government reserves, this is resorted to.
7. Grevillea seems to be a fairly quick growing tree and is hard; being, as far as I have seen at this elevation, the best for fuel.
8. I am not in favour of planting timber trees in this district under this heading, as I consider the soil is not good enough to make it a success.

The Manager of a large Tea Factory on the Dikoya side writes:—

1 Wood fuel is the best, cleanest and safest.
2. Quarter to one cent per lb. of tea.
3. Quite equal.
4. Some estates are dependent on Government.
5. Yes, any estate can supply its own fuel by opening fuel clearings.
6. Yes, one estate I visit is entirely dependent upon its fuel plantations which we have planted up.
7. Gum, grevilleas and acacias.
8. No; iron buildings will suit: what little timber is required could be imported.—*Ceylon Observer.*

THE WORLD'S PRODUCTION OF COFFEE.

By a return, published on another page of this week's issue, says the *Grocer*, it will be seen what enormous strides have been made in recent years in the production of coffee, mainly in the Brazils. The figures we give are compiled by Messrs. During & Zoon coffee brokers in Rotterdam, and may be relied on as approximately correct. Since 1895, when 13,283,800 bags coffee were produced in all the countries of the world, the aggregate yield has considerably varied, sinking to 11,729,500 bags in the following year, increasing to 15,000,000 bags in 1897, and afterwards expanding to about 17,745,000 bags in 1898. This seems to have been the heaviest quantity ever raised in a single year, and was composed chiefly of Brazil descriptions, which filled no less than 11,332,000 bags; the remainder consisting of Central American, Indian, and African sorts. For 1899 the entire yield of coffee shows a striking deficiency, it being supposed to have fallen, as "estimated," to 13,609,000 bags; but it is satisfactory to learn from the same well-known authority that the estimates for 1900, already prepared, place the probable amount to be produced as high as 15,943,000 bags, of which 10,725,000 bags are computed to consist of purely Brazil coffee.

The statement referred to also furnishes particulars of the "imports, deliveries, stocks of coffee" since 1893, and affords abundant evidence of the accelerated pace at which the world's trade in the article has been developed since that time. Then the grand total importations of coffee into the principal markets of Europe and the United States aggregated nearly 11,000,000 bags, gaining in volume till they reached between 15,000,000 bags and 15,250,000 bags in 1897 and 1898. The universal consumption of coffee cannot be said to have lagged behind the imports very much, for it has risen from 11,055,700 bags in 1893 to 14,325,800 bags in 1898, showing a solid increase of 3,270,100 bags in five years. At this rate it would soon overtake the supply, allowing that the latter remained stationary, and then stocks would enter upon a diminishing scale. At the end of 1893 the aggregate quantity of coffee on hand, so far as could be ascertained, was only 1,585,000 bags; whereas, at the close of last year, it embraced 4,734,000 bags, or about treble the former amount, and this great excess has been looked upon as a very serious matter for the importers.

As the natural result of the extraordinarily high prices of coffee established through a long series of years prior to 1897-98, the extension of the cultivation of the berry was carried on with renewed energy in all parts of the world, until the climax of abundance was attained in that season. Till then it was no uncommon thing for planters in the Brazils and other places to reap a profit of 200 per cent. to 300 per cent. on the yield of their crops—so handsome were the returns derived from the inflated values of the bean in the American and European markets; and speculators were busy in fostering the idea that coffee never would be cheap again. As, however, the time drew near for the gathering and shipping of the crops of Rio and Santos coffee, as they came down from the interior of the country to the seaports, all scepticism as to their rare plentifulness had to be put to flight, and in the course of last year there was a sharp downward movement in prices for the commoner qualities, followed by a sensible reduction in the quotations for the medium and good useful kinds of plantation growths. This adverse turn, though eminently satisfactory to dealers and consumers, has been regarded as unfavourable to holders, who have lately been hoping for a rallying power in prices to assert itself, and bring them back the exceptionally prosperous times of 1895-1896; but the prospect in that sense is not particularly encouraging at the moment. First, excessive stocks must be worked off; next, supplies must visibly decrease; and thirdly, to strengthen the position all round the consumption of coffee must steadily progress onwards without a break. With these conditions fulfilled, importers and growers may have the satisfaction of seeing their hopes of higher rates realised.

[The return referred to is given on another page.—ED., *P. O.*]

BOYCOTTING THE PARIS EXHIBITION.

The condemnation of Dreyfus has led to the condemnation of France. The Americans threaten to boycott the great Exhibition of 1900, and Mr. G. Labouchere Hillyer writes to the Ceylon papers to advocate similar action on the part of planters. He says:—

The whole thinking and civilised world outside France, and part indeed of that unhappy country, to-day stands aghast at the astounding misdirection of Justice, that hideous travesty of fairplay which has just been enacted by the Rennes Court-martial in the reconviction of the already pitiably martyred Captain Dreyfus. The Judges, sacrificing all respect for themselves and for the real interests of the French nation, hounded on by such beings as Drumont, Derouléde, and Henry de Rochefort, have thought well to attempt to whitewash the chiefs of the Army by refusing justice to a man whose innocence has been doubly proved. "Shame"! is on the lips of every man and woman of honour from one end of the world to another, and well it may be; but the crying of "Shame" is not enough, and surely it behoves us in Ceylon to act as well as speak, and we have at our doors a ready means of bringing our humble amount of pressure to bear by following in the wake of the admirable lead already given us by our American cousins.

Ceylon is small, and not of much importance in the great world, but this need not prevent our giving practical voice to our feelings of shame and disgust at the shocking prostration of justice, this vile and despicable farce, which has for ever disgraced the French

People. To be definite then, Sir, I appeal to those responsible for the representation of Ceylon at the coming Paris Exhibition to entirely refuse to have anything to do with that Exhibition so long as France continues to debase herself by refusing justice to an innocent man. It appears to me that any loss incurred by us in withdrawing our exhibits would be infinitesimal as compared with—and more than amply compensated for by—the satisfaction we should experience in being amongst the first to show our feelings of loathing and contempt for a country which has so far forgotten its fair traditions as openly to connive at and condone such gross injustice. I feel convinced that in writing to you I am only voicing the ideas of many others whose earnest desire is that we of Ceylon should not contaminate ourselves by association in any way with a people who permit such deeds of infamy to pass unchecked and unpunished.

If any action is to be taken it should be taken at once; and if necessary (though, I doubt its being so), a meeting should be called to ascertain the wishes of the Planting and Commercial Communities.

In a postscript to his letter to the *Times of Ceylon*, Mr. Hillyer adds :—

Since writing the above I have had the advantage of reading your leader in yesterday's issue, and also of seeing your London telegram announcing that English firms are rapidly falling into line with regard to the universal boycott. You ask: "What is the practical question for Ceylon?" I answer: "Let us pay the rent of any number of Courts and not exhibit rather than sully our name as Englishmen by in any way sharing in the ignominy that attaches in such a degree to France at the present time. Honour and fairplay before gain, even on such low grounds as that "Honesty is the best policy," will in the end tell to our lasting advantage.

CEYLON OPINIONS ON THE BRITISH TEA DUTY.

ABOLITIONIST.

Mr. Edward Rosling writes to the Colombo papers :—

The attitude of Ceylon tea producers towards the question of the abolition of the English import duty on tea is, I think, that of sitting on the fence until they are convinced that they will benefit by such abolition. This is my excuse for trespassing on so much of your space, in the hope of inducing a careful consideration of the question.

It is a trade axiom that the reduction of the selling price of any commodity to the consumer stimulates the consumption of that commodity, the converse of course being equally true. As an example, have we not always seen a prolonged season of low prices in the tea market followed by a rise, and we are told in the Brokers' circulars that "the recent low prices have stimulated consumption" and so reacted on the selling price

Hitherto the reduction in price to the seller has been entirely at our expense, and the immutable law of supply and demand made such a lowering of price necessary in order to get the tea consumed.

When it is suggested that we should cheapen the cost of our teas (which, other things being equal, must mean an eventual reduction of price to the consumer) by the abolition of the one pound draft or the reduction in warehouse charges, &c., we have the whole of the producers with us, but, when the reduction or the abolition of the duty is mentioned, many producers seem to think that some occult force will be set in motion, by which the laws of supply and demand would be stopped if not reversed

What would naturally follow the abolition of the duty is as follows: For the first year, possibly longer, the 4d saved would be divided in some proportion between the producer, the middleman, and the consumer, but sooner or later the consummer would be the only one to benefit so far as price is concerned, the middleman would do a larger turnover from the increased consumption and the producer, supposing he is able to keep the ratio of supply to demand as it is at present, would then make the same profit per lb as at present on a larger number of lbs. The price paid to the producer is and can only be governed by that ratio, always supposing there is free competition and no buyers' combination and the sudden rise in the lower qualities of tea during the early part of this year is to my mind sufficient proof that no such combination exists.

Again, the abolition of the duty reduces the amount of capital necessary to deal in tea and thus helps the small dealer against the large capitalist, which in itself would tend to make a buyers' combination more difficult and increase competition, all in the favour of the producer.

In an article communicated to the *Observer* of the 5th instant the writer bases his arguments largely on the number of gallons of liquid tea drunk, reasoning from his figures that there was no increase from the reduction in duty in 1890, but can he say or does he think that the lower classes do not drink a very much stronger brew than they did formerly?

Our deliveries of Ceylon teas increased nearly 11,000,000 lbs. in the year 1890-1891, or the year following the reduction and nearly 19,000,000 lbs. in the following year which shows that we certainly did not suffer from the reduction.

He also states that the producer gets a better living out of dutiable articles than out of free, and instances sugar, possibly forgetting that it is the bounty fed beet sugar that has caused the fall and that English consumers are buying their sugar at a lower price than the consumers in the sugar producing continental countries.

In other words if the continent chose to subscribe together in order that the Englishman can have cheap sugar it is hardly a sound argument to instance it as a free article. Again, last year wheat was a most remunerative crop, and I suppose that most shareholders in coffee concerns will agree that that product was as unremunerative as it well could be, the reason having nothing to do with duties, but being merely an instance of supply and demand, and the existing ratio of the one to the other being upset.

There are many other points such as the reduction of warehouse charges, which I have not touched on, as, though important, they are really side issues.

P. S.		Average. d.
Total deliveries Ceylon tea	1889...30,166,256	10·99
,, ,,	1890 ..37,652,750	10·56*
,, ,,	1891...53,486,510	10·70
Home consump. only ,,	1892...64,000,000	10·07

* Duty reduced in April.

We more than doubled our output in four years at the loss of less than 1d. per lb.

NON-ABOLITIONIST.

Mr. A. Melville White replies :—

It will not do in such an important matter to let Mr. Rosling's letter on this subject pass unnoticed.

Nothing could be sounder than Mr. Rosling's statement of the producers' attitude as stated in the first paragraph of his letter, viz, that until they are convinced of the benefit to them of abolition they are content to put up with the present situation. We are not here as philanthropists or for the benefit of our health.

The axiom stated by Mr. Rosling in his second paragraph is probably correct, but increase of consumption is no benefit to the producer unless accompanied by increase of profits, and it is precisely this which Mr. Rosling has to show as at least very probable, viz., that abolition of duty will increase our profits; and in his letter under notice I think he entirely fails to do this.

He points out how a prolonged period of low prices is followed by a rise, but just as certainly is a prolonged rise followed by a fall in prices, and the tendency over a period of years is undoubtedly downwards. Will Mr. Rosling's remedy reverse this tendency, and if so, why? The burden of proof is on the abolitionists.

Mr. Rosling is probably correct in admitting that sooner or later the consumer would be the only one to benefit. (If so, where does the producer come in!) But he begs the whole question when he shows or tries to show that we will benefit, "supposing the producer is able to keep the ratio of supply to demand as it is at present." It is incumbent on him to show how this is to be done.

The argument he adduces that the abolition of the tea duty will let in the smaller dealer does not hold water. For competition has not increased since the last reduction of duty; indeed the general opinion is that it has diminished in recent years; and the result which might be more reasonably expected from abolition is, I think, that even if competition were increased at first, the tendency would inevitably be for the largest dealers, to cut rates so as to drive out the small dealers. This has been our unfortunate experience in the past. Strange as it may seem, increased consumption has not been to us increased profits in the past (and the reason is obvious). Why

then must it be so different in the future? Are the large dealers going to stop pushing their business.

As to Mr. Rosling's figures, we did certainly more than double our output in four years about the time of the last reduction of duty, but, if I understand Mr. Stanton's figures correctly, it was at a cost of nearly 2d per lb., not 1d as Mr. Rosling states. But the increased output, quoted by Mr. Rosling, does not prove that we were better off on account of the reduction of duty. That increased output at that time could have been stopped by nothing short of ruin, and had to take place, the teas had to fall in price, and I hold, therefore, they went more largely into consumption. That itself is sufficient to account for the fall in price, without any reduction of duty. Mr. Rosling is bound to show us how to stop this increased production, and thereby maintain prices if possible. It might be asked parenthetically why the reduction of duty did not increase the consumption of, and what effect abolition will have on, China tea?

Primarily, increased consumption is generally due to a fall in price, whatever the cause of the fall may be, most frequently, however, caused by increased production, and these react on one another. But what Mr. Rosling has to show is that abolition of the duty, while it increases consumption, will also check increase of production and so maintain or improve the present ratio, and thereby benefit us.

DISTRICT ASSOCIATIONS.

KANAN DEVAN.

Proceedings of a Quarterly General Meeting held at Munaar, 8th September 1899. PRESENT.—Messrs. E. Harley, W. D. Martin, A. H. Mead, H. M. Knight, R. Hedger, H. E. Tollemache, A. C. Williams, G. Nicoll Thomson, T. W. Schmid, J. A. Hunter, L. Davidson (*Chairman*), C. Burn Murdoch (*Honorary Secretary*).

Read and passed Minutes of last Meeting.

American Tea Fund.—After discussion, it was resolved "that this Association do support the action of the U. P. S. I. in this matter."

Delegate to Bangalore.—Proposed by Mr. Davidson "a hearty vote of thanks to Mr. H. M. Knight for his public-spirited services as our delegate at Bangalore, and that Rs.150 be paid to him for his expenses." Seconded Mr. J. A. Hunter. Carried.

Roads.—The Honorary Secretary was asked to again remind the Government of the resolution passed at the last General Meeting under this head.

Medical.—Proposed by Mr. J. A. Hunter "that the grant still unpaid for last year and the grant for the current year be applied for." Seconded Mr. T. W. Schmid. Carried.

Abolition of Tea Duty.—Proposed from the chair "that as members must first consult their proprietors that this question be postponed to a future Meeting." Carried.

Labour.—This Association keenly recognises the necessity for a Labour Act, and trusts that the new Labour Act, now in course of preparation, will be found to meet our wants.

Paris Exhibition.—Proposed by Mr. Davidson that this Association do leave its interests in Mr. Knight's hands with regard to the Exhibition of its products at the Paris Exhibition. Seconded Mr. R. Hedger. Carried.

Game Laws.—No further resolution was passed and Messrs. Harley and Burn Murdoch were asked to continue their work.

C. BURN MURDOCH,
Honorary Secretary.

NELLIAMPATTY.

Proceedings of a Meeting held at Polyampara Bungalow, September 6th, 1899. PRESENT.—Messrs. Griffin, H. M. Hall, C. Hall, Burnett, Welchman, Barnes, Murray, Jones, Denny, McKenzie, Watts, Ranking and J. C. Abbott, *Honorary Secretary*.

Mr. A. C. Griffin *in the Chair*.

Proceedings of last Meeting were taken as read. The Honorary Secretary, Mr. Abbott, resigned the Honorary Secretaryship. A cordial vote of thanks to Mr. Abbott was passed for his valuable services to the Association. Mr. W. R. M. McKenzie was elected Honorary Secretary.

Permanent Chairman.—Mr. C. Hall gave notice that, at the next Meeting, he would propose that a Chairman for the year be annually elected.

New Member.—Mr. A. Grey, proposed by Mr. Abbott and seconded by Mr. Griffin, was duly elected.

Rates of Labour were discussed. Mr. Burnett gave notice that, three months hence, he would call attention to the rates of pay and propose a reduction. The Association to decide what form this should take.

Manure-stealing Case.—Accused has been sentenced to one month's imprisonment. Resolved that the Association pay for records of the case, and the Police Inspector be thanked for his successful conduct of the case.

Roads, &c.—Resolved that the Chief Engineer of Cochin be asked to put his proposals *re* roads, &c., before the next Meeting.

Labour Act.—An explanation was given by the Delegate.

Delegate to U. P. A. S. I.—A vote of thanks to Mr. Abbott was passed for his services in attending the late Conference.

Paris Exhibition.—Resolved that Rs.100 be voted as a contribution. A vote of thanks to the Chair closed the proceedings.

(Signed) A. C. GRIFFIN,
Chairman.
(„) W. R. M. McKENZIE,
Honorary Secretary.

MARKET REPORT.

Per Mail Advices of 1st September 1899.

COFFEE.

The London Commercial Record says:—With a continuance of moderate supplies at auction the market generally has remained steady, though there is still much irregularity. Plantation Ceylon cheifly sold at about previous prices, a small quantity of native kind bringing full rates. East India was unattractive in quality and only partly sold, but at rather improved figures. Colory Costa Rica and Central American commanded full prices, and there was a fair demand for foxy green Nicaragua and Salvador. Washed Santos sold up to expectations. There have been slight fluctuations in "futures," but the tone is quiet at the close and previous prices are barely maintained, viz.:—

London ...	... Santos	... Sept. delivery	...	26s. 0d.
New York	... No. 7 Rio...	„ „	...	4·35 cents.
Hamburg...	... Santos	... „ „	. .	27 pf.
Havre ...	... Santos	... „ „	...	31½ francs.
Holland ...	... Good ordinary Java	... ...	...	25¾ cents.

Imports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
Tons ...	25,305	19,823	38,226	36,602
	Home Consumption.		Export.	
	1899.	1898.	1899.	1898.
Tons ...	10,893	9,576	16,465	16,894

The preceding figures exhibit—

	Tons.
In the Imports an increase this year of ...	... 1,624
Home Consumption an increase of ...	 1,217
Export a decrease of	 429
Stock an increase of	 5,482

Auctions this week have gone off as under:—

CEYLON.—*Plantation.*—106 casks 17 tierces 36 barrels 125 bags mostly sold—smalls 35s to 70s, low middling to middling 60s to 95s, fair to good bold 99s to 106s, pea-berry 65s to 105s 6d; *Native*, bold yellow weevily 56.

EAST INDIA.—397 bags mostly sold—*Neilgherry*, smalls 30s to 39s 6d, low middling 36s to 45s, bold 46s to 58s, pea-berry 34s to 46s.

JAVA.—110 bags imitation were withdrawn.

JAMAICA.—52 barrels 25 bags offered, and 25 barrels sold—celery small 30s 6d, ordinary brownish 26s to 27s, good bold 89s.

COSTA RICA.—1,641 bags about half sold, smalls 31s, ordinary polished brown 30s, good to fine ordinary greenish 35s 6d to 37s, low middling to middling 43s to 52s 6d, good dull colory bold 59s 6d to 66s, smooth greenish colory 72s, pea-berry 34s to 80s 6d.

GUATEMALA.—Of 2,272 bags about 1,000 bags sold, smalls 25s 6d to 31s 6d, ordinary dingy 28s 6d to 29s, good to fine ordinary greenish 34s 6d to 36s, fine fine ordinary 38s to 39s, low middling 41s to 42s, middling 43s 6d to 44s, bold brownish 45s 6d to 49s, pea-berry 34s to 46s.

VERA PAZ.—297 bags sold, smalls 26s, fine ordinary 34s 6d to 35s, Maragogipe 80s.

NICARAGUA.—1,432 bags mostly sold, ordinary to good ordinary foxy green 30s to 32s, middling gray 42s to 43s, dull greenish bold 46s to 58s, bold colory 66s, pea-berry 45s 6d to 52s 6d.

SALVADOR.—Of 2,124 bags a good part sold, smalls 25s 6d to 33s, good to fine fine ordinary greenish 31s to 38s, middling 43s to 46s, good middling 56s, bold pale 63s 6d, fine bold 76s 6d, pea-berry 36s 6d to 57s 6d.

COLOMBIAN.—2,401 bags mostly sold, smalls 25s to 38s, fine fine ordinary to low middling 37s 6d to 41s, middling to good middling 43s to 48s, middling to good bold 43s 6d to 58s, good to fine extra bold 66s 6d to 85s 6d, pea-berry 39s 6d to 65s.

PERUVIAN. –36 bags sold—ordinary dingy greenish 29s.

MEXICAN.—68 bags sold, ordinary to good ordinary brownish 27s to 31s, fine ordinary 37s, pea-berry 30s to 50s.

ECUADOR.—176 bags about half sold, bold pale damaged 29s.

BRAZIL.—2,551 bags Washed Santos nearly all sold, small faded greenish 26s 6d to 28s, medium to boldish 30s to 35s 6d, pea-berry 36s 6d to 43s 6d landed terms.

The auctions to-day went off steady and the market finished up with a firmer tone. Auctions to-day consisted of 15 casks 4 tierces 4 barrels Ceylon, 172 bags East India, 30 half-bales Mocha, 22 bags African Liberian, 76 packages Jamaica, 161 bags Nicaragua, 107 bags Mexican, 128 bags New Granada, 370 bags Vera Paz, 245 Guatemala, 1,098 bags Salvador, and 347 bags Columbian.

Receipts in Rio and Santos.

Since July 1	1899-1900. Bags.	1898-99. Bags.	1897-98. Bags.	1896-97. Bags.
Rio	782,000	638,000	1,010,000	708,000
Santos ...	1,786,000	1,297,000	1,693,000	1,177,000
Total...	2,568,000	1,935,000	2,703,000	1,885,000
Crop ...	—	8,772,000	10,461,000	8,680,000

RIO EXCHANGE.—8d, previous day 8 1/32d.

HAVRE, *Aug.* 31.—Santos good average August opened barely steady at 31½f. and closed irregular at 31½f., September opened at 31¾f. and closed at 31¾f.

HAMBURG, *Aug* 31.—Good average Santos August opened quiet at 27pf. and closed steady at 27pf., September opened at 27pf. and closed at 27pf.

NEW YORK, *Aug.* 30.—Closing prices of No. 7 Rio were as follow:—

	Aug.	Sept.	Oct.	Nov.	Dec.
August 30 ...	...	4·40	4·45	4·50	4·80
August 29 ..	4·35	4·35	4·40	4·45	4·80

Prices realized at auctions for some of the principal marks of East India:—

NEILGHERRY.

	A	B	C	PB	T
Curzon, Nilgiris	58-0	45 0	39-6	46-0	30-0
Munjoor, Nilgiris	51-0	41-6	34-0	—	30-6
Clyffe, Nilgiris	42-0	38-0	30-0	40-6	24-6
Elephant Vagavarai Talliar ...	49-0 bid	37-6	32·6	51-0	—

TEA.

CHINA.—A pause in the demand leaves the market very quiet, but prices are kept fairly steady, except for green, which favors buyers. At auction the larger supply of 6,311 packages went off slowly only a comparatively small portion selling as follows:—Old season's Oolong low 4¼d to 4¾d, Kokew 4d to 4⅝d, Formosa 6¾d to 1s, Souchong 6½d to 6¾d, Paklin 6½d. New season's Kaisow 6d, Souchong 5⅞d to 6½d, Moning 6¼d to 6½d, Oolong 7½d, Foochow Scented Orange Pekoe 1s, Scented Caper 5½d to 7½d. Old season's Moyune Green:—Gunpowder 4½d to 8½d, finest 1s to 1s 2½d; new season 6¼d; Imperial 2⅝d to 3⅜d, Sow Mee 8d to 1s 0½d; new 6¼d to 7d, new Foong Mee 7½d to 8¾d, Young Hyson 6d; Ping Suey Gunpowder 4⅞d.

INDIAN.—Public sales were about on the same scale, viz., 40,100 packages against 39,200 packages in the previous week, and 30,200 packages at this period of 1898. There was a better demand from all quarters for common to fair descriptions, no doubt due in a great measure to the very low range recently established for these grades, prices for both Leafy and Broken kinds under 7d per lb. were consequently firm to occasionally dearer. Medium to fine with strength and quality were in good request, but the unattractive ones did not meet with so much competition and at times were easier. Finest and choice-flavored parcels from Assam and a few of the Darjeelings brought full figures, notably the following:—Assam: Hansura Estate, DDTCo. BP 2s 7¼d, BOP 2s 7d; Suddia Road Co., BOP 2s 6¼d, FOP 2s 1½d; Samdadg Estate, DDTCo, BOP 2s 3½d; Makum Co., OP 2s 3d bid; Pabbojan Co, BOP 2s 3d. Darjeeling: Margaret's Hope Estate, BP 2s 2¾d, OP 2s 2½d; Gyabaree Estate, DCTCo, BP 2s 0¼d.

For 35,800 packages on Estate Account 8¾d per lb. was obtained, compared with 9¼d per lb. for 23,600 packages, and 10d per lb. for 23,100 packages in the two preceding seasons.

The number of packages printed in August was:—

1899.	1898.	1897.
129,800 pkgs.	121,900 pkgs.	100,300 pkgs.

CEYLON.—Owing to the withdrawal of 3,600 packages from the catalogues prior to the auction the quantity to be dealt with was reduced to 35,700 packages, contrasted with 41,000 packages in the week before and 29,400 packages a year ago.

With the exception of the least desirable Pekoe Souchongs and Pekoes, for which in some cases a fractionally lower quotation was recorded, there was a slightly improved enquiry, though, on the whole not much change was apparent in values of common to medium. Broken Pekoes with brisk liquor were taken up freely and often dearer. Fine and finest tippy lots again commanded considerable attention and in many instances enhanced rates were paid to secure them.

The average is 7⅛d per lb. On the 24th ultimo, it was barely 7d and 7⅞d per lb. in 1898.

During the month the totals were:—

1899.	1898.	1897.
147,600 pkgs. (Avge. 7⅛d per lb.)	128,800 pkgs. (Avge. 7¾d per lb.)	130,600 pkgs. (Avge. 7⅝d per lb.)

JAVA.—Rather over 800 packages of direct import were brought forward which passed quietly, a considerable portion being bought in as bids were under limits.

The undermentioned were offered in August.

1899.	1898.	1897.
7,500 pkgs. (Avge. 6¾d per lb.)	2,400 pkgs. (Avge. 7d per lb.)	3,600 pkgs. (Avge. 7d per lb.)

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns, were:—

	Lbs.
From 1st to 29th August, 1899	15,736,045
Do. do. 1898	15,220,316

During the week the following have been printed for sale by public auction:—

	Sold. Pkgs.	Withdrawn. Pkgs.	Total offered. Pkgs.
India	35,949	4,138	40,087
Ceylon ...	33,748	1,915	35,663
Java	426	381	807
Total ...	70,123	6,434	67,557

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated September 1st, 1899, says:—

QUANTITY BROUGHT TO AUCTION IN LONDON FROM 1ST JUNE TO DATE.

	Indian. Pkgs.	Ceylon. Pkgs.	Java. Pkgs.
1899-1900	236,243	265,176	16,558
1898-1899	216,379	341,060	11,328

40,379 *pkgs.* INDIAN
36,443 ,, CEYLON
807 ,, JAVA
} Total 77,629 packages were offered in public auction this week.

According to the latest advices from Calcutta and Colombo the exports of Tea to countries outside the United Kingdom are again showing a satisfactory expansion. The present low range of prices ruling on this market is also attracting the attention of foreign buyers, whose competition during the last week or two has been a feature.

INDIAN.—Buyers appear to be disposing of their purchases freely and are now operating with more confidence. Prices are practically on the same level as last week, but in occasional instances fractional improvements can be recorded. Finest Teas continue in request and make good prices

Week's av. of Tea sold on Garden Account 1899, 36,184 pkgs., av. 8·67d. 1898, 24,381 pkgs., av. 9·30d.

Total Tea sold on Garden Account 1st June to date 1899, 127,333 pkgs., av. 8·20d. 1898, 135,686 pkgs., av. 8·77d.

Comparative prices of Indian Tea in London.

CEYLON.—The quantity brought forward was slightly less than during the two preceding weeks, and for next week smaller auctions are again advertised. There was a steady all round demand and in many cases prices showed a fractional recovery.

Average for week 7·05d., against 7·74d. same period 1898.

Ceylon Tea sold on Garden Account 1st Jan. to date 1899, 675,954 pkgs., av. 7·90d. 1898, 790,111 pkgs., av. 7·60d.

Comparative prices of Ceylon Tea in London.

JAVA.—Prices lately current were fully maintained for all descriptions.

Bank Rate 3½ per cent. Exchange on London three months sight:—Calcutta 1/4 3/16. Colombo 1/4 3/16.

COCOA.

Supplies at Tuesday's public sales were limited to 3,644 bags and although demand was not very brisk 2,300 bags sold at fully previous rates, except for Guayaquil, which lost ground a little. Of 151 bags Trinidad, 65 bags sold at valuations—fine and very fine red 72s to 74s, good 69s to 70s. Of 967 bags Grenada offered 640 bags found buyers at 63s 6d to 66s for good to fine, and 60s to 62s for common to fair, or quite up to expectations. 4 bags Jamaica, 8 bags St. Lucia, and 11 bags Seychelles were withdrawn. Of 1,706 bags Guayaquil nearly 1,500 bags sold at 6d to 1s decline—fair red Caraquez, 67s to 68s. Of 797 bags Ceylon only 130 bags sold, little interest being mainfested in this growth; dull medium and small red 65s 6d, fair to good small 50s to 56s, fair Native 60s to 63s, and pickings 40s 6d per cwt. Private transactions include 200 bags Trinidad and 300 bags Ceylon at steady prices, and about 200 bags Guayaquil, including Arriba, at 69s.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

	1899.	1898.	1897.	1896.
	Bags.	Bags.	Bags.	Bags.
Imports, B P. ...	108,837	110,226	100,156	110,328
Foreign ...	55,386	83,214	58,894	52,890
Home Con., B.P. ...	56,928	72,145	58,243	50,399
Foreign ...	34,906	38,043	40,143	37,923
Exports, B.P. ..	33,143	26,918	34,411	28,311
Foreign ..	18,449	21,703	29,618	21,428
Stock, B P. ...	64,349	71,202	85,377	97,472
Foreign ...	54,605	56,968	49,322	71,204

PEPPER.

BLACK.—The market has been quiet this week, and value has sided somewhat in buyers' favor. About 150 tons have been sold, viz., fair Singapore on the spot at 5 9/16d to 5 17/32d, September-November shipment at 5 9/16d. and October December at 5⅝d per lb.

Auctions on Wednesday presented 23 bags rather greyish Singapore which sold at 5½d, 15 bags dusty brownish and greyish Aleppy, which realised 5⅝d, and 200 bags Penang which were withdrawn.

The shipments of Black Pepper for the month of August compare as follows:—

	1st-half.		2nd-half.	
	1899.	1898.	1899.	1898.
	Tons.	Tons.	Tons.	Tons.
U.K.—Sing. ...	220	340	*nil*	100
„ Penang ...	70 } 290	*nil* } 340	30 } 30	20 } 120
Continent ..	60	100	440	360
United States ..	*nil*	225	*nil*	250
Total ..	350	665	470	730

WHITE is steady 100 tons have been sold, viz., fair Singapore on the spot at 8⅝d to 8 11/16d. September-November at 8 13/16d. October-December at 8⅞d. November-January at 8 15/16d, and January-March at 9d; Penang on the spot at 8 5/16d. August-October shipment at 8 7/16d, and October-December at 8⅝d per lb.

At public sale on the 30th ultimo only 52 bags Singapore were offered and these passed the hammer unsold.

The shipments of White Pepper for the month of August compare as follows:—

	1st-half.		2nd-half.	
	1899.	1898.	1899.	1898.
	Tons.	Tons.	Tons.	Tons.
U.K.—Sing. ...	140	300	50	150
„ Penang ..	60 } 200	70 } 370	*nil* } 50	110 } 260
Continent ..	40	50	140	40
Total ..	240	420	190	300

GINGER.

COCHIN.—One of those spasmodic, unexpected and unaccountable movements to which this article is prone took place on Wednesday subsequent to the auctions Under the hammer there had been rather better prices paid for cut kinds but no indication of improvement either in price or demand was noticeable in rough sorts within an hour, however, of the closing of the public sales a sharp demand sprang up for the latter, and very quickly 1,000 bags changed hands at 22s to 23s for medium and small washed rough and 22s 6d to 23s per cwt. for medium and small with a little bold Calicut rough, thus showing a rise of 1s per cwt. Catalogues embraced 64 cases 709 bags of which 23 cases 185 bags sold—medium and small roughly cut and scraped, partly limed 50s, small ditto partly mouldy, 26s, good plump medium and small part bold rough slightly mouldy 26s, good medium and small 22s, mouldy and partly lean ditto 19s, and dusty cuttings 15s 6d. Since the close on Wednesday a further 500 bags sold, chiefly small Calicut rough at 19s 6d to 20s per cwt.

INDIA RUBBER.

The market was active, with sales of hard fine at 4s 3½d to 4s 3d but some forward sales reported at 4s 2¾d. Soft has been more freely offered, as the bear sales are covered, and business from 4s 2d down to 4s 1d for spot and forward. Sales of scrappy negro-heads at 3s 2d to 3s 2½d.

In auction there was a quiet tone, but good qualities sold well.

CARDAMOMS.

Moderate supplies continue to be offered at each succeeding sale though on this occasion only a few cases of tip-top quality were offered, the bulk being medium Ceylon-Mysores, which sold with a fair amount of competition at irregular to 2d. per lb. easier rates. The following prices were paid:—Ceylon-Mysores (fine bold pale 3s 5d. refused), good bold pale long, 3s. to 3s 1d., (dull) 3s. 1d.; dull bold bleached, 2s. 8d. to 3s.; medium to bold ditto, 2s. 6d. to 2s. 7d.; medium long pale, 2s. 4d. to 2s 9d; good small pale long, 2s. 6d.; small leanish pale, 1s 11d to 2s.; very small, 1s. 7d. to 1s. 8d.; splits and pickings, 1s. 8d. to 1s. 9d.; brown specky, 1s to 1s 6d.; good brown seeds dearer, at 2s. 3d. to 2s. 5d. Ceylon-Malabars did not sell.

The Ceylon exports for the week ending August 8 were 3,764 lbs., and from January 1 to August 8 they were:—

	1899	1898	1897	1896
Lbs.	304,331	311,847	326,210	200,149

CINCHONA.

The Amsterdam correspondent of the *Chemist & Druggist*, following up his cablegram in our last issue, states that the auctions of Java cinchona-bark passed off with a good demand, although the decline established was much greater than anticipated, being about 20 per cent. The richest lot of bark offered at the sales was a parcel of 17 bales Ledgeriana stem bark, analysing 10·1 per cent, of sulphate of quinine, which realised 66¼c. per half-kilo.

The exports from Ceylon for the week ending August 8 were *nil*, and from January 1 to August 8 they were:—

	1899	1898	1897	1896
Lbs. ...	474,233	644,856	431,474	796,355

In auction to-day only 20 serons were offered, consisting mostly of thin bright *Huanoco* quill, for which 6d. to 7½d. was paid. A few bales of dark thin *Loxa* quill sold cheaply at 11d.

QUININE.

Lower, as anticipated. The German manufacturers reduced their official quotation by 2d. per oz., to 1s. 2d. for 1,000 oz. lots immediately the result of the Amsterdam bark-sales was known. This reduction, although previously arranged, was not made public until after 'Change hour on August 24. Messrs. Howards have also reduced their quotation to 1s 4d. per oz. in 100-oz. lots,

and 1s. 5d. in vials in 1.000-oz. lots. Quinine salts have also been proportionally reduced. The second-hand market has had a further relapse, sellers meeting the decline with a reduction of 1d. per oz., the spot quotation at the close of last week being 1s. 0¾d per oz., with a moderate business on this basis. This week opened with a very dull feeling, with sellers at 1s. 0½d. to 1s. 0¾d. spot, according to holder; but on Wednesday there were sellers at 1s. 0⅝d and 5,000 oz. were reported sold at this figure. For forward delivery a moderate business has been done, including December delivery at 1s 1¼d.; and October at 1s. 0⅝d. per oz.

CINNAMON.

The result of the quarterly Cinnamon sales held last Monday has hardly come up to the sanguine anticipations entertained of them in the trade generally, (says the *Commercial Record*) yet there is little room for complaint after all, for an advance over last sales' price has been established, and that above everything has been aimed at and wished for by all holders of spot stuff. It has made a good impression outside the trade to see small sales and an advance, and the effect produced in the Colombo Bazaar—for a short time—was all that could be expected. In reality, however, prices paid in the sales have shewn no material advance over those realised privately for some time past, and it would amount to self-deceit were we to persuade ourselves that the advance established on Monday was the beginning of a new sphere of higher values and better trade in Cinnamon. The mere fact of the home trade having remained absolutely indifferent to the smallness of the supplies exposed for sale shows that no scarcity of available Cinnamon really exists, although the official returns of stocks in public warehouses would lead us to believe the contrary. On 26th August the visible stocks in London amounted to—

1899	2,720	Bales
1898	4,068	„
1897	2,869	„
1896	2,371	„
1895	2,292	„

The Imports from 31st December to 26th August show the following figures:—

1899	2,842	Bales
1898	4,070	„
1897	5,666	„
1896	3,908	„
1895	3,201	„

Whereas the deliveries from 31st December until the 26th August are returned as follows:—

1899	5,572	Bales
1898	3,921	„
1897	5,030	„
1896	6,576	„
1895	4,494	„

The Exports from Ceylon to all parts of the world from 1st January to 8th August total:—

1899	10,183	Bales
1898	12,741	„
1897	13,257	„
1896	11,257	„

These figures certainly speak favourably of the statistical position of Cinnamon, but what we require for a lasting rise is not so much a favourable bull statistic, but a healthy consumptive demand, and that at the moment is greatly wanted, as clearly proved by the result of last Monday's sales. Of a small total of 871 bales 749 found buyers at an advance of 1d to 2½d per lb. for fine quality, about ¾d for good, and ½d for ordinary—a result which must have been disappointing to holders, considering the great belief they had in the future of the market. Since the sales a quiet tone has set in and little business has transpired. Ceylon, after the first impression, has cooled down, and orders for usual assortments on basis of 9¼d c.i.f. London are solicited. The situation of the article would quickly undergo a radical change could the home trade be persuaded to purchase; then the statistical position would prove of the greatest importance, and a high range of values would immediately ensue.

PROGRESS STATISTICS.

The following official statistics are supplementary to our Leading Article (in issue of 2nd September 1899) on the subject of "Tea, Coffee and Cinchona."

I.—PROGRESS OF TEA CULTIVATION IN INDIA FROM 1885 TO 1897.

	Burma.	Assam. Brahmaputra Valley.	Assam. Cachar and Sylhet.	Assam. Total in Assam.	Bengal.	North-Western Provinces.	Panjab.	Madras.	Travancore and Cochin.	Total.	
Number of acres under Tea—											
1885	163	108,017	89,493	197,510	63,489	8,493	7,900	5,186	1,184	283,925	1885
1886	15	113,440	90,553	203,993	69,745	8,373	9,070	6,019	1,004	298,219	1886
1887	15	116,002	95,077	211,079	73,641	8,280	8,487	5,537	5,764	312,803	1887
1888	14	117,130	99,546	216,676	79,691	8,266	9,689	5,673	4,048	324,327	1888
1889	172	124,860	102,389	227,249	79,006	8,314	8,826	5,374	4,760	333,701	1889
1890	78	131,280	99,758	231,038	85,573	7,977	9,249	5,733	5,179	344,827	1890
1891	959	136,602	105,221	241,823	90,831	8,032	8,837	5,498	6,457	362,437	1891
1892	882	140,028	107,164	247,192	92,864	11,275	9,587	5,694	7,375	374,869	1892
1893	802	145,094	111,531	256,625	110,510	7,419	8,746	3,900	7,837	395,839	1893
1894	880	154,284	114,512	268,796	98,345	8,404	8,921	6,102	9,079	400,527	1894
1895	1,196	155,095	121,195	276,290	104,197	8,514	9,243	6,797	9,480	415,717	1895
1896	1,201	165,079	126,830	291,909	105,707	7,919	9,830	5,270	11,444	433,280	1896
1897	1,160	179,436	131,390	310,826	119,190	7,965	9,970	6,335	30,076	485,522	1897
Total production of Tea in lbs.—											
1885	18,295	32,625,619	20,996,578	53,622,197	14,049,681	1,520,109	1,376,732	882,350	56,613	71,525,977	1885
1886	3,016	37,459,415	24,260,263	61,719,678	16,538,395	1,644,296	1,523,753	932,235	44,439	82,425,812	1886
1887	2,526	39,179,119	29,272,061	68,451,180	19,103,512	1,569,771	1,658,516	975,613	490,964	92,252,082	1887
1888	1,660	42,625,516	29,052,424	72,677,982	22,101,974	1,646,053	1,815,438	1,001,729	547,768	99,792,544	1888
1889	12,250	45,542,727	31,373,101	76,915,828	25,089,423	1,770,723	1,795,931	884,916	573,804	107,042,875	1889
1890	5,710	48,147,401	33,971,851	82,119,252	25,004,389	1,274,829	1,792,128	1,032,004	808,094	112,036,406	1890
1891	51,313	50,646,374	39,752,988	90,399,362	27,423,063	1,748,314	1,831,393	1,072,978	1,341,479	123,867,902	1891
1892	108,031	49,065,564	35,155,829	84,221,133	30,302,869	2,519,700	1,689,976	1,116,240	2,036,325	121,994,274	1892
1893	217,100	51,802,216	39,417,688	94,219,904	31,250,898	1,961,031	1,673,802	829,303	2,095,862	132,247,900	1893
1894	129,536	56,536,135	38,292,624	94,829,059	31,950,367	1,968,688	2,010,716	1,427,424	2,397,254	134,713,044	1894
1895	282,633	56,733,295	42,879,759	99,613,054	34,831,616	2,293,107	1,993,493	654,658	3,739,266	143,407,827	1896
1896	302,286	61,391,757	48,335,572	109,727,359	36,651,538	1,774,003	2,146,933	642,374	5,181,561	156,426,054	1895
1897	275,653	59,081,571	48,184,761	107,266,332	38,950,615	2,042,941	2,302,318	398,436	2,545,913	153,782,208	1897

THE WORLD'S PRODUCTION OF COFFEE.

(COMPILED BY MESSRS. DURING & ZOON, ROTTERDAM.)

Countries.	1900 Estimate.	1899. Estimate.	1898.	1897	1896.	1895.
	Bags.	Bags.	Bags	Bags.	Bags.	Bags.
Central America, Columbia, Venezuela, and West Indies ...	3,250,000	3,120,000	3,552,000	3,282,400	3,034,000	3,107,900
	1899-1900.	1898-99.	1897-98.	1896-97.	1895-96.	1894-95.
Brazil – Rio	3,875 000	3.250,000	4,530.000	3,411,000	2,321,200	2,646,300
Santos	6,000,000	5,500,000	6,050,000	4,900,000	3,134,000	3,919,600
Victoria	450,000	350,000	450,000	308,000	303.000	252.000
Bahia	400,000	35 ,000	302,000	323.000	211,000	289,500
Ceylon, India, Africa, &c.	600,000	490,000	469,400	553,200	620,800	551.500
Java and Padang	1,368.000	549,000	2,391,500	2,213,000	2,105,500	2,517,000
Grand total, bags ..	15,943,000	13,609,000	17,744,900	14,990,600	11,729,500	13,283,800

Imports, Deliveries, and Stocks of Coffee from 1893 to 1898 inclusive.

	1898.	1897.	1896.	1895.	1894	1893.
(1) Eight Principal Markets of Europe—						
Imports...	9.426,800	9,181,900	7,374,300	7,340,000	6,494,000	6,932,000
Consumption	8,502,900	7,968 100	7,405.700	6,895,400	6,647,800	6,837,700
Stocks on December 31	3,816,500	2,892,600	1,678,700	1,210,200	1,175,600	1,329,400
(2) Six Principal Markets in the United States—						
Imports...	5,822,900	5,817,900	4,585,900	4,588.900	4,465,100	4,055,000
Consumption	5,722.900	5.408.900	4,454.000	4,435,000	4,400,000	4,218.000
Stocks on December 31	918,000	918,000	508,000	475,000	32 ,000	256.000
(3) Grand Total for Europe and United States—						
Imports	15,249,700	14,999,800	11,950,200	11,928,900	10,959,100	10,987,900
Consumption	14,325,800	13,377,900	11,859,700	11,330,400	11,047,800	11,055,700
Stocks on December 31	4,734,500	3,810,600	2,186,700	2,185,200	1,495,600	1,585.400

(AVERAGE FOR ALL INDIA 8·67d.) September 1st.

GARDEN.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust, and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price.
Neilgherry	303	6·27												
Culloocoray ...	20	6	—	—	20	6	—	—	—	—	—	—	—	—
Curzon	61 p	6¼	—	—	18	†5¾	16½c	6¼	—	—	27½c	7	—	—
Glenmorgan ...	45	5¾	4	6¾	24	6	—		15	5½	—	—	2	5¼
Kodanaad ...	177 p	6½	—	—	90½c	†6¼†6½	33½c	†7½	54	6½	—	—	—	—
Travancore	337	6·18												
Arnakal ...	127 p	6¼	—	—	49	6	49	6¾	7	6	4	5½	18½c	5¼5¾
Glenmary ..	95	6½	70	†6 8¼	21	5½	—	—	—	—	—	—	4	7
Isfield T C Isfield ...	115 p	5¾	—	—	44	5½	22	†6	16	5¼	—	—	33½c	5¼6¼
Wynaad														
Perrindotty ...	100 p	6	37½	6¼7¼	39½c	6	—	—	24	5¼	—	—	—	—

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[w. 1-10-98—t.f.o.]

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

VOL. IV.] MADRAS, SATURDAY, SEPTEMBER 30, 1899. [No. 39.

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N.B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 6th Proximo. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, *27th Sept.—Weather.*—No rain during last week, except a light shower yestereve towards Pollibetta. *Plant-diseases.*—The bright weather has given a decided check to leaf-disease, that is, it has stopped its spreading. It has been very bad beyond Siddapur, due to the dull mizzly weather which prevailed previously. *Interesting item.*—Meeting held last Monday, to arrange Annual Rifle Meeting towards close of the month.

MR. R. H. ELLIOT ON COFFEE.

In our last issue we made brief allusion to advice to coffee-planters given by Mr. R. H. Elliot. Were we to take up his letter for purposes of hostile criticism, we might easily point to seeming contradictions in it; but we prefer to summarise what he says and deal with it in less critical fashion. It is impossible not to sympathise with Mr. Elliot's general comparison of farming in Great Britain with planting in Southern India. As he points out, the difficulties experienced by the agriculture of the one are in many respects similar to those that are now being faced by the planting industry of the other. Both have to contend with increased and increasing foreign competition. "Both have to deal with the exhaustion of the soil owing to the steady decline in its, strictly speaking, chemical composition. Both, owing to exhaustion of the vegetable matter originally in the soil, have to deal with the still more serious conditions which at once impair

its fertility, and, by making the soil an inferior home or nidus for the plants, cause them to be much more liable to disease and to the attacks of insects." It is fair also to assume that, where there are depreciated soil conditions, agriculturists are now "much more at the mercy of vicissitudes of the season. Putting aside the Currency question—though the whole of Mr. ELLIOT's arguments are pervaded by a belief that the currency policy of the Government in India has seriously aggravated the difficulties to which he alludes—we agree with him that, when once these difficulties are realised and, so to speak, identified, they must be faced promptly and vigorously. British agriculture suffered largely from a pursuance of the policy of Micawberism. This at least is a danger that planters in India should try to avoid.

Mr. ELLIOT suggests sundry means of doing this. His view is that, in the first place, very poor lands should be wholly abandoned, because there cannot be even a probability of their being ever again profitably cultivated. The remaining lands he would divide into first, second, and third class. Here, he says, the safest and most profitable cultivation obviously lies with the first, and such lands should be even more highly cultivated than they are now. The second and third should, in proportion, have inferior degrees of cultivation—"just, in a word, that kind of maintenance which was the general system forty years ago in Mysore." Such second and-third class lands should be allowed to bear what they can, with the aid of whatever expenditure is sufficient to keep the coffee in a healthy condition. Hereafter, should times mend, the second and third class lands may again be highly cultivated thus. Mr. ELLIOT would appear to say, first cultivate your best land as much as possible; then, if you like, use some of the profits from this to improve your inferior land. This, he asserts, is the system which, after vain attempts to struggle on with old methods, has been ultimately forced on agriculturists in Great Britain, inferior lands having been largely thrown out of cultivation, or cultivated on a cheaper system, and attention concentrated on the best lands. At first sight, it appears a false doctrine. Many men would naturally lean to the belief that really good land needs no very high cultivation (that is, as regards expensive manuring) and that high cultivation should be mainly utilised for the improvement of soil that is obviously deficient in productive powers. Further thought will convince them, however, that there is a great deal to be said in favour of the plan referred to above. As regards the reduction of wages—Mr. ELLIOT's second suggestion—most planters will probably wish it were possible; but when Mr. ELLIOT argues that wages rose as the planter prospered and should fall with his falling profits, we scarcely think he takes a sufficiently wide view. The question to be settled is whether wages *generally* have risen; if so, it stands to reason that wages on estates must stand at a higher level than formerly, or labour will be attracted elsewhere. When, too, he declares that "it must be seen that those who are employed give more work for their (reduced) pay than they do at present," he lays himself open to the charge that he wants more than a fair day's work for a fair day's wage. Moreover, abstract economic principles apart, we have to remember what class of labour is available; and, remembering this, we say it is idle to expect increased work from estate labourers at reduced wages. If anyone can prove, on an extensive scale, that our assertion is erroneous, he will have a right to be regarded as a benefactor of his species. Mr. ELLIOT proceeds on the assumption that "the reduction of highly-cultivated area, will, of course, reducing the demand for labourers, give us a complete command over them; and, at the same time, by reducing production, tend to raise prices." We fear he is doubly wrong here, for he has not shown that wages in India hinge on the prosperity of the planting industries (tea, coffee, cinchona, &c.,) nor has he shown that prices of coffee, or even of high-class coffee, turn upon the quantity of the East Indian description put upon the market year by year.

We are at one with him in all he writes about the advisability of maintaining the high quality of Indian Coffee; but it is beyond question that, if coffee is grown on second and third-class land without high cultivation, there will be a large supply of inferior quality, which will tend to depreciate the reputation of Indian coffee generally. Mr. ELLIOT himself remarks that, after examination of the prices obtained by a friend who cultivates on a large scale in Mysore, and whose coffee was of the most desirable character, he found that, though this planter obtained high prices for the first lot, the second lot of the same fine quality and colour, fell largely in price, and the average price was much reduced by the low prices obtained for the No. 3 and triage. Mr. ELLIOT adds:—"But such high prices were only obtainable because fine Coloury Mysore was so scarce, and my friend has been warned by his brokers that, if the coffee now on the trees should all turn out to be good, it is certain that no such prices could be obtained by him next year." This might easily be utilised as an argument against devotion to the improvement (or, shall we say, maintenance?) of quality, especially when read in conjunction with the further remark that planters, even if they produce the very finest coffee, have reason to expect a further fall in price: while, if their produce is at all inferior, they are sure of ruinously low prices. The most curious feature of Mr. ELLIOT's suggestions or recommendations is that they stop short at production, while admitting that foreign producers are not likely to reduce their production. Not a word is said as to the *cultivation of demand*, a course that has been so successfully tried with regard to tea. This materially detracts from the value of his advice, and when we read that "our fine East India coffees do not come much into competition with the coarse produce of Brazil, but with that of Costa Rica, and other silver-using countries which are not taking any steps to raise Exchange," we cannot but feel that Mr. ELLIOT has still much to learn about a subject to which he has evidently devoted considerable attention. If Brazilian coffee does not "come into competition with" India, it at least affects the price, and any review of the situation that loses sight of this fact must of necessity be fallacious.

THE CONSUMPTION OF COFFEE.

A Parliamentary paper lately issued gives an account of coffee production in Brazil, and the consumption of the beverage in the United States, the information being compiled in the form of a Consular Report, from an account published in the *Jornal do Commercio* of Rio de Janeiro. It is stated that coffee is very popular in America, being used by something like 70 per cent. of the community. Great Britain, on the other hand, is a very small consumer, using only about 0·70 lb. per head. The consumption of coffee is increasing constantly and rapidly all over the world, but the increase in production in 1898 was in much greater proportion than the increase in consumption. The best coffee of commerce is

declared to be "Mocha," grown in Yemen and other parts of Arabia. Part of that produced in the East Indies is, however, sent to Mocha and thence re-shipped as genuine coffee of the district. Some Venezuelan varieties much resemble "Mocha," and are doubtless frequently sold as such. Some of the best Brazilian and West Indian coffees are also sold under the name of "Mocha." The second in value is Java coffee. Coffee improves with age both in taste and aroma, and, if kept in a prefectly dry atmosphere, it is supposed to reach perfection in the eighth year. As it ages, it loses weight by evaporation; consequently, as it is sold by weight, holders are anxious to sell it with the least possible delay. The total quantity of coffee imported into the United States during the year ended June 30, 1898, was 870,514,455 lbs., valued at 65,067,631 dols. (£13,013,526); the average cost thus being almost 7½c. per lb. Of this total, 18,823,371 lbs., representing a value of 2,393,450 dols. (£478,690), passed through the United States in transit for other countries. The quantity imported for consumption, therefore, was 851,691,084 lbs., which was valued at 62,674,181 dols. (£12,534,836) or, say, 7·36c. per lb. Taking the population at the figures given by the Treasury Department, the quantity of coffee imported by the United States corresponds to a proportion of 1,144 lbs., costing 84.2c. per individual. Although imports of coffee during 1898, as compared with 1897, showed an increase in quantity of 132,868,875 lbs., there was a decrease in value to the amount of 16,476,753 dols., which signifies that the average price, which was 11.1c. in 1897, fell to 7.48c. in 1898. The history of coffee exportation from Brazil begins with the year 1817, when rather less than 64,000 bags were shipped. In 1898 nearly 3,500,000 bags were exported from Rio de Janeiro. It is calculated that, during the year 1899, the production of coffee throughout the world will amount to 1,638,120,000 lbs., and that it may attain to 1,796,256,000 lbs. in 1900.

CINCHONA CULTIVATION IN JAVA.

When, some time ago, we commented on the deputation of Mr. Standen, Director of the Madras Government Cinchona Plantations, to Java to conduct special investigations, we were under the impression that his chief duty would be to study the system of quinine-manufacture in vogue in that island. We are glad to find that this was not the case, and that Mr. Standen's time has been devoted to really useful purpose. In publishing his report *in extenso*, we mark our sense of its value. It deals with the cultivation of cinchona and may, we presume, be relied upon as an authoritative account of the system followed. Giving also information on other points connected with cinchona and quinine, it is unquestionally a most useful paper. If intended for planters specially, it is particularly well designed, in that it states facts at some length, and draws only brief conclusions from them. With the facts before them, planters can draw their own conclusions; and even Government may find it better to rely upon Mr. Standen to apply what he has learnt *practically*, than to indulge in lengthy theorising on the subjects before him. There appears to be an idea in some quarters that cinchona needs great humidity of soil or climate. Mr. Standen's report would seem to show that this is not the case in Java, for, though the rainfall there is fairly heavy, analysis of soil shows only 2·14 per cent. of water, and 18·91 of organic matter and combined water, against 4·14 and 50·71, respectively, in the case of Dodabetta forest soil. The "fine physical condition" of the Java soil must, as Mr. Standen points out, have much to do with its fertility; and what he says lends point to certain remarks of Dr. Lehmann at the last Annual Meeting of the U. P. A. S. I. to the effect that climate, the mechanical condition of the soil, and the peculiarities of the plants to be grown upon it are as important factors in the determination of the productiveness of a soil as its composition, so that chemical analysis cannot tell us everything. Mr. Standen's remarks on terracing, grafting, the payment of grafting-coolies by results, and the comparative results of propagation by cuttings, grafts and seedlings deserve the special study of cinchona planters in this country. His report should prove of very great value to the officials in charge of the Government Cinchona plantations and to planters.

U. P. A. S. I. SECTION.

(UNDER THE CONTROL OF THE SECRETARY, U. P. A. S. I.)

The Indian Tea Association (Calcutta) gives the following particulars with respect to the present season's crop of Indian tea, *viz.* :—

—	Manufactured to 15th August 1899.	Balance to be made, season 1899.	Total.
	lbs.	lbs.	lbs.
Assam	30,108,604	33,395,276	63,503,880
Cachar	12,213,566	10,090,041	22,303,607
Sylhet	13,959,474	15,844,977	29,804,451
Darjeeling	4,628,301	3,050,543	7,678,844
Terai	1,404,870	907,890	2,312,760
Dooars	11,721,512	12,229,996	23,951,508
Chota Nagpore ..	96,136	83,664	179,800
Chittagong	411,575	516,425	928,000
	74,544,038	76,118,812	150,662,850

To this total of ... ... 150,662,850 lbs.
must be added :—

1. Kangra Valley (Estimate) ... 2,100,000 „
2. Dehra Dun and Kumaon (Estimate) ... 2,000,000 „
3. Gardens from which no returns have been received, including private and native gardens (Estimate) ... ... 9,000,000 „

Total ... 163,762,850 lbs.

Shipments to America, the Colonies, and other Ports are estimated at 23,000,000 lbs., and local consumption at 5,000,000 lbs. There will, therefore, remain about 135,000,000 lbs. for export to Great Britain.

FEEDING THE MARKET.

Referring to the proposal to regulate the supplies of Tea in the London Market, the *Indian Planters' Gazette* makes some sensible remarks. Our contemporary points out that the provision of regular supplies involves a lock-up of money, that would be possible in the case of large and wealthy companies, but not in the case of individual planters without reserve capital. To be successful, any scheme of the kind must be on a large scale, for it must embrace practically all estates, and many of them would require financial assistance if asked to hold stocks back from time to time. Unless

practically all joined in, the "outsiders" would stultify the whole plan of action. In order to include all, a monopoly would have to be created, and the *I. P. G.* estimates the requisite capital at £3,000,000. It by no means follows, of course, that this amount of share capital would be required, for with, say, £500,000 actual capital, a strong company could easily raise the rest, at low interest, on debentures or on the security of tea in godown or warehouse. Nevertheless, our contemporary does good service in pointing out that feeding the market with regular supplies is a matter that must be taken in hand on a very large scale, if at all. To play with it would be disastrous. If, in addition to the regulation of supplies, the scheme under consideration is to be one aiming at the abolition of the middleman, and the cultivation of more direct relations between producer and consumer, the necessity for work on a large scale becomes all the more pressing. For our own part, we do not think planters would find it profitable to make war against grocers in what may be termed the latter's own country. The retail tradesmen of Great Britain are a ready-made, organized distributing agency. It is unnecessary and undesirable to quarrel or compete with them so long as fair terms can be made with them. If, as producers think, distributors' profits are unfair, what should be aimed at is to reduce them until they reach a fair level. The work of distribution must be undertaken by someone.

TEA FROM SEED TO CUP IN SOUTHERN INDIA.

(BY THOMAS BROWN, GLENDALE, COONOOR.)

XV.

Construction of Racks.—The following are details of material required :—

128	Jungle uprights each	10′ × 4 ″ × 3 ″
1,728	Benteak reepers each	7′ × 2 ″ × 1¼″
14,760	Bamboo reepers each	13′ × 1½″ × ¼″

Detail cost will be as follows :—

128	Uprights @ 8 annas	..	64	0 0
1,728	Reepers @ 20 „	..	345	9 0
14,760	Bamboo @ 5 „	..	738	0 0
	Blackwood for pulleys, nails, &c., &c.	..	246	7 0
		Rs.	1,394	0 0

A considerable saving may be effected by getting cheaper bamboo reepers on the estate or from some place near by. The bamboo reepers are nailed on very close (5 to a foot) to prevent any possibility of the cloth falling between and making the drag great. The Jute Hessian is fastened to two pieces of bamboo (the full width of the cloth) by being stitched on thereto by means of holes drilled through the bamboo. These pieces are fastened on to two floats. A string drawn over a pulley at one end moves the cloth over the tray, the leaf being laid on at the other end, by the aid of a 3-feet section of moveable tray, as the cloth travels forward. This moveable section we call a charging and discharging attachment. The material required for its construction is not included in the details given, a few pieces of bamboo reeper and benteak scantling being all that is needed. Studs of wood nailed on to the uprights, where two racks face each other, provide a rest for the attachment.

Pulleys required should be 3 inches in diameter of blackwood. Ferrules of hoop-iron should be fitted in. The axles are made of thick wire nails or of iron wire of a quarter in thickness.

Cost of Carpentering has been put at a full figure, and for mortising the whole way through. Simple nailing will answer, and the cost be thus reduced a few hundr rupees. The pulleys are turned by the carpenters withi the cost provided, as also the floats and fixtures for the clot

Weevils are apt to attack bamboos, and it is a question nut reepers, which can be obtained at the same cost almost, a not better. We have not ourselves tried them, and canno therefore say how they will answer, but think (if pains a taken to sand-paper them before fixing) that they will answ very well. All knots and rough edges in bamboo reepe should be carefully planed and rasped off. Carpenters a sure to neglect to do this, if not warned. A single length o at the most, two lengths of rope only are needed, being mad detachable. A few lengths are quite enough to look after more will play the vanishing trick so well understood by th cooly.

A Plan of the Racks showing a section will be found a the end of this work. We have seen a few other forms o rack in Ceylon, and read of a few more, but know of nothing to touch this for simplicity, economy and efficiency. Wha part the new

Tea Leaf Withering Machine is to play in modern fac tories has yet to be seen. If the machine gives good results great economy of space will be the result. The cost will b about Rs.4,500 to 5,000. Power will be required to work it Danger of leaf-heating will have to be incurred ; so that, o the whole, the old system of natural withering will probabl be found to be the best. The cost of the racks, we are consi dering, does not exceed that of a machine said to turn ou the same amount of work. There will be a saving in build ing cost, however. We may here remark that it may be found sufficient to arrange for only one half the withering space provided for a start, and, as the produce increases and it is found necessary to have more space, then the other hal can be got ready. So much will depend upon the produce per acre of the garden, which again depends upon soil, elevation, rainfall, etc. Care must be taken to see that holes are drilled in all bamboos. If this is not done, the bamboo will split-up. Carpenters are very ready at driving in the nails anyhow to rush through the work and so double their earnings.

Jute Hessian, of excellent quality, can now be had at Rs.16 per 100 yards from several firms. It is best to buy it as wanted. The quantity of leaf at the start is sure to be small.

ERRATUM.

In paper No. XI.

For	2,589	sq. ft.	*read*	3,589
	2,589	„	„	3,589
	5,178	„	„	7,178
Rs.	10,356		*read*	16,000 (outside measure-
Total cost	29,388		„	35,032 ment).

NOTES.

The Calcutta Tea Sales. The average of the sales of 15th instant was only 5 annas 11 pies, a falling-off of 2 pies per lb.

Bye-products. The *I. P. G.* remarks :—Planters willing to dabble in adjuncts to tea should note that Assam hemp seed is quoted in the Calcutta market at Rs.5 per maund, Allahabad and Benares realising but Rs.2-10, while even Beluchi obtains only Rs.3.

A Rubber-separating Machine. Messrs. Thos. Christy & Co. have put on the market a machine designed to serve for facilitating the washing and coagulation of the latex from rubber-producing plants. The apparatus is called the "Beta" rubber machine.

The Dreyfus Boycott. On 16th instant the Kalutara Planters' Association, Ceylon, unanimously adopted a resolution :—"That, in view of the 'Dreyfus Scandal,' estates in this district should refuse to send exhibits to the Paris Exhibition, until the miscarriage of justice is redressed."

The Paris Exhibition. Dreyfus has been released, and the pleasures of boycotting are not to be enjoyed by the planter, or the American. This is just as well, if there is to be any hope of the prophecy being fulfilled that Ceylon (*Thé de Ceylon*, to be precise) is "to be the great and refreshing drink of the future even in France."

Mr. Bamber's Pamphlet. The only fault the *Ceylon Observer* has to find with Mr. Kelway Bamber's scientific pamphlet in German is that "it is scarcely the style of thing to capture the German consumer." Apparently it is a booklet rather than a pamphlet, and our contemporary is of opinion that something briefer would have been more effective.

South Indian Planters in Council. The *Home and Colonial Mail* remarks :—The planters of Southern India seem animated with a spirit of enterprise. Those of them who grow coffee desire to know all about the latest and best machinery for curing the product, and it is a pity that they cannot find the necessary machinery here without looking to the United States for it.

Speculations in Ginger. A Home contemporary writes :—If the gloomy reports concerning the state of the Ginger crop should prove to be correct, a good future should be in store for the plucky holders of this spice, for a higher range of prices would be sure to ensue. In the face of a crop failure, the present spot values should involve no risk to purchasers, but should be an absolutely safe investment.

Tea and White Ants. One Ceylon planter advocates tar as a remedy when white ants attack tea-plants. Another says "save the cost of the tar, and plant something else." If, however, it is true, as he says, that "jungle-tree roots are disappearing rapidly—especially in the low-country—and when this source of food is exhausted the white ant will accommodate itself to what is on the spot," it is not easy to think *what* should be planted instead of tea.

The London Tea Market. Cabling on 21st instant, Messrs. Gow, Wilson and Stanton reported that the London Tea market showed a fractional advance, and that teas for price were dearer. Fair liquoring, Ceylon Pekoe Souchong 6¾d., average of Ceylon teas for the week 8⅛d (both ½d. up). Reuter states that out of 27,000 packages Ceylon tea offered, 26,000 were sold, and 45,000 out of 49,000 Indian. The average of Indian Tea was 8¾d. (⅜d. down).

Carica Papaya. The Curator of the Government Botanic Gardens and Parks, Nilgiris, reports the successful raising of a number of plants from seed of the South Sea Island Papaya (*Carica papaya*) and observes:—"As soon as it becomes established, it is hoped that it will prove to be a desirable addition to the list of tropical fruits grown on the lower slopes of the Nilgiris to meet the demands in the local markets." The fruit of this tree at Bangalore is much larger than that usually seen on the ordinary Papaya.

Colombo Tea Sales. At the public sales of tea at Colombo on 20th instant about 11,236 pkgs. = 903,926 lbs. were offered, of which about 10,719 pkgs. = 864,712 lbs. were sold. Prices at the sale were again very firm with a hardening tendency. Competition throughout the sale was very keen for all grades. Among the best teas in the sale were, says the *Times of Ceylon*, Monkswood, High Forest, Abbotsleigh, Naseby, St. John's, Agra Ouvah, Glasgow, Mt. Vernon, and Blinkbonnie.

Manuring Experiment at Burdwan. In the Annual Report of the Burdwan Experimental Farm for 1898-99, it is recorded that green manuring with ploughed in jute has generally given the heaviest yield of paddy ; but that cowdung has given the largest outturn of straw. The superior manurial value of cowdung over other manures for *jute* has been established, while castor-cake has given the best results with *potatoes*. It is interesting to note this as showing the need for special experiment with respect to each particular article of produce to be cultivated.

Calcutta Tea Sales. At the Calcutta tea sales of 22nd ultimo, 22,894 packages were sold. There was a strong demand for all descriptions, and prices generally were higher. Pekoe souchongs and net leaf pekoes were fully three pies dearer ; and all leaf teas showed fully half an anna advance on last week's prices. Dehing broken orange pekoe realized one rupee six pies a pound ; Darjeeling teas, which have been somewhat neglected lately, were wanted, and sold at a smart advance on previous rates. No fear is now felt of an excessive crop.

Colombo *v.* London. The *Times of Ceylon* reports that the local market is still ahead of London prices, and regards this as showing that the demand continues to exceed the supply. Our contemporary adds :—The owner of an estate at a high elevation, producing tea much above the average, who last year changed from London to Colombo, tells us that he has had no reason to regret the step ; and we are convinced there are sterling companies which could do much better for their shareholders if they were free from London obligations, which stand in the way of their best interests being studied.

Ceylon Tea Planters' Retailing Company.

"Cosmopolite" writes (apparently from England) to the *Ceylon Observer*:—This new Company, which has just been formed, has intimated, through its prospectus, a determination to stick at nothing, and the numerous lines of business that the directors purpose carrying on surely beats the record. From groceries to tea-box manufacturing, and from hotel-keeping to timber-growing are wide margins indeed, and, if the shareholders would but add the exportation of elephants and the importation of lever watches to their other undertakings, there would scarcely be anything left for one to desire.

The Transport of Tea Seed.

There is a demand for tea seed in British Central Africa, Russia and other distant parts of the world; but the difficulty is how to transport it, so that it may reach its destination uninjured, and germinate. There is, says the *I. P. G.*, only one method, and that is to pack it in boxes in damp clay, which must never be allowed to become dry, but be kept continually moist by a special attendant looking after the cases. Charcoal is the medium generally used for packing; but this is decidedly objectionable as, apart from its dirtiness, it absorbs the moisture from the seeds, and in many cases so thoroughly, that all germinating power is lost by the time the packages arrive at their destination.

Madras Pepper in Bengal.

A Calcutta contemporary notes that, with the exception of the year 1897-98, there has been a steady fall in the importation of this spice from foreign ports to Calcutta for the last six years; but that, during the same period, there has been an equally steady advance in importations from Coast ports, the Madras Presidency being the chief source of the total supplies of pepper to Bengal. Although there has been a fall of no less than 54·8 per cent. in foreign importations in 1898-99, as compared with 1897-98, the total imports from foreign and Indian ports show a fall of only 13·4 per cent., which may be accounted for by heavy importations in 1897-98.

Nothing succeeds like Success.

Canadian advertising runs American very close; if, indeed, it does not surpass it. Here is a good specimen, giving the "Salada" Tea Co. a push on the lines of "nothing succeeds like success." The *Canadian Grocer* publishes a letter from the Harris Lithographing Co., of Toronto:—"Believing you to be interested in any item of news, particularly progressive business, we give the following which refers to 'Salada' Ceylon tea:—We have just received an order for 3,500,000 labels, and 3,000,000 cardboard ends for the 'Salada' tea packages. This, we, believe to be the largest order ever placed in Canada, at any one time, by any firm, either in, or out of, the tea business."

The Marking of Tea Chests.

The Commander of the *Clan Macdonald* states that a shipper of tea on board his ship has introduced a plan of marking one side of the tea chests with the word "Top." Captain Harrison remarks:—"It is not necessary to remind shippers that, however carefully tea chests are handled and stowed, there will always be a certain percentage of them more or less broken. This breakage would be very much reduced if all shippers of tea were to adopt Messrs. Freudenberg's system of marking that side of the case which should be stowed up with the word "Top," in large legible letters. The case has two sides which rest on the ends of the case, these sides are not morticed. One of these should be stowed uppermost, as the case will then stand much more pressure and bumping about on than in any other position.

Pepper in South India.

"Aliquis," writing to the *Madras Mail*, states that half an Imperial bushel of dried pepper from each vine was picked from some 100 vines grown under favourable conditions, *viz.*, on the roadside, where they were exposed to the sun and light. Vines growing in the middle of the coffee under heavy shade yielded much less. He adds:—"To make the vines yield paying crops, say, from 10 to 15 cwts. an acre, I am of opinion that they should be grown alone, 10 or 12 feet apart on standards not higher than 10 feet, pruned carefully and manured regularly. Of course, there is the risk of partial or complete failures in some years through unseasonable rains—the same as coffee—but in view of the high prices ruling for the spice, it seems advisable to test the capabilities of the vine by cultivating it separately ('alone'), and paying more attention to it than has been done hitherto."

Advances to Coolies.

Apropos of the New Labour Bill now on the anvil, we call attention to the following remarks in Mr. Standen's report on Cinchona cultivation in Java:—"The system of making advances to coolies was formerly in vogue; but the Dutch Government considered that the practice was being abused, and that coolies who had received large advances, which they could not liquidate for years, were practically in the position of slaves. A remedy was found in the non-recognition by the courts of advances made to coolies, and this at once led to the system being abandoned." We should think it did. Here, approaching the matter in the interest of the swindler's victim rather than the swindler himself, the Government has been led to advocate a very different system of procedure. All the same it would be a splendid thing for South Indian planters if cooly advances could be made a thing of the past.

The Remedy for Gray Blight.

The *Times of Ceylon* remarks:—"The following extract from a report of a Visiting Agent is valuable at the present time:—'One hears a good deal now-a-days of this blight question and all sorts of remedies are suggested but, in my opinion, *the* remedy is high cultivation. I have noticed on nearly every estate I have visited that manured tea, although attacked by the blight, does not suffer to nearly the same extent as shuck and unmanured fields.'" *Apropos* of this, we may say that our contemporary looks forward to a reduction of the cost of manuring by 50% as one result of the employment of Mr. Kelway Bamber and explains: "The saving is not entirely in the actual cost of the manure, but partly in the method of application which, Mr. Bamber is sure, can be modified with advantage, though this again has to vary with the slope and aspect of any manured area in question."

The Drought in S. India.

Reports about Pepper and Ginger in Southern India have not been very satisfactory of late, owing to the long drought, but as prices have been well kept up, cultivators are probably not greatly

alarmed. Buyers are, however. A Home paper writes :—The position of Pepper, indeed, is becoming more critical every day. Not only is the Tellicherry crop in danger, but the Lampong yield is reported seriously damaged by insects. This, on the top of steadily diminishing supplies of black Singapore lends exceptional strength to the position of black pepper and fairly threatens a squeeze in the near future. The markets here and in Havre appear to have realised the abnormal position, and speculators, although cautiously, are laying in stocks in view of the coming boom. An exceptionally large business has been done lately in black Tellicherry in our market at steadily rising prices, as much as 5½d. landed having been paid.

The Prevention of Coffee-stealing.

This week's *Fort St. George Gazette* contains the Madras Government's bill to amend the Coffee-Stealing Act, VIII. of 1878. The Bill embodies the recommendations of the Committee appointed in 1896 to enquire into the grievances of coffee-planters in the Madras Presidency, provides for rendering more efficacious the protective provisions of Section 5 of Act VIII. of 1878, by imposing on possessors of coffee-estates, who are sellers of coffee the duty of keeping registers of their transactions. It aims at protecting from theft by labourers on coffee-estates "parchment" and "cherry dried" coffee which, like "green gathered coffee," are not articles of retail sale, and can only rightfully be possessed by growers, carriers, curers or *bonâ-fide* dealers. The Bill also gives power to Government to provide forms of books and accounts, and to compel owners of estates to afford the information necessary for the inspection and examination of such books and accounts.

Tea in St. Petersburg.

A Consular report on St. Petersburg mentions that the importation of Ceylon tea, which in 1896 and 1897 stood respectively at 246,233 and 439,349 lbs., rose in 1898 to 2,714,003 lbs. in consequence of advertisements freely inserted by the Ceylon Tea Association in Russian journals, &c. In a Moscow Consular report it is stated that "The Ceylon tea trade has grown from the very small beginning of ten years ago to an enormous trade. At first the tea merchants would have nothing to say to anything but the pure Chinese article, but gradually they took to mixing Ceylon Tea with cheap Chinese and selling the mixture as Chinese, and now many of them sell the tea under its own name. The import for 1898 is given at over 10,000,000 lbs., of which 75 per cent. came to Russia *viâ* London, and the remaining 25 per cent. direct from Ceylon. Moscow is not only the centre of the vast tea trade of Russia, but also the great warehouse in which are collected the various imported and home-made goods destined for the Far East and Siberia."

Horticulture on the Nilgiris.

The report of the Curator of Government Gardens and Parks, Nilgiris, for 1898-99 contains much that is of interest to horticulturists and planters. Some portions relating to planting matters will be referred to in our columns, as the exigencies of space permit: the Horticultural Section will, no doubt, be fully discussed in *Indian Gardening*; and other papers, but we may just remark that special attention is called to (1) *Romneya coulteri* (Harv.), a beautiful papaveraceous plant, commonly known as the Californian Poppy, and (2) what has been termed, tentatively, the Chitral Aster. The former is described as having large white petals like crumpled tissue paper, and a mass of yellow stamens surrounding the ovary in the centre of the flower. A few plants are available for distribution; but "it is very impatient of removal." The Chitral Aster is "something like a good single aster," and the flowers of some of the plants "showed a tendency to become double, due no doubt to the cultivation the plants received." Young plants of the Mount Mlanje Cedar (*Widdringtonia whytei*, Rendle) are also available for distribution.

The Malarial Mosquito.

In consequence of the important discovery by Dr. Ronald Ross of the malarial mosquito, and the need of another scientist being immediately sent out to Sierra Leone, the Liverpool School of Tropical Diseases has selected Dr. Fielding Ould for this purpose. Dr. Fielding Ould, who has been much engaged in private research in connection with the Liverpool School of Pathology, has been specially trained by Professor Boyce, of the Liverpool University, in the study of tropical diseases. According to present arrangements, Dr. Fielding Ould was to leave Liverpool for Sierra Leone by the Elder Dempster steamer *Biafra* on Saturday, September 2. Writing in explanation of his recent telegram about the malarial mosquito, Major Ross states that at Wilberforce (Sierra Leone) he found the 3rd West India Regiment suffering severely from fever. All kinds of parasites were found in the patients, but the only form of mosquito plentiful there is a large species of *Anopheles*, which he dissected and found to contain malaria-germs growing in its tissues. Hence there is no longer any doubt that that kind of *Anopheles* carries malaria. The parasite is the quartan one, which has never been cultivated before.

What the British Revenue gains.

The following table shows the net duty from Tea, &c., cleared through the Customs of the United Kingdom since 1871 :—

Year ended Mar. 31.	Cocoa.	Chicory and Coffee.	Tea.
1891	105,014	245,510	3,412,258
1892	109,928	238,805	3,418,162
1893	106,834	234,822	3,399.375
1894	102,665	223.115	3.493,094
1895	119,296	228,098	3,587,632
1896 ...	124,723	224.153	3,746,195
1897	146.152	228,560	3,799.372
1898	189,693	224,332	3,868.207
1899	193.845	225,698	4,023,504

It will be observed that the steady increase in the amount of duty derived from tea in recent years was still continued in 1898-99. In that financial year tea yielded 155,297*l.* more duty than in the year preceding, the quantity paying duty being 241,410,000 lbs., against 232,092,000 lbs. the year before, or an increased consumption of 9,318,000 lbs. It is true that the amount of duty was swollen by a large cheque paid just at the end of the financial year by a single firm, on advertising thoughts intent; but after making allowance for this, the clearance of tea still showed an increase of about three million pounds. The advance in coffee is not remarkable, but, as the Commissioners of Inland Revenue remark, is "encouraging in relation to an article which once yielded a large revenue," but which lost in favour so much in 1893-94. Cocoa, on the other hand, shows still a very satisfactory degree of progress.

Mr. R. H. Elliot on Currency.

Writing to the *Morning Post* (London), Mr. R. H. Elliot summarises the consequential results of the currency policy of Government on the prosperity of India. These are, he says :—(1) That with an increasing population there is a diminishing demand for labour ; (2) that the decline so started will extend to other labour markets till all India droops to that starvation rate of wages which prevailed many years ago ; (3) that this will tell on the expansion of the revenues, and especially on those from land which were largely added to from labourers being able, from their savings, to embark as cultivators ; (4) that the cost of famines will be much increased, and (5) that India is naturally acquiring a bad name as a field for producers. Of the Currency Committee he writes :—I assert with confidence that the interests of the producers of India, and the best interests of the people of England, who have such an immense stake in our Eastern Empire, have been wilfully ignored. The points alluded to and others which I know to be of great importance I desired to bring before the notice of the Committee, and I sent in a printed summary of the subjects as to which I wished to be examined. But the Committee preferred not to hear me, though I was appointed to represent the interests of the planters in Southern India, and more especially those of Mysore, not a single witness from which important Province was called by the Committee, though there is no part of India which could have more effectively shown the vast evils of the Currency measure on the prosperity of the people of India. In conclusion, I may say that it is only fair to England and India that a Committee of a thoroughly representative kind—*i.e.*, composed partly of officials and partly of representatives of the producers of India—should take evidence in India on this most important subject.

The Brazilian Coffee Crop.

The Chamber of Commerce of Santos estimates the current crop at 5,750,000, whilst added to that for Rio, 3 to 3½ millions, makes a total of certainly not less than 9 to 9½ million bags for Rio and Santos, as against 8,746,000 for the late crop. The Santos report says :—Out of the total of 129 Municipalities, returns have been obtained from 114, for which the aggregate estimated crop amounts to 20,945,312 arrobas, which added to 729,240 the probable yield of the others from which no returns were obtained and allowing the same as last year, 1,325,448 arrobas for the coffee in transit from the State of Minas, makes up the grand total of the estimate for the current crop expected at Santos to 23,000,000 arrobas, equivalent to 5,750,000 bags. It is to be noted that several municipalities stated that no coffee is produced in their districts. In a report, dated 4th ultimo, the *Brazilian Review* says :—Lower and medium grades are rather plentiful and so are small bean and Bourbon coffees ; unfortunately there is no regular demand for these qualities, which are consequently neglected. The demand runs mostly on superior coffees and primes are also more sought after. Washed coffees are getting scarcer, which coincides with more demand from Europe for these really desirable goods. *Peaberries*, it is strange to say, still command a premium of about 15 % on flat coffees. It is quite incomprehensible why such preference is given in Europe to the round berries, whilst really desirable washed coffees are neglected. Qualities in general have not been so good as expected and there are evident signs of careless preparation. News from the interior report heavy rainfall ; it is doubtful, though, whether receipts will be affected by it, as much coffee is waiting for transportation at the stations and central mills. The expected flowering will soon make its appearance now, when the weather turns fine again.

The New System of Taring.

Mr. Fred. Hadden writes to the Colombo papers :—I notice in the "Circular to all Producers and Importers of Tea," circulated by the Secretaries of the Indian and Ceylon Associations in London, under the alterations in weights of tares, clause G, the following :—"If parcels are bulked in London separate tare must be taken of each package." If the new system of taring receives the consent of H. M. Customs, this would mean that those estates which hitherto have preferred to have their teas bulked in London, would be compelled to "Factory bulk," in order to save the extra cost, which, according to advice I have received from London, amounts to as much as 5 pence for chests, and 4 pence for half-chests, thus increasing warehouse charges 10 per cent and costing the estate extra about 5-8 per cent. on value of tea. This proposal of the Joint Committees of the Indian and Ceylon Associations in London appears to me most ill-advised as, even if the tea is "Factory bulked," with the extra charge for separate taring, the inducement to re-bulk will be greater, and so further minimise the slight advantage we have gained, by having the "weight below the half-pound entered as the pound below," and this, as far as I can see, is all we have to counter-balance the loss we are now suffering, from having had the tea market disorganised. Apparently the "pound draft" is—at any rate, in some cases—taken into consideration, as my London agents, writing about this estate's teas say :—"In sending samples across the Atlantic, we asked our agents, whether we should put on customs' weights, or with draft allowance. They replied : Do whatever you like, as long as it is clear, for every dealer takes the draft into consideration when he offers a price, and be sure that he is as well up in it as you can be yourselves." At the same time I realise that, as the bids at the public sales are in farthings, this "consideration" cannot be reckoned to a nicety.

LETTERS TO THE EDITOR.

TEA BLENDING.

SIR,—As a constant reader of the *Planting Opinion*, I observe you have experts in almost every branch of the tea industry contributing for the benefit and enlightenment of your less-experienced readers. I think it is admitted that a large proportion of Nilgiri-grown teas, especially those made in the old-fashioned way, are wanting in strength and body. It would therefore be a great boon to some of those who dispose of their produce in the country to see another expert coming forward, in the art of blending Nilgiri Teas with some other teas that will give character and make them more saleable, and able to compete with a tea that is now selling largely "up and down the land," to the detriment of

NILGIRI TEA.

GENERAL ARTICLES.

CEYLON TEA IN THE STATES, CANADA, AND AUSTRALIA.

THE PARIS EXHIBITION.

The P. & O. steamer *Rome*, which arrived in Colombo, from London, on Sunday, brought as a passenger Mr. R. Valentine Webster, who remains in the island about a couple of months, during which time he will be principally engaged in visiting the estates in which he is interested. Since he was last in the island Mr. Webster has been making an extensive tour, visiting Europe, the United States, Canada, and the Australian Colonies, and was able to give a representative of the *Times of Ceylon* some interesting particulars regarding the progress of Ceylon tea in different countries, and on other matters pertaining to the island's staple industry. Mr. Webster left Ceylon about this time last year for the Australian Colonies, next visiting Canada and crossing the United States to England, where he remained about three months. . . Mr. Webster also made two trips to Paris, visiting the grounds of

THE PARIS EXHIBITION

once in June and again in August. The foundations of the Indian and Ceylon Court had been laid in June and rapid progress was being made. According to Mr. Webster the Indian Court was in about the best position of the grounds. As one entered by the Trocadero entrance one first saw the Russian Court. Lower down was the Court set apart for the Colonies, and at the corner was the Indian Court facing the river and the Eiffel Tower. The Ceylon Court was on the left and adjoining the Indian Court, while on the left of Ceylon was the Japan Court. China had her Court at the back of the Russian Pavilion where it was quite out of sight. Of the other countries' buildings the Transvaal and the North Africa (French Algiers) were the principal ones. The Transvaal buildings were nearly completed; and when he passed through during his second visit last month much progress had been made. The framework of

THE INDIAN AND CEYLON COURT

had also been put up; and during a conversation with the building contractor Mr. Webster learned that the Ceylon Committee had enlarged the flooring space of the upper storey of the Ceylon Court, which would be a great improvement and give more room. Mr. Webster was of opinion that Ceylon and India had every reason to be well satisfied with the site of their Court. The Ceylon Court itself was expected to be completed by the end of September. Mr. Webster thinks they could not have got a better position for it, and great credit is due to those concerned for securing such a favourable site. For the convenience of visitors they were erecting a small tramway with stations at convenient intervals in the principal quarters, and it would take sightseers round the exhibition grounds. The tramway would pass in front of the Indian and Ceylon Court with a station conveniently near. Regarding the work it was, on the whole, being carried out expeditiously. While in London he heard rumours about the difficulty of securing labour through strikes, but the contractors in Paris told him that they

HAD ALL THE LABOUR THEY WISHED FOR,

and rapid progress was being made in the erection of the buildings, and they expected to have everything completed in detail by the time the exhibition opened, which was to be on the 15th April next year, and closing on the 15th November. The buildings, when completed, would cover an extensive area, extending right down to the great Ferris Wheel. As regards visitors they expected an enormous number to visit the show; and during an interview he had with the Secretary of the Commissioner-General of the Exposition, that official informed Mr. Webster that they counted on

SIXTY MILLION VISITORS.

The hotels have given out that they will double their rates; but even that it was expected, would not keep people away. Asked for his opinion as to the results that would follow by the exhibition of our staple product as far as Europe was concerned, Mr. Webster told our representative that it would be the best opportunity that Ceylon would ever have of bringing her teas before the world. He had not much opinion, however, of France as an outlet for our teas, but he thought every rupee spent at the Paris Exhibition would bring us good returns as there would be people there during the time of the Exhibition from every part of the world. The French were not a tea-drinking people, and whatever little tea was drunk was principally China which was retailed at 3fr. 50 centimes per lb., the grade being pekoe, souchong, and that, too, not of the best.

THE PROGRESS OF CEYLON TEA.

While on the subject of his travels, our representative asked Mr. Webster what he could report as to the progress of Ceylon tea in the different countries he had gone through since he left Ceylon last year, and the reply was very favourable The progress of Ceylon tea, said Mr Webster, was universal—all over the United States and Canada and Australia it was noticeable, and in fact all over the world In all the countries he passed through, the demand for the Ceylon article was increasing. The only matter for complaint was that some firms sold inferior China and Java teas under the name of Ceylon. With that stopped, the island would have very little to fear as regards over-production In this connection our representative found Mr. Webster very keen about

AN IMPORTANT SCHEME

that he had submitted from London in July to Mr. F. G. A Lane, the Chairman of the Ceylon Planters' Association, and he hoped Mr. Lane would see his way to adopt the scheme which was both simple and inexpensive. The idea was for the Planters' Association to issue a stamp with the sanction of the Government, these stamps to be sold to merchants in Ceylon on their giving a guarantee that they would return vouchers from the Customs, showing that they have exported packet teas bearing the Government stamp equal to the number of stamps purchased. With a duty of 25 cents per lb., such as we have in Ceylon on imported teas, there would be no fear of firms or individuals importing foreign teas to blend and ship under the stamped packages mentioned. A similar scheme had been adopted by the Egyptian Government to protect the cigarette industry when they found inferior goods put up in foreign countries being sold as cigarettes manufactured in Egypt. Mr. Webster explained that the scheme was

A VERY SIMPLE ONE

and worked well in other countries. The Customs authorities would only have to examine an odd case here and there to detail the packages. By the adoption of such a scheme it would soon become known throughout the world that the package of tea bearing that stamp contained the genuine article Many firms did not hesitate in labelling a China blend as pure Ceylon tea. In fact many went so far as to say "packed in Ceylon;" but these people would hesitate before forging the stamp issued by the Government. Mr. Webster repeated that though he found the demand for Ceylon tea was very much on the increase in the various countries he visited, yet it was disheartening to see the number of inferior blends containing a large proportion of China teas which were put up in packets under the name of Ceylon tea. In reply to a question as to whether there was a demand for

CEYLON GREEN TEAS

in any of the countries he recently visited, and about which there had been a great deal of discussion in the papers lately, the answer was in the negative. During his travels Mr. Webster met with no inquiries at all for Ceylon green teas. There was, however, some parcels sent to the United States where they were well reported on, but even then there did not seem to be any great demand for the article, they being quite satisfied with Japan green teas. It was very doubtful whether the Ceylon green teas would catch on now. During the course of his tour Mr Webster had the opportunity of visiting one or two

OTHER EXHIBITIONS

where Ceylon tea was on show. In January last, while in New Zealand, he visited the Auckland Exhibition, which was open some four months. Ceylon teas were well represented there, the exhibits being sent by firms trading in that country. The principal exhibitors of the article were Messrs L. D. Nathan & Co. and Messrs. Arthur Nathan & Co. He also visited the Omaha Exhibition in the United States in March last It was open for six months and was visited by large crowds of people. There was a very fine show of Ceylon tea, and the Marawilla Ceylon garden's teas, exhibited by Mr. Webster, secured the only gold medal awarded for Ceylon teas. Lipton, Limited, had a large display there, and sold tea in the cup as well as in packet. In connection with his visit to Australia, Mr. Webster had a word to say about

COFFEE IN QUEENSLAND

which was a new industry there, and land was just being opened up with it. The only clearing of any importance there at present was that of the Mackay Estate Coffee Company, Limited. The

property covered about 300 acres, of which 100 acres was opened up in coffee. Mr. Webster was the Managing-Director of the Company, and they expected to pick their first crop next year. The coffee promised to be similar to that known as Ceylon Plantation. Besides this property there was other land opened up in coffee but in a very small way. The labour was Kanaka, imported from the South Sea Islands, and gave every satisfaction. It might be mentioned that General Massy, formerly of Ceylon, also has an interest in the Company above referred to.

THE ALLEGED CASE OF COOLY CRIMPING.

Mr. A. C. Glenie writes to the *Times of Ceylon* :—

With reference to my two letters to Mr. D. Lazarus published in your paper of the 12th, under the heading of "Attempted Crimping for South Wynaad," allow me to state that I requested Mr. Lazarus to recruit in Tuticorin, Palamcottah, and Tinnevelly, and *not in Ceylon*.

In justice to myself I trust you will be kind enough to request Mr. Lazarus to forward you the rest of my correspondence for publication.

At the same time I may state that if I should be at any time hard-up for labour, I should not hesitate to recruit in Ceylon. *As long as I take over tundus and pay-up the amount of the kangany's debt to the estate*, I do not see that it makes any difference to the Ceylon planter. If I did not take them on, his neighbour would. What's the odds (as long as he gets his money) who takes his coolies on?

The Editor remarks in a note :—

We are quite prepared to publish the rest of the correspondence; but Mr. Glenie's admissions in the second half of his letter appears to settle the matter against him. If he takes immigrant coolies from Ceylon regardless of the spirit or letter of our Federation rules, he discredits the fair fame of the ex-Ceylon planter.

PLANTERS AND THEIR COOLIES.

Reviewing the draft Estate Labour Bill, the *Madras Mail* remarks :—

As a consequence of the deliberations of the South of India Planters' Enquiry Committee, the Madras Government has drafted a Bill for the Regulation of Labour on Tea and Coffee Estates, and has referred it, for remarks, to the Judges of the High Court, the Advocate-General, The United Planters' Association, and the Collectors of the Nilgiris, Malabar, Coimbatore, Salem, Madura and Tinnevelly. It will be remembered that the Enquiry Committee arrived at the conclusion that a new special Labour Law was required for the planting districts of Southern India, inclusive of Mysore, Travancore and Cochin. It was recommended that this Law should be based upon Madras Act V. of 1866 (Labour Contracts with Natives), the Inland Emigration Act I. of 1882, and the Ceylon Labour Ordinance The Law proposed was to provide for a recruiting agency and suitable control upon the basis of Madras Act V. of 1860, it was to secure to planters the facilities they now enjoy under Act XIII. of 1859 for enforcing labour contracts, and it was to prescribe the responsibilities and obligations of employers. These were the general lines of advance laid down by the Committee. As for the Government of India's view, we need only remark that it is unlikely any Bill will be approved that does not lay down regulations in regard to the conduct of the employer as well as that of the labourer. The present draft Bill may be regarded as the crystallised essence of the Enquiry Committee's Report, prepared in consequence of an intimation that "the Governor-General in Council, after a careful consideration of the recommendations made by the Committee which have met with the approval of the Madras Government, will not object to the local Government putting them for closer examination into legal form."

The Bill itself is ably drafted, though it can hardly hope to pass without criticism the "closer examination" of the Government of India and the keen scrutiny of the planting community. We propose to review its provisions briefly, as a Section-by-Section commentary appears to be unnecessary. First, then, as to definitions. We need only say that as the draft Bill is worded, "employer" means the planter for whom a labourer has contracted to work and when such contract is made by means of an agent or maistry includes such agent or maistry. "Estate" is taken to mean "a tea coffee, pepper, cardamom, or cinchona plantation," be it small or large. In this connection we may add, however, that owners of estates are not bound to engage labour subject to the provisions of the new Bill, and it seems probable that, as a general rule, owners of very small plantations will not bring themselves within the scope of the Act. "Labour contract" means "an agreement to work on an estate, *or to bring labourers to work on an estate*." The words we italicise mark a distinct advance upon existing definitions and bring within the scope of this Law contracts with maistries as well as contracts with labourers. It must be noted, nevertheless, that the term "labourer" is only taken as embracing "any person bound by a labour contract to work with his own hands upon an estate." It follows, therefore, that the Bill covers two distinct classes of contract (*a*) between planter and labourer (*b*) between maistry (as employer) and labourer. It is obviously intended also to cover a third kind (*c*) between planter as (employer) and maistry (as contractor to supply labour). But it will be noted (1) that the definition of "employer" does not specifically include the planter *for whom a maistry has contracted to supply labour*; and (2) that a maistry is only brought within the definition of "labourer" if he works with his hands on the estate of his employer. Clearly, there is need of a little rounding-off here, unless evasive legal quibbles on the part of defaulting maistries are to be deliberately invited. In any case, whether amended in these respects or not, the Bill instals the maistry on the fence; he may drop off on the one side as an employer, or on the other as a labourer (not to dwell upon the chance that he may prove himself to be neither the one nor the other!) This dual individuality is significant of his importance in most questions relating to labour contracts, and serves to indicate the necessity for special precautions with regard to him. Concerning certain provisions about labour contracts, for instance, the question suggests itself :—Will contracts made with more than one labourer be valid? If so, would the fact of the maistry who made such contract being regarded as an "employer" in proceedings against one of the contracting labourers enable him subsequently to evade liability to the planter, *quâ* the maistry who had undertaken under that same contract to supply certain labour to the planter for whom he acted? Some maistries have proved themselves such adepts at availing themselves of loopholes in the Law, that it would be as well to provide as few of these as possible.

Definitions once satisfactorily agreed upon, consideration of the provisions of the Bill would be facilitated. There would then be little ground left for adverse criticism, as this finds its chief basis in the want of precision as to the maistry. The drafters of the Bill have, apparently, regarded the maistry as an "employer" here, a "labourer" there, while thinking that he can always be brought under the definition "labourer" if desired. He seems to have a means of escape from both definitions. If the term "labourer" be defined to mean in all cases maistry as well as cooly, our objections to certain portions of the Bill, and some omissions from it, will be practically removed; for the general provisions of the Act are fair enough if once the maistry's true position is defined, as an "employer" only when he acts on behalf of the planter in engaging coolies or punishing defaulters, as a "labourer" when he himself is in default in regard to this contract with the planter or when employed in the execution of his duties. The chief of these provisions may be briefly stated. No contract under the Act shall be made for a term exceeding one year—a limit no doubt adopted in consequence of the Government of India's remark that "the maximum statutory term of a contract penally enforceable should not exceed one year or at the utmost two years." Provision is made in regard to the signing of contracts (after explanation to the parties) before certain officials or else persons "expressly authorised by Government." The working of this depends largely upon the manner in which the power of authorisation or nomination is exercised, and it is certainly desirable that contracts should be so executed that they may be absolutely binding and that the labourer may not be able to pretend that he did not understand what he agreed to. Labour contracts are to be determinable by either party on his giving two months' notice, which might operate disastrously to the planter when the contracting maistry availed himself of the clause on the eve of "crop." This ought to be guarded

against. Powers of inspection are given to certain officials, and reasonable responsibilities in regard to "lines," water-supply, etc., are imposed upon planters. Perhaps sufficient care has not been taken to prevent malingering being resorted to with some little profit to the culprit, in the form of free food as well as lodging while shamming illness. Penalties are imposed for the enticing away of labourers, but not of maistries, no doubt because they are thought to come under the term "labourers." This is a defect that should certainly have been avoided; but with the few exceptions we have mentioned, the Bill would appear to be sufficiently comprehensive; and, on the whole, it reflects a desire to hold the scales of justice with judicial impartiality. As employers are not compelled to contract under it, and as Act XIII. of 1859 (the Workman's Breach of Contract Act) is not repealed, planters have, on the whole, reason to congratulate themselves upon this outcome of the labours of the Enquiry Committee.

The chief ground for such congratulation is, however, to be found in the concluding section of the Bill, which provides that "the Governor in Council may, at any time after the date upon which this Act comes into force, by notification in the *Fort St. George Gazette*, direct that processes issued under any Act for the enforcement of labour contracts in force in any Native State shall be executed within the Presidency of Fort St. George as if they were processes issued under this Act" That the Native States of Mysore, Travancore and Cochin will adopt similar Acts to that which the Madras Government eventually decides upon after consideration of this Bill, may be taken for granted. When once they have done this, a final section such as the above in each will procure reciprocity, that will amply take the place of the extradition provisions for which planters have been contending during the last thirty years or more. The extent of the boon thus conferred upon Mysore planters, for example, may be judged from the following dictum of Sir K. Seshadri Iyer, the Dewan of Mysore:—"The enormous losses of the planters of North Mysore, incurred at the rate of Rs. 23 per acre, are not due to the defects of Act XIII. of 1859, but to a totally different cause, *viz*, the absence of reciprocity in the execution of criminal processes under the Act between Mysore and British India." Our planting readers will readily see how completely the last section secures the Bill now on the anvil from any similar reproach, and how fully it paves the way for the reciprocity so long desired, so greatly needed.

THE TEA TRADE OF FORMOSA.

In the Consular report on the trade of Formosa the reference to tea is full, although it resembles official reports from other parts of the far East in that it points to no improvement in the tea trade generally. It says: The export of Formosa Oolongs in 1898 fell short of that in 1897 by over 400,000 lbs, and the value amounted to £569,684, as against £654,583 in 1897. Souchongs show an increase from 2,445,152 lbs. in 1897, valued at £46,794, to 2,704,185 lbs in 1898, valued at £52,673. In 1898 the export of tea in half-chests amounted to some 484,061 half-chests, as against 434,431 in 1897. The average value realised for this season was 37·68 dols. (gold) per picul (133⅓lbs.), as against 47·25 dols. (gold per picul (133⅓lbs.) for the previous year, whilst for the first time for many years exchange was not an appreciable factor in affecting market fluctuation, sterling rates varying only some 3 per cent. from highest to lowest. Spring teas were of fair average quality, not standing out in any particular form from the bulk of similar crops in the past. The market opened in the month of May. Early in the season the duty of 10c. (gold) per lb. was imposed on teas imported into the United States of America, coming into force last June. This duty having been put on after the market opened, and prices for a considerable amount of teas having been settled in advance, no appreciable decline took place, with the consequence that early shipments resulted in smart losses in the United States. Towards the end of June and throughout July there was a dull period; foreign buyers seemed disinclined to buy freely, but sufficient was bought to give the Chinese confidence and to prevent the decline that might have obtained in face of the new duty. It may be noticed that average prices, as compared with 1897, show a decline of about 5c. (gold) per lb., or one-half of the import duty. Summer teas were of first-class quality, but there was a significant shortage in "choice," "fancy" teas, the gathering of this summer crop coinciding with the dull period as regards buyers' operations, which ensued on receipt of definite news in the middle of June of the imposition of the 10c. duty. After a month or more, during which the market was inactive both in Tamsui and Amoy, it by degrees assumed a firmer shape, which continued through August and September. During September a succession of typhoons caused great destruction, but more particularly affected the quality than the quantity of tea, and in October large settlements were effected at a lower range of prices with an active demand. From the end of October to the end of the season the demand continued at irregular, though advancing prices, and a rise of, say, 10 per cent. was established from the lowest point, fully previous rates ruling at the end of the season for much lower qualities. Throughout the season the demand in the United States ran on "teas for price." The season showed heavy losses to the Chinese, and, on the whole, cannot have been very satisfactory to importers, at any rate for the earlier portion. It is hard to say in what proportion Formosa teas were bought in Tamsui and Amoy, as returns are unreliable, but the tendency would seem to be for the buying market to go more and more to Tamsui more particularly in view of the advent there of new foreign firms from Japan.

REPORT ON CINCHONA IN JAVA.

For the information of our readers, we reprint Mr. Standen's interesting report *in extenso*:—

I. *History.*—The history of Cinchona in Java dates from the year 1852, when a single plant of Calisaya, which had been grown in Paris from seed collected by Weddell in South America, was received by the Curator of the Botanical Gardens at Buitenzorg. Further supplies of seed and plants were subsequently received from South America, and at the end of 1863, the cultivation had been so vigorously pushed forward, that there were more than half a million of cinchonas permanently planted out on the Government estates. Nearly the whole of these plants consisted of Pahudianas; and as it was soon found that this species contained very little quinine, its cultivation was given up, and propagation was confined to Calisaya, Officinalis, and Succirubra. In December 1865, a small parcel of seed was purchased by the Dutch Government from Mr J. W. B. Money, who had bought it from a Mr. Ledger, and in the following year, 12,000 plants raised from this seed were put out and were called Ledgerianas. The bark from these trees was first analysed in 1872, and was found to be exceptionally rich in quinine. No effort was spared in propagating from the richest of these trees, by means of seed, cuttings and grafts; and the result has been that Java, at the present time, produces the richest bark in the world, and exports about 80 per cent. of the amount required by the trade.

II. *Area under Cinchona.*—I regret to say that I found it impossible to ascertain precisely the extent of land now under cinchona cultivation, but it is generally supposed that the total area is about 20,000 acres. The low prices for bark, which ruled a few years ago, led to the uprooting of a considerable quantity of cinchona to make room for tea, so that the area under cinchona is not so great now, as it was five years ago. On the other hand the recent advance in the price of bark has revived interest in cinchona planting, and I heard of several new clearings being made. In addition to the Government Cinchona Plantations, which cover 2,205 acres, there are said to be 83 private plantations in Java, of which 58 are in the Preanger Residency of Western Java, a district which is admirably suited for cinchona cultivation. The remaining plantations are chiefly in Central Java, while the number in the eastern part of the island is small. Ledgeriana is almost universally grown, but hybrids between Ledgeriana and Succirubra, which have been proved to contain a high percentage of quinine, are also cultivated; and there is still a small area under Succirubra and Officinalis.

III. *Climate.*—The climate of the Preanger Residency of West Java is admirably suited to the growth of cinchonas. The annual rainfall averages about 130 inches, and is well distributed throughout the year. At Tjinjiroean, which is one of a group of four estates, belonging to Government, covering 1,496·25 acres, the average number of rainy days per annum is about 215; and even in the dry season, no single month passes without several rainy days. The prolonged droughts from which the plantations suffer in Southern India are quite unknown in Java, and it is not surprising, therefore, that the growth of the cinchonas, as well as

that of vegetation generally, should be more luxuriant than it is in India. The shade temperature ranges from 50° to 78° Fahrenheit, and the mean average temperature for the year is about 62°.

The rainy season lasts from October to April; the wettest month of the year is March and the driest August.

IV. *Soil.*—The volcanic soil of Java bears a very high reputation for fertility, but it is a curious fact that analysis shows the soil to be by no means rich, as compared with rich European soils, and the forest soils of Southern India. Even the grass lands of the Nilgiris compare favourably with Java soils, as regards the actual quantity of plant-food available. No one, however, who has seen the luxuriant vegetation of Java can doubt that the soil is fertile to a high degree; and this fertility must be in a great measure due to its fine physical condition, and to the favourable climatic conditions which render the constituents of the soil readily available as plant-food.

The following table of analyses is given to show that in the most important constituents, viz., nitrogen, potash, phosphoric acid and lime, the soils of the Nilgiris compare very favourably with Java soils:—

——	Java soil.	Dodabetta forest soil.	Nedivattam grass land.
Water	2·14	4·14	3·45
Organic matter and combined water*	18·91	50·71	23 44
Ferric oxide	12 50	5·03	8·54
Alumina	26·20	4·72	12 35
Lime	·51	1·71	·28
Magnesia	·47	·72	·18
Potash	·22	·41	·36
Manganese oxide	·41	...	...
Soda	·33	·20	·23
Phosphoric acid	·11	·30	·17
Sulphuric acid		·23	·19
Silica	38,20	31·83	50·81
	100·00	100·00	100·00
* Containing nitrogen	·310	1 360	·341

From a comparison of the above it is very evident that soil analysis alone affords no explanation of the richness of the cinchona barks grown in Java. The soil on which the cinchonas thrive best is a dark chocolate colored loam, rich in humus, and with a free subsoil. Generally speaking, the soil on the Government plantations answers to this description. It is of great depth, entirely free from stones, and very pervious to air and moisture; but there are a few fields where the subsoil is of rather stiff clay. In such ground, the growth is not so luxuriant and the trees suffer from canker.

V. *Elevation.*—The elevation that has been found most suitable for Ledgers is from 4,000 to 5,000 feet, and the majority of the estates in the Preanger Residency are at this level. One of the Government plantations, however—Kawah Tjiwidee—is about 6,000 feet above sea-level, but this is found too high for Ledgers, and the estate contains only Succirubra and Officinalis. In making a comparison between the elevations at which cinchona is successfully grown in Java, with that at which it is grown in India, it must not be forgotten that the cinchona districts of Java are about 7° south of the equator, those of Southern India are about 12° north, and the plantations in Sikkim are about 27° north.

VI. *Lay of Land.*—The sites for the cinchona plantations have been carefully chosen, steep slopes have been avoided, and for the most part only gently undulating land has been planted. On the Government plantations the whole of the land has been carefully terraced. The terraces are 4 feet in width, and are accurately traced across the slopes of the hills. The plants are put out in the centre, and the cultivation is done along the terrace, care being taken to avoid breaking down the edges. The soil is so deep and the slope of the land so gradual, that there is no danger of cutting into inferior soil in making these narrow terraces. As a result of this system of terracing, there is an entire absence of wash on the Government estates; no drains are required, and the rain water, instead of flowing over the land, carrying all the finer particles of soil to the nearest stream, penetrates freely into the soil, adding to the natural store of fertility, the ammonia, nitric acid, and salts, that it has become charged with in its course through the air. I was not able to obtain an analysis of the rain water of the cinchona districts, but judging from the number of active volcanoes in the island, I should think it must be rich in the elements that are conducive to fertility.

VII. *Propagation.*—At a very early date in the history of cinchona in Java, it was recognized that the future success of the enterprise depended on the selection of seeds and cuttings from trees which had a high alkaloidal value; but it was not until 1872, when the bark of the Ledgerianas was found to be so much richer than that of any other cinchonas, that special attention was given to the propagation of this species. The richest trees were reserved for the yield of seed and cuttings, and it was found that individuals of the second generation occasionally had a higher alkaloidal value than the parent trees. The work of selection was at first solely in the hands of Government, who were in possession of the original Ledgers, and for some years the seed was distributed gratis; but from the year 1883 it has been sold, and the private planters have been able to grow their own stock trees, and take seed and cuttings from the richest of these. The Government, however, still continues to make a considerable revenue from the sale of seeds and grafts. In 1894 the sum realized was only 275 guilders, but in 1897 with the revival of interest in cinchona planting, the income from this source amounted to 12,065·25 guilders, as much as 260 guilders being paid for a packet of 25 grammes of some specially fine seed, and 10 guilders each for well-established grafts of Ledger on Succirubra. These high prices are a very good indication of the importance attached by planters to selection from good stock. The highest price paid for seed in 1897, viz., 260 guilders for 25 grammes, works out to 10·4 guilders per gramme, or Rs.5,896 per lb. One gramme of Ledger seed is said to contain 3,500 seeds; 25 grammes would therefore contain 87,500 seeds. The seed from the Government estates is sold periodically by public auction at Bandoeng, the upset price is 10 guilders per packet of 25 grammes, and the bidding for the best seed is always keen. Seed is not obtainable by private treaty with the Director of the Cinchona Plantations, and as the planters are naturally unwilling to part with seed from their own trees, the only course open to planters in India, who wish to procure a supply of the best Ledger seed, is to authorize an agent to bid for them at the auctions. The trees from which the seed is taken on the Government estates are not isolated; they are in close proximity to Succirubras, and it would seem that there is great danger of hybridizing; but I was surprised to hear that cross-fertilization does not take place to any appreciable extent, and that although a few hybrids may be found among the seedlings grown from Ledger seed, the number of these is very small, and they can be readily identified and rejected while in the nursery beds. No special treatment is given to the seed bearers with a view to increasing their vigour, and up to the present time, no deterioration of the seed has been observed. Seedlings from seed taken from the original Ledgers, which are now 33 years old, are found to be quite as vigorous and healthy as those raised from seed taken from younger trees, and the subsequent growth of the plants on new land is as free and healthy as it was in the early days of the enterprise. Experience with regard to Officinalis and Succirubra is the same, there has been no deterioration of seed, either in vigour or in type.

The grafting of Ledgers on Succirubra which was first tried in 1879 has been continued to the present day with great success. Succirubra being of a more robust habit than Ledgeriana, it has been found advantageous to put out grafts of Ledger on Succirubra on land which is not considered so suitable for Ledgers. Where there is any indication of stiffness of soil and a non-porous subsoil, Ledgers will not develop well, and are liable to suffer from canker. On such ground as well as on old land, which has already borne a crop of cinchona, grafts are found to do well. The system of grafting is that known as "side grafting" and is generally done in the open nurseries. The Succirubra seedling is grown in the nursery bed for a year or two, until the stem is of the thickness of the little finger. A small cutting of about three inches in length is taken from a branch of a Ledger tree, and a sloping cut of about 1½ inches in length is made at one end. A small strip of bark, corresponding in breadth to the diameter of the cutting, is lifted from the stem of the Succirubra seedling, close to the ground, and turned back to form a flap. The scion is now inserted, the flap of bark is divided vertically into two narrow strips, and these strips are bound firmly to the scion in such a way as to exclude air from the opposed

edges of scion and graft. The material used for binding is jute fibre, obtained by unravelling ordinary gunny bags. Melted wax is applied round the binding to save it from rotting, to the top of the scion, and to the angle between scion and graft. A few leaves are tied round the stem of the Succirubra plant, immediately above the scion, to protect it from sun and rain. When the scion begins to grow, which is usually in three or four weeks from the time of grafting, the Succirubra seedling is shortened, and as the scion increases in vigour the stock is further reduced. Finally when the graft is well established, the remnant of the Succirubra stem is cut away, immediately above the point of union The Javanese are very quick at grafting, trained coolies turning out 200 to 300 grafts a day. They are paid according to the number that succeed. Before this method of payment was introduced, the number of successful grafts was about 10 per cent., whereas 95 per cent. is the proportion of successful grafts under the present system. The stocks used for grafting are almost invariably Succirubras, but scions are taken from hybrids between Ledgeriana and Succirubra, and from Officinalis, as well as from pure Ledgers. On the Government estates I saw a very flourishing field of hybrids that had been grafted on to hybrid stocks in the open ground The original field of hybrids analysed only 4 per cent., and instead of uprooting the trees and replanting with other plants, grafts were made on the standing trees from hybrids, which had given 11 per cent. to 12 per cent. sulphate of quinine. These grafts at six years old were about 15 feet high and well branched. Grafting in the open ground on old trees is not, however, generally done, it is considered better to graft in the nurseries.

Propagation by cuttings seems to have been given up, as this method was found less satisfactory than seed and grafts. As to the respective merits of seed, grafts, and cuttings, it might be expected that cuttings would resemble the parent trees most closely in alkaloid contents, that grafts would be next in value, and that seed would show the greatest variety in type, but Mr. Van Leersum, the Director of the Cinchona Plantations, has shown in his interesting pamphlet on the alkaloid contents and yield of graft, cuttings, and seedling plantations, that neither grafts nor cuttings can be relied on to give the same yield of alkaloids as the parent trees. Grafts from a tree analysing 10·33 per cent. were found to vary in yield from 3·35 per cent. to 11·45 per cent., while cuttings from a tree analysing 11·63 per cent. gave from 4·57 per cent. to 7·94 per cent. sulphate of quinine. Plants raised from seed also show considerable variation, but they yield so much more bark than grafts or cuttings that there can be no doubt that it is more profitable to grow seedlings than either grafts or cuttings, provided the soil is suitable.

Mr. Van Leersum has given particulars of the yield for seven years, from the time of first harvest, of fields of cuttings, grafts, and seedlings, and has shown that during the seven years the cuttings gave 1,516 lbs. bark per acre, the grafts 2,288 lbs. and the seedlings 3,209 lbs. Seed ripens in Java towards the end of the year. When the seed vessels are beginning to burst they are gathered and dried in the shade until the seeds fall out. Nurseries are prepared, and worked in the same manner as in India and Ceylon, and plants are put out in the field about twelve months from the time the seed is sown, when they are from 6 to 9 inches high. Plant baskets are not considered necessary. The number of seedlings in the Government nurseries at the end of March 1899 was 1,580,000; consisting of 1,240,000 Ledgers and grafts, 315,000 Succirubras, and 25,000 hybrids, and on the same date, the plants in the open ground numbered 2,602,300, or 1,180 per acre, as shown below:—

	Number of plants.	Proportion to total plants.	Percentages.
		PER CENT.	
Ledgers grown from seed ...	1,098,000	42·19	62·10
Grafts of Ledger or Succirubra ...	513,500	19 74	
Ledger cuttings	4,500	·17	
Hybrid—(Succirubra and Ledger)	494,000	18 98	37·90
Succirubra	444,300	17·08	
Officinalis	48,000	1·84	
Total...	2,602,300	...	...

It will be seen from the above that Ledger seedlings have been preferred to grafts and cuttings, the relative proportion to the total number of Ledgers being 67·94 per cent. seedlings, 31 78 per cent. grafts, and 28 per cent cuttings. I was not able to ascertain the proportions of the different kinds grown by private planters, but I was given to understand that the plantations generally consist of Ledgers grown from seed, and that neither Succirubra nor Officinalis is largely grown. Ground is cleared for planting in Java in the same way as in India. The forest is felled and burnt, and the size of the pits is usually 2 feet cube Ledgers are planted 4′ × 4′, Hybrids 5′ × 4′ or 5′ × 5′, and Succirubras 6′ × 4′ or 6′ × 6′. Planting is done during the wet months of December. January and February, the young plants are not shaded or protected in any way, and during the first year cultivation is limited to keeping down the weeds. The cost of opening and planting forest land, including the cost of nurseries, is about 50 guilders per acre, or 60 Indian rupees. This figure does not include the cost of terracing which is said to be 10 guilders per bouw—(1 bouw = 1¾ acres) or about Rs.7 per acre.

VIII. *Labour.*—That the supply of Javanese labour should be plentiful is not surprising when one considers the density of the population. The area of the island is about 50,000 square miles, and it supports a population of about 26 millions, or 520 to the square mile. The daily pay of a cooly is about the same as in India, viz., from 20 to 25 cents (4 annas to 5 annas) per man, and 10 to 12½ cents (2 annas to 2½ annas per woman), but the Dutch planters have a great advantage over planters in India in being able to recruit labour without advances. The system of making advances to coolies was formerly in vogue, but the Dutch Government considered that the practice was being abused, and that coolies who had received large advances, which they could not liquidate for years, were practically in the position of slaves. A remedy was found in the non-recognition by the courts of advances made to coolies, and this at once led to the system being abandoned. "Mandors" or maistries, whose duty is to supervise the work of the coolies, receive from 10 guilders to 50 guilders a month.

IX. *Diseases and pests.*—The Ledger plant is very liable to canker where the subsoil contains much clay and is retentive of moisture. Two forms of the disease are recognised, one that begins at the root and another that attacks the branches. In the case of branch canker, the removal and burning of the diseased branches is the course usually adopted, but when the disease has attacked the roots, the tree is doomed, and has to be uprooted. A good deal of damage is also done by the tea mosquito (*Helopeltis antonii*) and by a caterpillar (*Euproctis flexuosa*). On the Government estate, Tirtasari, which consists of 428·75 acres, no less than 100,000 lbs. of wet bark or about 35,000 lbs. of dry bark were harvested in the first quarter of the current year from diseased trees and branches.

X. *Cultivation.*—The system of cultivation is very similar to that followed in India. No attempt is made to keep the plantations absolutely clean. The growth of weeds is checked during the rains by a rough weeding, and at the commencement of the dry weather, trenches are dug measuring about 4 feet long by one foot broad and one foot deep, weeds are buried in these trenches, and the soil is then dug to a depth of one foot, all weeds being turned into the soil. Great importance is attached to this mode of cultivation, which is known as "intensive culture," and on the Government estates some experimental plots have been set apart to show the effects of non-cultivation, rough weeding only, and the intensive culture described above. Plots A, B, C were planted in 1894 on old land with hybrids between Ledger and Succirubra. Plot A had been well cultivated from the commencement, the trees were looking remarkably healthy, and their average height was about 8 feet. The cultivation on plot B had been limited to sickling down weeds and cleaning round the plants to prevent their being choked. The trees on this plot looked unhealthy and stunted, their average height was about 2 feet only, and from their general appearance, I should think it unlikely that they will live much longer. Plot C had been rough weeded only. No digging had been done, and there had been no burying of weeds. The trees on this plot looked rather poor, being deficient in foliage, and their average height was about 5 feet. An estimate of the amount of sulphate of quinine in these plots was made at the end of 1897, which showed that the highly cultivated plot A contained 1·51 kilos of sulphate of quinine per bouw, the non-cultivated plot B

contained no quinine, and the indifferently cultivated plot C contained ·79 kilos per bouw.

The total expenditure to the end of 1897, on the three plots was as follows: A 58·70, B 36·80, and C 43·90 guilders per bouw, so that the cost of a kilo of quinine (2·2 lbs.) on plot A was 38·87 guilders, on plot C 46·58 guilders, while the expenditure of 36·80 guilders on plot B had been entirely unproductive. The sum spent on the actual fieldwork, *i.e.*, weeding and digging, on the Government estates during 1897 was 10·60 guilders per bouw, or Rs. 7·56 per acre; but on private estates, 20 guilders per bouw or about Rs. 14 per acre per annum is considered a reasonable allowance for cultivation.

XI. *Growth and general appearance.*—The original ledgers on the Government estate Tjinjiroran, of which 1,280 remained on 31st March 1899, are now 33 years old. They are very fine healthy trees, 50 to 60 feet high, with good crowns, and with stem about 1 foot in diameter at 5 feet from the ground. They stand on 4 bouws or 7 acres of ground, so that the average number of these trees per acre is only 183. Ledger cuttings on Tirtasari, 20 years old, average about 30 feet high, but are of a rather spindly habit, their stems measuring about 4 inches in diameter at 5 feet from the ground. On Gamborng, a private estate belonging to Mr. Kerkhoven, 12 years old, ledgers grown from seed measure 30 feet high, with stems about 6 inches in diameter. Hybrids grafted on Succirubras on the Government estates show very fine growth; at the age of 5 years, they are from 12 to 20 feet high, with a stem diameter of 2½ inches, 3 feet from the ground. One year old Ledgers grafted on Succirubra are 3 to 4 feet high, with fine healthy crowns and branching 6 inches from the ground. Hybrids grafted on hybrid stocks show an average height of 15 feet at 6 years, and hybrids on Succirubra, 3 to 4 months old, measured 1 foot. Succirubras 20 years old are from 30 to 40 feet high, and Succirubras over 30 years old are about 70 feet high with stems of 1½ to 2 feet diameter at 5 feet from the ground. The Officinalis trees at 20 years are about 30 feet high, but their stems are not so large as those of the finest trees at Dodabetta. The most marked characteristic of the cinchonas in Java is the luxuriance of their foliage. The trees have fine healthy crowns, and show very little tendency to run to seed. In this respect, they present a striking contrast to the cinchonas grown on the Nilgiris and in the Wynaad, which ripen seed at an early age, and are generally somewhat deficient in healthy foliage.

XII. *Manuring*.—Little or no manuring seems to be done on private cinchona estates, but on the Government estates experiments are being made with sulphate of ammonia, castor cake, stable manure and lupins. The lupins are grown from seed in the nurseries, are planted out on the terraces and are turned into the soil before flowering. This system of green manuring has been found to add about 1 per cent. to the alkaloids. Castor cake has been applied on a small experimental plot at the rate of 5 lbs. per tree and has had a good effect on the trees, the leaves being of a darker green than those of unmanured trees, but its influence on the alkaloidal value of the bark has not yet been determined. Stable manure has been found to increase the alkaloids from 1 to 2 per cent., but the effect of the application of sulphate of ammonia has been to cause a slight diminution in the alkaloids.

XIII. *Harvesting*.—The bark crop is obtained by the removal of extra stems and redundant branches, and by the uprootal of crowded trees. The plantations are worked as "high forest" with the object of securing the greatest possible development when the final crop is taken. Coppicing does not appear to find favour, partly because the ledger tree does not reproduce freely from coppice and partly because this system of working is unsuited to graft plantations. The stripping process introduced by McIvor was tried, but was abandoned as it was found to seriously affect the health of the trees, and the shaving system of Moens was given up, after a fair trial, for the same reason. Close planting and the gradual thinning of the plantation from the fourth year is the system invariably followed. An estate planted 4′ × 4′ contains 2,722 trees per acre. In the fourth year it is found necessary to thin out by prunings and by the uprootal of trees that have not sufficient space for free development. This first crop gives about 100 lbs of bark per acre. In the fifth year, a second crop is taken which gives about 175 lbs. per acre. The crops in the sixth and seventh years are 300 lbs. and 450 lbs. per acre, respectively, and from the eighth year upwards, the ordinary annual crop is estimated at 500 kilos per bouw, or about 630 lbs. per acre. Although these figures appear to be high, they do not represent the maximum yield. On the private plantation "Lodaja," ledger seedlings planted in 1884 gave as much as 365 kilos per bouw, when the first crop of thinnings was taken in 1888-89, the total yield up to 1895-96 was 3,585 kilos per bouw, or 4,507 lbs. per acre, and the subsequent annual yield was estimated at 500 kilos per bouw, or about 630 lbs. per acre. The high yield of the Java plantations is due, in a great measure, to the fact that bark is taken from branches, as well as from the stem and root. Ledger branch bark gives about 5 per cent. sulphate of quinine, and therefore well repays harvesting. The proportions of stem, branch and root bark harvested show great variations. Some figures for the Government estate Tjinjiroean give 53·53 per cent. stem, 17·16 per cent. branch, and 29·31 per cent. root bark, and a private estate "Pasir Malange" shows 39·68 per cent. stem, 30·72 per cent. branch, and 29·60 per cent. root bark. The yield of individual trees varies very considerably; at six years, the yield of stem, branch and root is from 1 to 3 lbs. per tree, and at eight years, when a plantation has been judiciously thinned, the yield per tree ranges from 2 lbs. to 7 lbs. The original Ledger plantation at Tjinjiroean affords a very good example of a plot that has been systematically thinned. The trees are 33 years old, the area of the plot is 7 acres, and the number of trees standing on 31st March 1899 was 1,280 or 183 per acre. In 1897, 64 trees were uprooted, and gave 4,172 lbs. of bark, or 596 lb. from about 9 trees on each acre. I am not able to give figures showing the yield of this plot before 1891, but during the 7 years 1891 to 1897, the total yield was 36.314 lbs or 741 lbs. per acre per annum. The area of the Government estates is 2,205 acres. The total crop in 1897 was 651,744 lbs. or 295½ lbs. per acre; and the average annual yield per acre for the period 1888 to 1897 was 286 lbs. per acre. The system of harvesting by uprooting necessitates the replanting of old land. I gave particular attention to this subject, as the future of the industry appears to me to depend largely on the degree of success which attends such replanting. On the Government estates, where, as I have mentioned above, the land has all been carefully terraced, interplanting is done, when the plots have been sufficiently thinned out, to allow light and space for the young plants; but although this interplanting may be said to be successful, the growth and development of the plants cannot be compared with plantations made on new soil. Some of the private planters disapprove of interplanting, and prefer to continue thinning out until a plot has been entirely cleared. The ground is then replanted without being allowed a period of fallow. On the Government estates, where inferior varieties were uprooted, and the land replanted, the second planting has come on well, but the growth is not so good as on virgin soil. I saw no instance of a second planting, which could compare with a first planting, and I am inclined to think that in the course of time, when original plantations have been worked out, the planters will find that unless they make new plantations on virgin soil, it will be impossible to keep up the present maximum yield of 500 kilos of bark per bouw.

XIV. *Drying and packing*.—The bark is dried in the sun and also by artificial heat. On some estates, siroccos are used when the bark has been partially dried in the sun, and on other estates drying rooms heated by flues are used. Great care is taken with the preparation of Succirubra quills. The bark is taken from the uprooted tree in strips, varying in size from 12½ centimetres × 5 centimetres to 1 metre × 15 centimetres; each strip after being partially dried in the sun is curled round a piece of bamboo, and firmly tied to it. The bamboo is removed when the bark is dry, and the quills after trimming and sorting are packed in wooden cases, containing 150 lbs. This druggist's quill realizes a high price at Amsterdam, as much as 1¼ guilders per pound having been paid recently for metre quills from the Government estates. The cost of harvesting, packing and transport to the coast is 6 cents per pound for quill bark, and 4 cents for manufacturer's bark. The whole crop charges on the Government estates in 1897, for manufacturer's and druggist's bark, amounted to 9·6 pies per lb., the freight and home charges amounted to 8·7 pies per lb. or a total of As.1-6·3 pies per lb.; and on private estates, the harvesting, transport and sale charges on ledger bark are estimated at 12 cents per kilo, or about As.1-2 pies per pound.

XV. *Cost of production*.—As the Government plantations in Java are worked as a commercial undertaking, and the bark is shipped to Amsterdam for public sale, the figures given in the most recent annual report may fairly be taken as representing the average cost of bark-production throughout the island. The total expenditure on the Government plantations in 1897 was 93,198·87 guilders, or Rs.1,16,498·98. The area of the estates is 2,205 acres, and the

expenditure was therefore at the rate of Rs.52·83 per acre. This sum was distributed as follows :—

	Per acre per annum. RS.
Establishment	18·19
Nurseries and field work	13·68
Buildings	2·94
Miscellaneous	3·21
Crop including transport to f.o.b....	14·81
Total ...	52 83

Apart from the crop, the ordinary upkeep of the estates cost Rs.38·02 per acre. The crop amounted to 651,744 lbs. or 295·5 lbs. per acre, and as the total cost was Rs. 1,16,498·98, the cost per lb. f. o. b. was As. 2–10·3 per lb.

Freight and home charges amounted to 8·7 pies per lb, so that the total cost was As.3–7 pies per lb. This figure may be further analysed as follows :—

	AS. P.	
Cost of establishment and general upkeep ...	2 0·7	per lb. of bark.
Harvesting and transport to f.o.b. ...	9·6	
Freight and home charges	8·7	
Total ...	3·7	per lb.

The most important consideration, however, is the cost per unit of sulphate of quinine. The 578,298 lbs. of Ledger bark averaged 7·16 per cent. sulphate of quinine, and for the present purpose this figure may be taken as representing the average of the whole crop; for the 73,476 lbs. of Succirubra quill bark cost more to harvest than the Ledger, and was not sold to manufacturers on the sulphate of quinine basis. The cost per unit therefore was 5·8 pies or rather less than $\frac{1}{2}d$. The average analysis of the whole crop from Java is not much above $5\frac{1}{4}$ per cent. sulphate of quinine, so that the cost of production of a unit is about $\frac{3}{4}d$. The average unit price in Amsterdam in 1897 was 4·7 cents or rather less than 1 penny, and the net profit for that year on the Government plantations was 97,213 guilders or Rs.1,21,516·4, which is equal to a net profit per acre of Rs.55. The planters in Java have always recognized the fact that the chief object of cinchona cultivation is to produce quinine rather than bark, and the success they have achieved is very largely due to their perseverance in selection based on analysis. It is usually assumed that the soil and climate of Java are sufficient to account for the superiority of the bark over that grown in India, but if this were the case, the Succirubra bark of Java, which is grown to meet the demand for druggist's quills, and not as a yielder of quinine, would be richer than the Succirubras grown in India. As a matter of fact, however, the composition of the barks is almost identical. An average of 42 samples of Java Succirubra shows 1·45 per cent. quinine, while the average of 50 samples Indian Succirubra analysed by Mr. Hooper was 1·40 per cent. quinine. This comparison is interesting, for it shows that in the case of Succirubra, the one species which has not been propagated from trees with a high quinine yield, and which has been grown for its bark rather than for its quinine, the results have been very much the same as in India.

The Officinalis in Java, which was raised from seed received from the Government plantations in India, is grown to a very small extent; but with this species as with Ledgers attention has been given to propagation from the richest trees. The average of 30 analyses of this bark made by Mr Van Leersum shows 8·25 per cent. sulphate of quinine, but as each sample measured only half a metre (19·68 inches), and was taken at a height of half a metre from the ground, where the greatest deposit of alkaloid occurs this high figure cannot be taken as the average for Officinalis stem bark.

XVI. *Future of cinchona.*—The extraordinary fluctuations in the bark marked in the course of the last few months have shown that the Java planters are in a position to cause a rise or fall in prices in proportion to the amount of bark they export; but the planters have hitherto failed to take advantage of this position, and by shipping large quantities of bark whenever the market has improved, have invariably sent prices down. From time to time, efforts have been made at combination, with a view to regulating shipments, but they have not been successful, and the Bandoeng Quinine Factory has not met with the support which it deserves. Since my visit to Java, however, it appears that a combination has at last been made, and that it has been decided to establish a cinchona market in Batavia, where all the bark grown in the island is to be sold.

It is anticipated that this action on the part of the planters will give them a better control over the market, and will force up the price of bark and quinine.

The exports of bark from Java from the 1st of January to the end of June of the current year amounted to 5,090,800 lbs., which is the highest total that has ever been shipped during the first half of the year. I am of opinion, however, that these large shipments cannot be kept up without discounting the yield of the plantations in the future, unless new land is opened to counterbalance the lower yield from ground which has been replanted.

In regard to cinchona cultivation in India, the principal suggestions I have to make are as follows :—

(1) Further attempts should be made to cultivate Ledgers from seed obtained from Java. They should be grown at an elevation of from 4,000 to 5,000 feet in rich well-drained soil, and the richest trees only should be propagated from.

(2) The grafting of Ledger on Succirubra at low elevations, and of Officinalis on Succirubra at higher elevations should be tried.

(3) Officinalis seed should be taken only from trees showing a high percentage of quinine.

(4) Succirubra bark should be shipped in the form of quills.

(5) High cultivation should be adopted, and where the lay of land and the nature of the soil are suitable, the ground should be terraced before planting.

In conclusion, I beg to express my thanks to the officials and planters generally for their courtesy and hospitality, and to Mr. Van Leersum, the Director of the Government Cinchona Plantations, in particular, for the valuable information he gave me on every detail of the working and management of the estates under his charge.

OOTACAMUND,
28*th July* 1899.

(Signed) W. M. STANDEN,
Director.

CHINESE CARDAMOMS.

At the drug auctions in London this week there has been offered a parcel of Chinese cardamoms which we find to be a mixture of the large, round and ovoid China cardamoms described by the late Mr. Daniel Hanbury as far back as 1854. These cardamoms were then considered rare, but they have appeared in Mincing Lane on several occasions during the past five years. Both kinds of cardamom were described by Pereira in his "Elements of Materia Medica" (1840), but to Mr. Hanbury is due the full description of them. The large, round cardamom is the fruit of *Amomum globosum*, Lour. The fruit varies in size from $\frac{6}{10}$ to $1\frac{2}{10}$ inch in length. The capsules are somewhat oval or globular, pointed at each end, obscurely three-sided, and are sometimes attached to a long pedicel. The pericarp closely invests the mass of seeds; it is brown, thin, and strongly marked externally with interrupted longitudinal ridges; it is hardly aromatic. The seeds are coherent into a three-lobed mass; they are light greyish-brown in colour, angular, and have a deep furrow on one side; they have a slight aromatic odour and taste, the latter suggestive of thyme. This cardamom is a native of the south of China and of Cochin China. It appears to be much employed in Chinese medicine as a stomachic. The ovoid cardamom is the fruit of *Amomum medium*, Lour. This plant also grows in Southern China, and is employed for various disorders and as a condiment. It is an oval or oblong, three-celled, three-valved and obscurely three-sided fruit, of from 1 to $1\frac{3}{4}$ inch in length. The pericarp is of a dusky greyish-brown colour, deeply striated longitudinally, thick and coriaceous; it is but slightly aromatic. The seeds are very large, often upwards of three lines in length, sharply angular and striated, having a powerful and peculiar aromatic smell and taste. To us the taste is distinctly camphoraceous. Such cardamoms as these are in London perfectly valueless commercial imports. No doubt it would pay someone to give a few pence per lb. for the small parcel offered and to sell them for as many shillings per lb. in small quantities to materia medica students, but until some other use has been found for them in this country Eastern exporters should not send them here. —*Chemist & Druggist.*

BRAZILIAN FINANCE.

Under the heading "The Funding Loan, *Res non verba*," the *Brazilian Review* remarks :—

A friend sends us the following practical demonstration of the advantages conferred by the funding loan that has permitted Government to effect such profound modifications in the situation as are indicated below. It is hard to say what, except inveterate pessimism, the habit or desire of looking always on the dark side of things, can animate those who refuse to recognise such palpable and undeniable facts.

On the 30th June 1898 the total value of all annual charges for foreign and internal gold loans, guarantees, materials, diplomatic and consular corps estimated at 7d. exchange amounted to ...	215.526 : 378$000
On 30th June 1901, when the Funding agreement terminates, all these charges will be reduced at the rate of 9d. per mil reis, a not extravagant forecast seeing that it is already at 8¼d. to ...	145.440 : 781$000
Difference	70.085 : 697$000

That is, in 1901, there will be 70.085 : 697$ less to pay than in 1898, or from 1901, to 1911 say, an annual sum equivalent to £4,050,000, including materials for Central Railway coal and everything.

Let us now see how it is to be met. Supposing the worst, that the Customs revenue be not more than 170.000 : 000$, in order to obtain 400.000 : 000$ gold equal to the £4,500,000 required it would be sufficient to recover 23½ % of the duties in gold instead of 10 % at the present moment with, of course, the requisite alteration of tariffs to prevent any falling off in the volume or value of imports.

Anyhow it is impossible to pretend that the position in 1901 will not be vastly improved by operations that have reduced gold obligations by the equivalent of £2,625,000 per annum.

To those who picture the country as bankrupt in 1901 we recommend the study of these figures.

THE EUCALYPTUS.

Mr. J. H. Maiden, Government Botanist, and Director of the Botanic Garden, Sydney, writes :—

Some interesting papers on Eucalyptus have recently appeared in the *Gardener's Chronicle*, viz., one on March 18, by Dr. Bonavia, and another on April 3, by Mr. C. France.

Dr. Bonavia doubtingly quotes from an article in the *National Review* for February last, by H. C. Thomson, in which the writer says :—"Tasmania . . . in which it is difficult to feel ill, with Eucalyptus forests. in which fever cannot exist." This is mere drawing upon the imagination. In the *Proceedings of the Linnean Society of N. S. W*, vii., 336, the late Rev. J. E. Tenison-Woods, one of our best naturalists, makes the following statement. Speaking of Eucalyptus crebra, he says :—

"On the Peat Downs about Clermont and Copperfield it is especially plentiful, and all around the Hodgkinson Diggings. I mention this fact just to show that. whatever febrifuge properties the Eucalypts may possess, the mere presence of some species will not be enough to dissipate malaria. In the places I have mentioned fever and ague were common enough, yet the prevailing winds used to blow through hundreds of miles of these Gum-trees ere they reached the infected localities."

This is but one illustration, but it is very widely true. The good effects produced in planting this tree in malarial localities are mainly attributed to the power the rapid-growing species possess of absorbing moisture from the soil. The odour of Eucalyptus forests is not so great as many people imagine, and while breathing the pure air of the forest is undoubtedly beneficial to human beings, scientific men here never speak of it as a "fever-destroying tree." That is left to Italian and Californian friends, and we are glad that our national tree effects such cures in its new homes.

As to the suggestion made by Dr. Bonavia's informant, that flies do not alight on Eucalyptus leaves, I only wish it were true. We have countless numbers of Eucalyptus trees, and I am sorry to say we have far too many flies. These insects have no objection to perch on Eucalyptus trees.

Mr. France speaks of the extensive cultivation of *E. viminalis* the Transvaal, and I know from other sources that he is correct referring to this species. But it seems extraordinary to us to he of E. viminalis being cultivated. as its timber is one of the mo worthless of that of any of the Eucalypts. No one in Austral would dream of cultivating it for timber. I can only assume th rapidly-grown timber is required, irrespective of quality, for t Transvaal mines. It seems extraordinary to hear that E. viminal timber is reputed to be tougher and more durable than that of Globulus. If that be really the case, it shows that the two speci must have undergone alteration in their new home.

E. globulus is a good second-class timber, one of the best produ ed by Tasmania and Victoria, but coming much lower down in th scale than such timbers as the Tallow wood (E. microcorys), th Iron-barks, the Forest Mahogany (E. resinifera) of New Sout Wales, or the Jarrah of Western Australia. Timbers such as thes are worthy of extensive planting; but planters must be content t pay a higher price for the seed than for such rapid-growing rubbish as E. viminalis, E. amygdalina, E. piperita, and some other readily bought by the unsophisticated. Eucalyptus seed shoul only be bought under some guarantee as to correctness of name

Just another word in regard to Mr. France's observations r Acacias. A. dealbata, the Silver Wattle, is worthless as a tan-bark The timber of A. melanoxylon (Blackwood) is excellent, but I neve heard of the use of that of A. decurrens and A. dealbata, excep for fuel, and the making of small articles which could be fashione out of almost any other wood. In many treeless places, fuel is i great demand, and hence the value of rapid-growing Acacias an Eucalypts.

"COFFEE" AT THE CAPE.

In South Africa, says the *Grocer*, everybody drinks coffee—or thinks he does. The Boer trekking on the veld, the uitlander in his town, the native in his village, with all of them coffee-drinking is a regular feature of the day, sometimes three or four times a day. But, as the poet tells us, "things are not what they seem," and Cape coffee would seem to be in that category. The *Cape Argus* remarks quite casually that everybody knows that his morning cup of coffee is not the product of the pure berry, and this view is corroborated by the report of the Cape Public Analyst, just published. The percentage of adulterations in the samples of coffee examined during the past year was found to be larger than for a long time past, fifty-two samples yielding thirty-four adulterated specimens. The analyst goes on to say :—Respecting the nature of the adulteration, I may observe that in all cases it was confined to chicory, exhausted coffee, peas, acorns, wheat, and rice. Twenty samples were adulterated with chicory only the amount added to 100 parts of coffee ranging from 5 to 222 per cent. Three were adulterated by the addition of acorns only, varying in amount from 51 to 100 per cent.; 11 contained both chicory and acorns, of which from 22 to 300 per cent. was added to the original coffee. In three instances ground peas formed the adulteration, the amount added being respectively 90, 161, and 166 per cent. of the original coffee. In one case peas and chicory were added, to the amount of 16 per cent. One sample was adulterated by the addition of wheat; and two by the addition of chicory and wheat; in another case 144 per cent. of chicory, wheat and rice had been added. In one case chicory and rice amounting to 33 per cent. constituted the adulteration, and in another 29 per cent of exhausted coffee was added.

NEIGHBOUR WOLFF AND OTHERS.

Almost every afternoon in pleasant weather I see my neighbour Wolff sitting in an easy-chair in the shade in front of his own door. Sometimes he kills time by reading the paper, but oftener he does nothing but watch the people and the vehicles that pass. I frequently stop and talk with him a few minutes, and he appears to be grateful for the trifling attention. He is a man of about fifty, strongly and sturdily built, and to look at him you see no reason why he should not be up and about as actively as the best of us.

He is intelligent and well-informed, has travelled considerably, and is a man in every way worth knowing. His ideas on finance and business seem to be clear and practical, and it strikes a stranger as odd he does not grapple with his opportunities and pile up a big fortune. Yet he never makes a motion in that direction. He lets the chances all slip by, and just sits there as though the world were no more to him than the Klondyke gold fields are to the resident population of a cemetery. Yet my neighbour Wolff knows what money is, and appreciates what can be done with it. Then why doesn't he "get a move on" as the Yankees say, and make hay while the sun shines? Take a peep at him about nine o'clock at night, when he takes his customary exercise on the pavement—the way being mostly clear of pedestrians by then—and you will need no verbal answer to the question Stocky and strong as he appears when in his chair, he makes a poor show on his legs. Slowly, heavily, leaning hard on his thick stick, he goes to and fro a few times between the corner and his house—a distance of 200 feet may be—and then with a sigh sinks again into his chair like a man who realises he is out of the race. A paralytic stroke two years ago, and the constant fear of another—that explains it. He is one of the multitude who are in the world and not of it—as this woman was a while since.

"From my girlhood," she says, "I was always oppressed and hindered by weakness. I was habitually tired, weary, and languid. Like all such persons I live a kind of life to myself All pleasures or pursuits, which called for energy and vitality, were closed to me. I had a feeble and fitful appetite, and what I ate gave me great pain at the chest and back, and a sense of coldness, deadness, and weight at the stomach. At times, there would be also a gnawing, sinking feeling.

"As I grew older I was much troubled with palpitation of the heart and loss of sleep. Year after year, I dragged along in this miserable way, and, being too weak to walk, was drawn from place to place in a bath-chair. Every effort was made to obtain a cure. I consulted doctor after doctor, and took many kinds of medicine and treatment, but got no more than temporary relief. One doctor said my heart was diseased.

"My sister urged me to try Mother Seigel's Syrup. Without any great hopes of its effect in my case, I nevertheless procured a bottle from the Stores in High Street and began to take it as directed. The result was a decidedly improved appetite, and I relished and digested what I ate without any pain or distress following. As I continued to use this medicine, the heart trouble was less frequent and finally ceased altogether. My nerves soon became stronger and I could sleep well. In a few weeks more I was *better and stronger than ever before in my life*, and have enjoyed good health ever since. My friends were almost as much surprised and pleased as I was, at this remarkable result of taking Mother Seigel's Syrup, and you may make my statement public, if you think it will do good."—(Signed) (Mrs) Mary Ann Welch, 1, Constitution Hill, Luton, Chatham, February 6th, 1895.

My neighbour Wolff may or may not recover from his paralysis, but all cases like Mrs. Welch's—indigestion, with consequent weakness and nervous debility—should be curable by the remedy which cured her. It opens and renews the digestion, which is the fountain of life, and puts a wholly new aspect on the world around us. From having been laid aside as cumberers of the ground, we become once more workers with others and sharers of their pleasures.

MARKET REPORT.

Per Mail Advices of 8th September 1899.

COFFEE.

The London Commercial Record says:—The demand during the week has been rather favourable to colory qualities of Colombian descriptions, which have sold with good competition at full prices, a few lots of very fine selling even at extreme rates. Foxy green Salvador and Nicaragua have also met good competition at steady to slightly dearer rates. There has been less eagerness to buy Plantation Ceylon, and previous prices are not generally maintained. East India sold on rather easier terms, but latterly met with very little demand and almost entirely withdrawn. Jamaica slow. Santos full up. With continued heavy receipts in the Brazils "futures" have shewn a falling tendency, closing quotations being:—

London ...	Santos ...	Dec. delivery	... 26s. 3d.
New York	No. 7 Rio...	„ „	... 4·60 cents.
Hamburg...	Santos ...	„ „	27 pf.
Havre ...	Santos ...	„ „	... 32 francs.
Holland ...	Good ordinary Java ...	...	... 25¾ cents.

The Dutch Trading Co. announce their next sale for Tuesday the 12th instant at Amsterdam, when 23,300 bags Java 20 cases Padang will be offered. Good ordinary Java is valued at 25¾ cents.

Imports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
	Tons.	Tons.	Tons.	Tons.
West India ...	771	516	1,367	1,586
Ceylon ...	250	142	434	278
East India ...	5,903	2,148	9,909	5,566
Mocha ...	474	535	558	653
Brazil ...	4,873	3,557	2,730	2,801
Other Foreign ...	12,948	12,960	24,005	26,255
Total	25,219	19,858	39,003	37.139

	Home Consumption.		Export.	
	1899.	1898	1899.	1898.
	Tons.	Tons.	Tons.	Tons.
West India ...	247	258	751	1,151
Ceylon ...	89	105	160	140
East India ...	1,886	1,835	3,044	2,689
Mocha ...	481	505	108	112
Brazil ...	553	680	954	1,535
Other Foreign ...	7,932	6,416	12,009	11,544
Total...	11,188	9,799	17,026	17,171

The preceding figures exhibit—

	Tons.
In the Imports an increase this year of	... 1,864
Home Consumption an increase of	... 1,389
Export a decrease of	... 145
Stock an increase of	... 5,361

Auctions have passed off as under:—

CEYLON.—*Plantation.*—145 casks 17 tierces 29 barrels 24 bags partly sold—smalls 58s to 67s, low middling to middling 82s 6d to 100s, bold 103s to 106s, peaberry 90s to 120s.

EAST INDIA.—1,338 bags mostly sold as follows:—*Neilgherry* smalls 29s to 41s, low middling to middling dull greenish 34s 6d to 45s 6d, common to fair bold 38s 6d to 54s, dull bold 77s, peaberry 34s to 57s; *Nelliampathies* smalls 34s 6d, low middling 40s, bold 47s 6d, peaberry 45s 6d.

JAMAICA.—Of 103 bags 13 barrels only a small part sold, ordinary brownish 27s to 28s, fine ordinary greenish 33s.

COSTA RICA.—2,842 bags nearly all sold, smalls 26s 6d ordinary greenish and brownish 30s to 32s, good to fine ordinary 34s to 38s 6d, low middling 42s 6d to 48s, good middling dull grayish 55s 6d, fine middling blue 76s 6d, fine bold 101s, pea-berry 30s to 82s.

GUATEMALA.—3,443 bags partly sold, smalls 26s 6d to 36s, ordinary 27s, good to fine ordinary 30s 6d to 36s, low middling to middling 41s to 46s, bold 47s to 52s, good colory 54s 6d to 60s 6d, peaberry 37s to 66s.

VERA PAZ.—100 bags sold, ordinary dull foxy green 30s.

SALVADOR.—Of 989 bags offered 450 bags sold, smalls 23s to 25s good ordinary 30s, fine to fine fine ordinary 33s to 37s, low middling to middling 40s to 46s, pea-berry 47s to 6d.

NICARAGUA.—1,162 bags mostly sold, ordinary foxy 29s 6d to 30s 6d, good ordinary 32s to 33s, fine ordinary 37s to 37s 6d, middling greenish 42s 6d, pea-berry 31s to 41s.

COLOMBIAN.—2,630 bags mostly sold, smalls 24s to 40s, low middling to middling 38s 6d to 47s, good to fine middling 54s to 73s, good to fine bright waxy bold 69s to 93s 6d, pea-berry 40s to 71s.

ECUADOR.—160 bags sold, bold palish damaged bulked 28s to 28s 6d, bold bright yellow 30s 6d.

MEXICAN.—27 bags middling brownish sold at 42s 6d.

PERUVIAN.—82 bags damaged sold, smalls 21s 6d, ordinary 26s, peaberry 30s.

BRAZIL.—1,750 bags washed Santos nearly all sold, small greenish 26s to 27s 6d, medium to bold 30s 6d to 35s, peaberry 42s, landed terms.

Auction supplies to-day consisted of:—121 bags Java Liberian, 1,770 bags Guatemala, 568 bags Nicaragua, 717 bags New Granada, 192 bags Salvador, 304 bags Columbian, 15 bags Honduras, 51 bags Savanilla, 129 bags Costa Rica, and 26 bags Mexican. The sales went off with quiet demand at generally former prices.

Receipts in Rio and Santos.

Since July 1	1899-1900. Bags.	1898-99. Bags.	1897-98. Bags.	1896-97. Bags.
Rio ...	896,000	751,000	1,142,000	802,000
Santos ...	1,051,000	1,503.000	1,909,000	1,323,000
Total ..	2,947,000	2,254,000	3,051,000	2,125,000
Crop ...	—	8,772,000	10,461,000	8,680,000

Rio Exchange 7 1/16d, previous day 7 3/32d.

Havre, Sept. 7—Santos good average Sept. opened quiet at 31½f. and closed quiet at 31½f., December opened at 32f. and closed at 32f.

Hamburg, Sept. 7—Good average Santos Sept. opened quiet at 26¾pf. and closed quiet at 26¾pf., December opened at 27pf. and closed at 27pf.

New York, Sept. 6.—Closing prices of No. 7 Rio were as follow:—

	Aug.	Sept.	Oct.	Nov.	Dec.
Sept. 6 ...	4·10	4·10	4·10	4·60	4·65
Sept. 5 ...	4·40	4·40	4·40	4·65	4·70

Prices realized at auctions for some of the principal marks of East India:—

NEILGHERRY.

	A	B	C	PB	T
Ⓑ Muslicoodie ...	39-0 bid	34-6	30-0	40-0 bid	25-0
Kotacul, Nilgiris ...	40-0	36-0	33-6	45-6	29-0
Mailoor ...	38-6	34-0	29-0	34-0	28-0
Boothecarry, Nilgiris ...	43-6	37-6	33-6	40-0	26-0
Palmer	43-0	36-0	25·6 bid	31-0 bid	27-0

NELLIAMPATHY.

	A	B	C	PB	T
Chundra Mulla, Nelliampathies ...	47-0	40-0	34-6	45-6	28-6

NAIDOOBATUM (Cherry).

	A	B	C	PB	T
W B Balmadies, Naidoobatum.	38-0	38-0 37-0	32-0	38-0	30-0
Do. CH	30-0	31-6	—	35-6	23-6
Mamally WPC CH	33-0	28-0	—	29-0	21-6
Do. do. do.	33-0	26-0 bid	—	32-0	20-6

TEA.

CHINA.—Auctions this week have presented 3,979 packages, which mostly sold; for Oolong some improvement in price was noticeable, but other makes were, if anything, a little weaker. Old Season's Oolong common realised 4d to 4¾d, Formosa Oolong 7½d to 8d, Ningchow 7d. New Season's Panyong 6¼d to 6½d, Moning 5½d to 5⅝d, siftings 3⅝d, Paklin 6½d to 6¾d, scented Caper 6d to 8⅝d; Green—Sow Mee 6½d, Foong Mee 8½d to 8¾d, and Young Hyson 3⅞d to 4d per lb.

INDIAN.—About the same quantity was brought forward, viz., 39,600 packages, against 40,100 packages last week, and 39,300 packages at this period in the preceding year.

The improvement in the enquiry previously noticed continued for all except inferior common leafy kinds, and there was brisk competition at the auctions for useful and good liquoring descriptions, which further hardened, in value, while fine and choice lots, particularly strong "Tippy" Broken Pekoes, were in many cases decidedly dearer. Some enhanced quotations were made for the best Assams and Darjeelings, the quality of which was of a high standard, notably:—Assam: Oaklands Estate, 109 packages bringing 1s 3¾d; Doom Dooma Co, 645 packages 1s 3¼d; Budla Beta Estate, B.B.T.Co., 88 packages 1s 2½d; Hokungoorie Estate, A. F. T. Co., 162 packages, Jaipur Estate 66 packages, and Makum Co. 172 packages, 1s 2d per lb. Darjeeling: Ting Ling Estate, D.C. T. Co., 117 packages 2s. 6½d; Ilasun Estate, D.C. T.Co., 45 packages 1s 9⅜d; Nagri Estate, A.T.E Co., 52 packages 1s 8¾d; Phoobsering Estate, Dar. T. Co., 79 packages 1s 7½d; Lebong, etc. Estate, A. T. E Co., 44 packages 1s 7d; Turzum Estate, 102 packages 1s Ging Estate, Dar. T. Co., 155 packages 1s 3¾d; Soom Co., packages 1s 3½d per lb.

For 37,900 packages on Garden Account 8¼d per lb. was obtained *versus* 9⅛d per lb. for 30,800 packages in 1898 and also for 29,[illegible]00 packages in 1897.

Entries for export to Great Britain during August were 19,130,000 lbs., making from the 1st April to 31st ult., 52.642,000 lbs. contrasted with 47,917,000 lbs. a year ago.

CEYLON.—Public sales were lighter, aggregating 30,900 packages opposed to 35,700 packages in the week before, and 29,400 packages in 1898.

With a strong demand prices marked a rise for nearly all sorts except undesirable Pekoe Souchongs and Pekoes, but those over 6½d per lb. were often taken at ¼d to ½d per lb. advance, particularly when suitable for export. Broken Pekoes of most grades were also in more request, many of them having better flavour than former arrivals, and improved rates were consequently registered for them. Finest lines commanded considerable attention, the following Broken Orange Pekoes being noticeable:—Ingestre Estate, 1s 7d; Diyanilakelle Estate, 1s 5½d; Hauteville Estate and Henfold Estate, 1s 4½d; Goatfell Estate, Car.T.Co., 1s 3¾d; Fetteresso Estate, CL&PCo., 1s 3½d; Talawakelle Estate and Waverley Estate, CTPCo., 1s 3¼d per lb.

The average is nearly 7½d per lb. On the 31st ultimo it was 7⅛d per lb. and 7⅞d per lb. in 1898

JAVA.—Only about 400 packages were submitted which went off well, though not much alteration in values occurred.

For the 14th instant 1,100 packages are catalogued.

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns were:—

	Lbs.
From 1st to 5th Sept., 1899	2,991,264
Do. do. 1898	2,436,215

During the week the following have been printed for sale by public auction:—

	Sold. Pkgs.	Withdrawn. Pkgs.	Total offered. Pkgs.
India... ...	36,223	3,355	39,578
Ceylon ...	29,916	996	30,912
Java	290	92	382
Total ...	66,429	4,443	70,872

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated September 8th, 1899, says:—

QUANTITY BROUGHT TO AUCTION IN LONDON FROM 1ST JUNE TO DATE.

	Indian. Pkgs.	Ceylon. Pkgs.	Java. Pkgs.
1899-1900	276,613	296,287	16,940
1898-1899	255,861	367,582	13,237

40,370 *pkgs.* INDIAN
31,111 ,, CEYLON
382 .. JAVA
} Total 71,863 packages were offered in public auction this week.

Movements of Tea in London during August show a satisfactory quantity of Indian and Ceylon Tea delivered from the warehouses. For the first half of last month the deliveries were greatly restricted owing to the trade dispute, but since the large sales were started the Teas have been quickly distributed. Duty payments to date are exceptionally heavy.

INDIAN.—With a continuance of the improved demand and a diminution in the supplies brought forward, prices for all grades show a further hardening tendency. As regards the quality of the crop so far seen, neither Assam nor Darjeeling have shown so many good liquoring invoices as last year, though a few stand-out parcels have been marketed. The Dooars has shown a very uneven crop, whilst Cachar and Sylhet Teas compare favourably against the exceptionally poor quality received from these districts at the early part of last season. An invoice of 117 packages from the "Ting Ling" division of the Darjeeling Consolidated Co. realised the high average price of 2/6½ per lb. The Official Wire gives exports to U K from 1st April to end of August as lbs. 52,642,000, against lbs. 47,917,000 same period last season.

Week's av. of Tea sold on Garden Account 1899, 37,536 pkgs., av. 8·48d. 1898, 30,984 pkgs, av. 9·25d.

Total Tea sold on Garden Account 1st June to date 1899, 164,869 pkgs., av. 8·27d. 1898, 160,670 pkgs., av. 8·86d.

Ceylon.—The quantity being brought forward continues to diminish, and it appears that the accumulated supplies have been to a large extent worked off. With an improved trade the Teas have been strongly competed for at advancing rates for all descriptions. Amongst the more recent arrivals an improvement in quality has generally been noticeable, and as good liquoring Tea is much wanted, quotations for certain marks have materially improved. The official telegrams give exports from 1st January to 31st August as 69,750,000, against 67,000,000 lbs.same period, 1898.

Average for week 7·32d., against 7·73d. same period 1898.

Ceylon Tea sold on Garden Account 1st Jan. to date 1899, 706,030 pkgs., av. 7·95d. 1898, 814,633 pkgs., av. 7·61d.

Java.—Only 382 packages were offered, and prices ruled a little harder.

Bank Rate 3½ per cent. Exchange on London three months sight:—Calcutta 1/4 7/32. Colombo 1/4 7/32.

COCOA.

At public sale on Tuesday 4,805 bags were offered and with a fair enquiry 1,800 bags sold at irregular prices—from 1s decline to 1s advance. 292 bags Trinidad practically all sold at a rise of 1s, viz.:—fair to good red 69s to 72s 6d, blacks 45s to 46s 6d. Of 610 bags Grenada offered 480 bags sold—superior red 67s to 69s, ordinary to fine 62s 6d to 66s, or 6d to 1s over valuations. 3 bags fine Dominica realised 64s 6d. and 8 bags St. Lucia 64s. Of 158 bags Jamaica 120 bags were placed at a decline of 1s, good red—Ceylon cure—61s 6d to 62s 6d, and common to fair common 58s to 59s 6d. Of 573 bags African only 25 bags of fine sold at 66s. Guayaquil again easier, 430 bags Caraquez selling, out of 900 bags catalogued, at 67s to 68s for good red, and 65s to 66s for gray. 141 bags Samana, 100 bags Bahia, 139 bags Surinam, 191 bags Venezuelan, and 16 bags Colombian all passed the hammer unsold. Ceylon sold with considerable irregularity, and in consequence of the low offers the bulk of the good qualities retired, the less desirable grades were steady; 1,676 bags offered and about 450 bags sold—good bold bright red 80s to 83s, fair ditto 71s 6d to 76s, middling medium to bold 68s to 69s, fair to fine small 56s 6d to 59s, pickings 51s 6d to 57s 6d, and black 51s per cwt. Privately sales include 100 bags Trinidad and 150 bags Ceylon at auction rates, 200 bags African at 63s to 66s, and 300 bags Guayaquil at 68s for good Caraquez. and 68s to 70s for Arriba.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

	1899.	1898.	1897.	1896.
	Bags.	Bags.	Bags.	Bags
Imports, B.P. ...	110,798	110,397	101,317	111,504
Foreign ...	58,617	86,123	59,716	53,224
Home Con., B.P. ...	59,067	73,924	59,177	52,132
Foreign ...	35,994	39,949	40,681	39,186
Exports, B.P. ...	34,445	27,141	35,543	29,124
Foreign ...	19,992	22,106	30,670	20,516
Stock, B.P. ...	62,869	69,371	84,572	96,102
Foreign ...	55,205	57,568	48,584	69,887

PEPPER.

Black.—The market maintains a firm appearance and business has been done at higher prices. For arrival about 300 tons are reported sold, viz., fair Singapore on the spot and near at hand at 5 5/8d, August-October shipment at 5¾d, September-November at 5 7/8d, and October-December at 5 15/16d. Sales at Tellicherry 5⅝ to 5 11/16, being dearer.

At auction on the 6th instant of 407 bags Singapore catalogued, only 55 bags sold—middling greyish 5½d. Of 76 bags fine heavy shot Estate, 45 bags sold at 6d. 5 bags good heavy brownish Ceylon realised 5¾d. 240 bags Aleppy retired unsold.

White.—Active and dearer. About 200 tons have changed hands during the week, embracing Singapore on the spot at 8 11/16d. August-October shipment (s.) at 8 13/16d, September-November at 8 15/16d, October-December 9⅛d, and November-January at 9⅛d; fair Penang on the spot has been done at 8 7/16d, August-October shipment at 8 9/16d, and October-December at 8 13/16d per lb.

At the public sale on the 6th instant 378 bags Singapore were all bought in with the exception of a few lots of damages, whilst of 401 bags Penang about 30 bags sold at 8 7/16d per lb. for fair limed.

GINGER.

Cochin.—A firm market obtained all through the early part of week, few holders offering and then only in small quantities, but Wednesday's auctions exposed for competition no less a supply than 165 cases 2,281 bags. This steadied the demeanour of would-be buyers who tendered bids in a half-hearted manner and in low key, but importers held for full private rates, the result being that sales were restricted to 6 cases 225 bags. Very dull small and medium roughly cut realised 26s, cut small and ends 26s, medium and bold cut 49s, sea damaged medium and small washed rough 21s to 22s, and fair brownish Calicut rough wormy 23s per cwt.

The private transactions reported reach to about 1,500 bags, including medium and small washed 23s to 24s 6d, bold and medium Calicut rough 25s, medium and small part boldish 23s 9d to 24s, smaller ditto 22s per cwt.

Jamaica.—150 barrels were offered but experienced a very poor enquiry, only 15 barrels selling at 60s for ordinary medium washed, 57s 6d for boldish dull, rather brown, and 52s 6d per cwt. for common.

St. Lucia.—29 bags dull small brownish washed sold at 49s to 50s per cwt.

CINCHONA.

The Amsterdam correspondent of the *Chemist & Druggist*, writing on September 1, reports that the shipments from Java (according to the figures of the Nederlandsche Veem) were as follows:—

	1899.	1898.	1897.	1896.	1895.
Amsterdam lbs. August	1,200,000	1,047,000	697,000	979,000	697,000
January-August ...	7,230,800	7,136,000	4,931,000	6,029,000	5,013,700

The shipments from Ceylon for the week ending August 14 were *nil*, and the total exports from January 1 to August 14, 1899, show a decrease of 170,623 lbs. as compared with the corresponding period of 1898. The cinchona-bark auction, to be held in Amsterdam on September 28, will consist of 5,549 bales Ledger and Hybridin; 1,349 bales 702 cases Succirubra. The stock in first hands at Amsterdam consisted on Septemper 5 of 2,165 packages Government bark; 8,853 packages private, including the quantity to be put up in the auction of September 28.

QUININE.

About 2½d. per oz. lower in second hands. The market at the end of last week closed firmer, a limited business being done in German brands at 1s. 1d. spot and 1s. 1½d. for December delivery; but the improvement was short-lived, as on Monday the market opened flat and weak, with sellers at 1s. 0¼d. spot, but no buyers. Quite a little panic set in on Tuesday, when, owing to the heavy bark-shipments from Java during August, and the huge quantity of bark declared for the September auctions in Amsterdam, weak holders were eager sellers, and on that day about 80,000 oz. changed hands, at 11⅞d., 1s., and 1s. 0¼d, the bulk being done at 1s., for spot; for December delivery, 1s. 0⅛d. to 1s. 0¼d. was paid. On Wednesday the spot-quotation declined to 11¾d. to 11½d., at which figure only a small business was done; and for October 11⅝d. and December delivery 11⅞d. to 1s. per oz. was paid. To-day's transactions include December delivery at 11¾d. to 1s. 0¼d., and spot at 11⅝d. to 11¾d. per oz.; the market was pronounced slightly firmer at the close.

Movements of Tea in London (in lbs.) during August.

	Imports.			Deliveries.		
	1899.	1898.	1897.	1899.	1898.	1897.
Indian	13,472,938	13,350,924	12,479,925	10,015,542	10,377,965	8,311,815
Ceylon	9,413,876	9,301,936	8,854,174	8,633,180	8,385,722	8,350,064
Java	500,570	260,190	276,640	502,040	261,310	360,850
China, &c.	4,326,396	5,062,227	5,558,552	2,912,817	2,934,083	3,046,373
Total lbs. ...	27,713,780	27,975,277	27,169,291	22,063,579	21,959,080	20,069,102

FROM 1st JUNE TO 31st AUGUST.

	IMPORTS.			DELIVERIES.			STOCK.		
	1899.	1898.	1897.	1899	1898.	1897.	1899.	1898.	1897
Indian	25,730,707	20,848,825	20,387,694	28,757,895	30,716,996	26,820,855	28,474,353	28,206,617	25,8[illegible]
Ceylon ...	29,143,330	28,503,886	29,944,274	24,560,576	23,965,282	25,181,196	24,373,096	21,531,898	24,716,2[illegible]
Java ..	1,083,530	794,920	1,019,340	1,249,780	781,480	1,073,030	548,870	671,020	69[illegible]
China, &c.	15,065,875	11,314,481	12,695,439	7,585,945	7,758,807	8,299,228	17,544,819	15,406,938	17,3[illegible]
Total lbs ..	71,023,442	61,462,112	64,046,747	62,154,196	63,222,565	61,374,309	70,941,048	65,815,473	68,[illegible]

(AVERAGE FOR ALL INDIA 8·48d.) September 8th.

GARDEN	Total.		Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust, and Various.	
	Quantity		Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price.
Neilgherry	**199**		**6·90**												
Carolina ...	20		5⅝	—	—	—	—	—	—	20	5¾	—	—	—	—
Culloocoray ...	95	p	6½	70½c	6½ 8	—	—	—	—	—	—	13	5¾	12	6
M M B Nyanza ...	4½c		6½	—	—	2½c	6	2½c	6¾	—	—	—	—	—	—
Tudor Hall ...	80	p	7¾	51½c	8¾	29	6¾	—	—	—	—	—	—	—	—
Travancore	**1213**		**6·45**												
Belford ...	154½c		6¼	—	—	106½c	5¾	38½c	7½	—	—	5½c	5¼	5½c	5¼
Ellangy ...	160		5¾	—	—	75	5½ 5¾	35	6¼	42	†5¼	—	—	8	4¾ 5½
Invercauld ...	178	p	6	—	—	74	5¾	76½c	6½6¾	—	—	28	5¾	—	—
Isfield T C Isfield ...	58		6	—	—	36	5¾	18	6¾	—	—	—	—	4	4¾
Kanan Dev. Hil A...	28½c		6¾	—	—	—	—	—	—	28½c	6¾	—	—	—	—
Do. Munaar ..	281½c		7¾	54½c	†7¾	117½c	7	57½	10	53½c	6½	—	—	—	—
Kinmylies ...	50½c		6	14½c	7	28½c	5¾	—	—	6½c	5¾	1½c	5	1½c	5
Mahendragherry .	58½c		6	13½c	6¾	35½c	6	—	—	5½c	5½	2½c	5	3½c	5
Travan T Est BA...	199	p	6¾	—	—	83	6¼	63	7½7¾	6	6	—	—	47	p 5¾ 7¼
Do. do. Pamb	47	p	6½	—	—	—	—	23	7	15	5¾	—	—	9½c	5½
Wynaad															
Chulika ...	72		7¾	22	10½	21	7¼	—	—	29	6	—	—	—	—

PROGRESS STATISTICS.

The following official statistics are supplementary to our Leading Article (in issue of 2nd September 1899) on the subject of "Tea, Coffee and Cinchona."

II.—PROGRESS OF COFFEE CULTIVATION IN INDIA FROM 1885 TO 1897.

	Burma.	Assam.	Bengal.	Bombay.	Madras.	Mysore.	Coorg.	Travancore and Cochin.	Total.
Number of acres under Coffee—									
1885	....	....	9	37	62,228	105,021	63,150	7,049	237,494
1886	....	....	10	183	59,407	102,688	64,050	5,025	231,363
1887	....	....	10	137	59,612	113,116	63,393	8,751	245,019
1888	....	....	10	139	61,890	114,962	62,738	6,619	246,358
1889	....	....	....	137	71,003	122,330	63,207	5,539	262,216
1890	....	....	....	114	73,762	128,452	62,741	5,610	270,679
1891	120	....	1	91	68,911	125,747	62,230	5,867	262,967
1892	179	....	1	82	68,237	127,437	59,985	5,712	261,633
1893	198	....	2	66	56,239	132,520	63,783	6,242	259,050
1894	248	8	2	61	63,812	136,052	71,181	6,587	277,951
1895	267	22	2	54	63,953	138,670	73,828	6,955	283,751
1896	319	125	2	57	56,851	141,528	84,820	5,564	289,266
1897	308	152	2	62	55,895	125,876	86,155	7,624	276,074
Total yield in lbs.—									
1885	....	....	576	....	14,016,517	11,553,431	7,564,700	1,824,071	34,959,295
1886	....	....	1,060	....	12,167,800	10,153,481	8,133,440	899,706	31,355,487
1887	....	....	740	....	11,042,861	15,504,154	10,442,880	1,182,353	38,172,988
1888	....	....	480	....	10,748,073	8,365,375	6,185,760	1,231,291	26,530,979
1889	....	....	....	....	12,382,580	9,036,796	7,510,720	929,976	29,860,072
1890	....	....	....	....	7,568,020	8,768,366	5,007,520	757,862	22,101,763
1891	12,000	....	116	....	9,394,373	15,662,925	12,841,920	1,740,400	39,651,734
1892	76,491	....	50	....	8,843,925	17,201,960	6,817,440	1,119,086	34,058,952
1893	49,760	....	206	....	8,116,186	19,753,109	8,675,520	1,609,679	38,204,460
1894	50,364	....	195	....	10,977,687	7,052,173	6,324,640	858,796	[illegible]
1895	67,600	....	179	2,013	11,005,137	16,796,016	10,965,024	1,305,689	40,141,667
1896	52,240	....	81	2,068	11,528,343	9,112,757	5,039,749	333,752	26,088,970
1897	77,212	190	20	1,767	11,763,219	4,659,376	7,063,140	477,843	24,042,767

PLANTING OPINION,

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

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DOMESTIC OCCURRENCE.—The fee for inserting a domestic occurrence will be *One Rupee* for each insertion, payable in advance.

N.B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 13th instant Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, *3rd October—Weather.*—S.-W. Monsoon is now completely over. Since the beginning of last week, clouds have been coming up from the N.-E. Heavy plump of rain last Friday. About an inch in 15 minutes! Since then it has been raining in parts; and other parts have not had a drop. *Crops.*—Ripe showing up. A flypicking will have to be done soon. *Plant diseases.*—There is some leaf disease about; but coffee generally is looking extremely well. *Interesting item.*—Fifteen members of C. Company of the Coorg and Mysore Rifles volunteer for Transvaal.

THE POOR MAN'S CROP—COFFEE.

To the Indian coffee-planter, the above heading will savour of irony; yet it is a mere quotation from remarks made in all seriousness by a Queensland planter. Dr Thomatis, of Cairns, at an Agricultural and Pastoral Conference organised by the Queensland Department of Agriculture, remarked:—"Some people will say coffee requires a large capital, and it is only a rich man who can go in for it. If that were so, it would preclude a large number of us from going in for it; but let me tell you that there is no such thing." To prove his point, Dr. Thomatis referred to what had passed between Mr. H. O. Newport, the Queensland Coffee Expert, and himself, saying of Mr. Newport:—"When he came to my place, he saw I had not taken away the stumps and logs, that I had planted rice between the coffee-trees and he was rather astonished, my system being a new revelation to him.

'What! Two crops on the one land! That will never do.' But, I said, 'Wait till I get my rice, and then I shall have a few pounds for working expenses.' Finally, he said, I was doubtless right." We have it on the same authority :—"Coffee can be grown very cheaply in Queensland. A crop of corn or rice between the plants will not hinder them in any way. In fact, in windy weather, it serves to act as a break-wind, and in hot weather as a shade. It is actually beneficial besides being remunerative. You all know that in coffee-countries shade trees are planted for the coffee trees. These bananas and acacias, the trees generally employed, mean extra labour, expense, and time Instead, therefore, of trying these, I experimented with rice, and this year I reaped a very fair crop of paddy from 30 acres of coffee that I have planted, which has almost paid my expenses in connection with the plantation, from the felling of the virgin scrub to the present day, besides providing shade for the young trees. This, I think, should be a sufficient rebuttal of the idea that only rich men should tackle coffee. It is a poor man's crop, and a crop that will make him wealthy and rich."

Referring further to the views of the same gentleman, we find that coffee is very simple in culture. "You can take the seed and plant in April or May ; in six weeks' time it comes out of the ground, when it behoves you to shade your coffee. About January or February the trees are strong enough to be transplanted, they being then about 8 to 10 inches high. The proper time to transplant in North Queensland would be from the end of January to the end of May." "Three years after you have planted them, you will have your first crop. The maiden crop will not yield more than 4 cwts. to the acre, supposing the trees are planted 8 feet apart. The crop would be a fair one. Then you get between 6 and 7 cwts. to the acre. In the fourth year the crop reaches 10 cwts. I have two acres on a flat near the tidal waters of a river, from which I got over 12 cwts. per acre last year. There is very little labour connected with coffee. You need not till the soil so carefully as for, say, maize or rice. As long as you keep the weeds down, the coffee-plant will never suffer. Neither the harrow nor plough is needed" The whole thing is simple in the extreme. Dr. Thomatis says :—"Another good plan is to mulch the plants, and that is a reason why I grow rice among the coffee. I use the straw of the paddy after the grain has been taken off to mulch the trees, mulching all round where the land has been hoed. I do not remove the mulch at all, and, during the rainy season, it becomes rotten. To touch the ground then would be dangerous, so simply stick a fresh mulch on it. From this it will be seen that there is very little labour in connection with the coffee, and I am happy to say that there will never be any dispute as to what kind of labour we are to employ. As to the treatment of the plant, I shall not speak as we have now, in service of the Government, a Coffee Expert ; but there is very little trouble and expenses in connection with it. The blossoming starts in August or September, and the blossoms fall-off in November, or just after the beginning of the rainy season. The fruit ripens from the 1st of April to the 1st of August." Nor is this all : "Weather cannot kill coffee, and I have had trees, burned by bush fire, which have recovered without any apparent ill-effects." We had almost expected to find that the only result was that the berries were plucked *ready-roasted* from the trees ! As for picking—it is very easy, and any child over seven or eight years of age can do it. No wonder then that this Queenslander comes back to the old argument and re-asserts:—"Coffee is the crop for the poor man." According to him it requires no mills, no tramways, nor anything of the sort. You provide a hoe, a pruning knife, and a scythe to cut the grass. Nature does the rest ! And Nature provides, for this small outlay of human trouble, "a superior class of coffee."

As if to restore the Indian planter's peace of mind, the next speaker gave utterance to remarks that recall the saying that the antidote is always to be found near to the place where the poison grows. Mr J. Parke, of Tinana, said that, that with hand labour for picking, coffee would not pay ; rather than sacrifice his children's education, he had sacrificed the coffee, and now only kept a tree or two for his own use. Another gentleman heard that blight had appeared on the coffee-trees in Queensland ; another, had been warned not to undertake coffee, without seeing prospects of a good supply of labour. But Dr. Thomatis stood to his guns. He admitted that coffee was largely a question of labour, but asserted that it is a family culture, that 5 or 10 acres can be attended to by a single family if it is not too small, and that 5 acres would render a settler independent. We give his opinions for what they are worth. They offer a curious commentary on the lamentations of many coffee-planters in India at the present day, and a warning that, should his belief be shared by many settlers in Queensland, that colony may yet try to do much towards accentuating the great evil in regard to coffee over cultivation. If coffee is the crop of the poor man—in the sense in which Dr. Thomatis uses the expression—the once-rich, now-poor coffee-planter in this country must "quit" coffee or be content to continue as poor as, for the most part, he considers himself to be at the present time.

TEA-GROWING IN SOUTH CALIFORNIA.

A *rechauffé* of the history of Dr. Shepard's experiment at Summerville, South California, is a sort of annual dish. The latest specimen puts matters thus :—For nearly ten years he has maintained an experimental tea-garden, and last year he gathered more than 1,000 lbs. weight of leaf, the produce of some 50 acres of tea plants—20 lbs. per acre ! Preparations were made in 1890 by laying down a subsoil, adding burnt marl, and in other ways favouring the growth of the new-comer, and seeds of "Assam hybrid" were selected as most likely to come to maturity. For the first three years there was little result, but since 1894 the yearly produce has risen from 150 lbs. to eight times that quantity. We read : "The quality is such that some of the black leaf of last year's growth was retailed at a dollar a pound It should be mentioned that the finest brands imported from abroad lose so much in transport to the United States that the subtleness of their flavour is lost, hence the home-grown article will, in one respect, have a great advantage The yield per bush is stated to be not less than nine ounces, which would be reckoned exceedingly good in any part of the world, though the plants are not yet mature. Already two other tea gardens have been planted, and there seems reason to believe that the industry may prove profitable, and hence permanent." This is somewhat amusing. If 20 lbs. per acre is a fair yield and 9 oz. a bush ditto, how many bushes go to the acre ? It is interesting anyhow to know that Dr. Shepard can already teach India a good deal. The system of pruning in India is all wrong : and

he adopts a more scientific method which is said to ensure a steady crop and fresh delicate foliage. His plucking costs him 14·08 cents of a dollar which, he says, is eight times more than this work costs in Asia. His total expenditure is 27½ cents per lb. (about 1s. 1d.). His plucking baskets are curiosities, being ordinary fishing kreels, lids and all complete. Probably, however, the Indian planter will not imitate this process that yields a steady crop of 20 lbs. per acre and will place little faith in the statement that this outturn is produced at a cost of 1s. 1¾d. per lb.

PROPOSED AMERICAN DUTY ON BRAZILIAN COFFEE.

American newspapers forecast an import duty of 3 cents per lb., equivalent to more than 50 per cent. *ad valorem* on Brazilian Coffee, unless Brazil consents to the preferential treatment of certain American manufactures and products. The American argument as to Brazilian duties is given by *Bradstreet's* in these words :—

Under the reciprocity treaty of 1891 the following products were admitted free of duty when imported from the United States, namely: Wheat, wheat flour, corn, rye and rye flour, potatoes, peas, beans, hay, oats, salted pork, salted, dried or pickled fish, anthracite and bituminous coal, rosin, tar, pitch, turpentine, agricultural tools, implements and machinery, mining and mechanical tools and machinery, including stationary and portable engines and all machinery for manufacturing and industrial purposes, except sewing machines, instruments and books for the arts and sciences and railway construction material and equipment. At present, while wheat remains free of duty to all countries, flour pays a duty of about 10 per cent., barley 25 per cent., hay 20 per cent., cottonseed oil 50 per cent., manufactures of cotton, upon which a rebate of 25 per cent. was allowed under the treaty of 1891, pay duties of from 50 to 60 per cent., and tools and machinery pay a high rate in the main, while agricultural implements are free of duty, and locomotives pay a duty of 15 per cent., which is not regarded as very heavy, though of course it represents a burden as compared with the conditions under the treaty of 1891.

On the part of the United States, it has been urged upon the Brazilian government that reductions of some of these duties would be of marked benefit to the South American republic, particularly in the direction of furnishing its people with machinery, which would be of great aid in stimulating production. The imports of its chief product, coffee, from Brazil, constitute, it has been estimated, more than 5 per cent. of the total imports of all product from all countries into the United States, and they would withous doubt be seriously interfered with by the imposition of the retaliat tory duty such as is authorized to be laid under the present tariff law.

The suggestion that what is to be done by America is for the good of Brazil is amusing ; but it seems at least to be a fact that the reciprocity arrangement between the two countries has resulted in disappointment to both, and that each has held the other guilty of bad faith. As to what will happen if the duty be actually imposed, it is obvious that prices will either rise, which will mean that the consumer will pay the duty, or remain stationary, which will mean that the producer pays. As the latter can hardly stand any further shocks than those of low prices and a rising exchange, there can be little doubt that cultivation will be diminished if the duty alluded to be imposed. This, again, means a tendency on the part of supply to fall short of demand, and a consequent call upon American buyers—among others—to pay higher prices, quite apart from the enhancement caused by the imposition of a duty. All this might prove to Brazil "a blessing in disguise," so that it is not surprising to find her present attitude one of a steady determination not to give in.

We may appropriately conclude by quoting Section 3 of the Dingley Tariff Act, which gives the President the authority to impose a duty on coffee. It provides "that with a view to secure reciprocal trade with countries producing the following articles, whenever and so often as the President shall be satisfied that the Government of any country, or colony of such Government, producing and exporting directly or indirectly to the United States coffee, tea, and tonquin, tonqua, or tonka beans, and vanilla beans, or any of such articles, imposes duties or other exactions upon the agricultural, manufactured or other products of the United States, which, in view of the introduction of such coffee, tea, and tonquin, tonqua, or tonka beans, and vanilla beans, into the United States, as in this Act hereinbefore provided for, he may deem to be reciprocally unequal and unreasonable, he shall have the power and it shall be his duty to suspend, by proclamation, to that effect, the provisions of this Act relating to the free intoduction of such coffee, tea, and tonquin, tonqua, or tonka beans, and vanilla beans, of the products of such country or colony, for such time as he shall deem just ; and in such case and during such suspension duties shall be levied, collected, and paid upon coffee, tea, and tonquin, tonqua, or tonka beans, and vanilla beans, the products or exports, direct or indirect, from such designated country, as follows :

"On coffee, three cents per pound.

"On tea, ten cents per pound.

"On tonquin, or tonqua, or tonka beans, fifty cents per pound ; vanilla beans, two dollars per pound ; vanilla beans, commercially known as "cuts," one dollar per pound."

U. P. A. S. I. SECTION.

[Under the control of the Secretary, U. P. A. S. I.]

The following interesting letter to the Secretary, U.P.A.S.I., was forwarded to him through the medium of the Chairman of the Planters' Association of Ceylon :—

Sir,—In to-day's paper appears your resolution inviting information from members of your District Associations as to the result of any special system adopted in the Curing of Coffee on Estates. Although not a member of your Association, I have been a long time connected with coffee growing, and have had some experience as a Coffee Estate Manager during my nearly thirty years' residence in Ceylon. My system of curing coffee on the estate may be the system generally adopted by Indian planters ; if so, you will know how to treat this, but should it be slightly different from that in general use, I think it will pay your coffee planters to closely follow my system, which I carried out on Golconda from 1872 to 1888. Old sale lists will prove, with what result.

Pulping.—While the parchment bean is floating from the well of the pulper to the fermenting cistern, have a tongue of galvanized iron about 2 feet long fitted into the discharge end of the spout, so that one-half of the water carries off the lighter parchment into another cistern than the one set apart for the good parchment coffee. This simple mechanical arrangement, any ordinary carpenter can fit-up in a few minutes, but the benefit derived from it is the absolute exclusion of all defective beans from the good parchment. This will be more noticeable when washing the good parchment. There will be none to float off, and, when washing the inferior parchment coffee, which floated along the tongue, it will be found that a large quantity of this parchment has sunk while

washing, and in appearance (in the cistern) is as good as the No. 1 Parchment from which it was prevented from mixing by the galvanized iron tongue. But, if closely examined, almost every bean will have a slightly deficient end, or be otherwise an imperfect bean. These should be classified as No. 2 Parchment, and what was floated off, washed and kept separate, and called light coffee. In curing in Ceylon, and I have cured coffee at from 1,200 feet to 6,200 feet elevation, and found that even the best parchment coffee could be spoiled by being kept too long in the sun. The parchment put from the cistern in the morning should be spread thinly on matting in the sun, and a cooly employed to keep turning it by his feet, by a shovel sort of walk, and generally the water will be well off the bean and the washing fit to be taken into the upper floor of the store by 12-noon. If kept out too long, the parchment is very apt to split, and the bean curl-up and split. The parchment coffee should be spread, as thinly as possible, on matting over a reepered floor until following morning, when it can be spread thicker, and so on daily, so long as it is keeping fresh and sweet; but it should be put in the sun for a few hours, if there be the slightest symptom of mustiness.

Coffee dried slowly, and given half-day's sun a day or two previous to despatch, will, when finally cured, be a far prettier bean than coffee cured by two or three successive days in the sun. It may help you to realize the importance of the system if I mention, at the risk of appearing egotistical, that the owner of an extensive property in Haputale gratefully acknowledged these hints, and gave me, through his son who was then the President Manager, a present of a cheque for Rs.250, because of the result from his adopting my system of curing, and afterwards, on every occasion his son left for England, I had the supervision of his large property in addition to my other charges. It may also interest you to know that in Ceylon there is a coffee sieve known as Westland's Sieve Plate, made by Walker & Sons, Kandy, which is recognised as a very useful style of sieve to have on one's Pulper. It has oblong instead of round holes, and allows almost no cherry to pass unpulped.

This letter is written solely with the object of aiding my brother-planters who are still trying to make the most they can out of coffee, and you are welcome to make any use of it you think fit.

JAMES WESTLAND.

THE CEYLON ASSOCIATION IN LONDON.

After making a very comprehensive enquiry into the origin of the above Association, the Planters' Association of Ceylon has arrived at the following

CONCLUSIONS :—

(1) That the Ceylon Association in London cannot be considered a "Branch" of the Planters' Association; but there is ample evidence to show that it is instituted to take Mr. Leake's place as agent of the Planters' Association, to be representative of planting and mercantile interests in Ceylon, to act in correspondence with the Public bodies of Ceylon, and to receive from these financial support without which its success must be endangered.

(2) That the right to initiate a policy, so to speak, was not originally claimed; and, if not absolutely given up, was at least greatly deprecated by Lord Stanmore and other influential members of the Ceylon Association.

(3) That, (1) and (2) being granted, the Ceylon Association made a new departure in sending (or even publishing that they had determined to send) a deputation to the Secretary of State, without first ascertaining whether they had the support of the Public bodies in Ceylon, or at least how far these bodies would go towards supporting them. This they failed to do and thereby committed a grave act contrary to the advice of Messrs. Rutherford & Boi. They, besides, by their action, greatly weakened the power of the Association for the future, and thereby weakened any representations to be made by the Planters' Association through them.

(4) That, owing to the action of the Ceylon Association in the case of the Northern Railway, and the speeches at their last annual meeting, the Planters' Association can no longer be certain that the Ceylon Association will represent their views on any given subject, or even act in correspondence with them.

The Sub-Committee that went into this matter also submitted certain

RECOMMENDATIONS

as follows :—

(*a*) That a copy of this report be forwarded to the Ceylon Association, with a request that they should consider the matter and intimate in general terms what their views of the position are, and how far they are prepared to represent and act in correspondence with the Planters' Association in the future.

(*b*) That enquiry be made, whether they assume the right to initiate a policy without reference to the Planters' Association, and or even in opposition to the Planters' Association, and or without taking reasonable steps to ascertain the opinion of the Planters' Association.

That the Planters' Association delay further action until a reply to this reference to the Ceylon Association is received, or, say, for three months.

The Association adopted the report in due course, "as giving the history of the position," but resolved that the Sub-Committee's conclusions alone (not the report) be forwarded to the Ceylon Association in London. It is by no means clear why the report should not have been sent also, seeing that the Association has permitted its publication, in full, in the Press. However, the Ceylon Association will no doubt consider the report as well as the conclusions, and we must await further developments. There can be no doubt that the London Association owed its origin to the Planters' Association of Ceylon, and if it wishes to strike out along lines of its own, as it did recently in regard to the Northern Railway project, we may expect the C. P. A. to reconsider the situation. The withdrawal of its support from the Ceylon Association in London would probably render the latter practically powerless, for good or for evil.

INDIAN COFFEE AND PEPPER.

Mr. Ralph Tatham, Agent at Tellicherry of Messrs, Arbuthnot & Co., says, with reference to his Annual Statement of Exports of Coffee and Pepper for the year ending 30th June 1899, the total figures of which approximately represent what the crops of these products in India, for the year in question, amounted to :—

As usual, I further show the distribution of shipments to various ports, and have added the figures relating to exports for the three previous years for the purpose of comparison.

Coffee.—As I anticipated when I last wrote, the crop for the past year shows a vast improvement in regard to quantity over the previous one, being no less than 93% greater. Of the quantity shipped cwts 2,40,432 may be regarded as Plantation, and the balance cwts.1,53,659 as Native Coffee, showing an actual increase in Plantation Coffee, as compared to the previous year of cwts. 1,18,915 and in Native Coffee of cwts.72,001. Unfortunately the beneficial result of a bigger crop has, to a great extent, been nullified by the great fall in the price of the product, and I find it impossible to give my usual figures as to the average value of the Coffee exported, there being such a wide difference between the prices obtained by desirable crops and parcels, as compared to

inferior; in fact a quantity of the latter were unsold at 30th June. In regard to the coming crop, it is evident that nothing like last year's quantity will be secured; but for the sake of all concerned, it is hoped that it will exceed that of 1897-98, and that there may be an improvement in the London and Continental markets for same.

Pepper.—The total exports of this spice amounted to cwts.2,37,041 or some 89% more than was shipped last year, the value of which at an average of Rs.32-8-0 per cwt. amounts to Rs.77,03,832-8-0. The price of Pepper averaged Rs.8-8-0 per cwt. over that of the previous year; and, although Tellicherry still continues to be the chief port of export for this spice the large and increasing quantity shipped from the ports of Cochin and Alleppey is remarkable.

From the statistical table that follows the above, we glean the following information :—

EXPORTS IN 1898-99.

From	Coffee. cwts.	Pepper. lbs.
Mangalore	147,708	1,776
Cannanore	...	31,006
Tellicherry	46,100	23.615
Badagara	...	5,571
Calicut	112,382	23,778
Beypore	50,555	34
Cochin	926	43,664
Alleppey	85	63,775
Quilon	217	33
Colachel	...	50
Tuticorin	9,151	807
Madras	24,972	77
Total...	440,550	261,335

The chief market for Coffee was, as usual, London, which took 213,463 cwts. Havre took 84,730; Bombay and other Indian ports 78,891. As regards Pepper, Indian ports held the lead with 160,089 lbs., London coming in a poor second with 24,459 lbs., followed by Hamburg with 21,386 lbs.

TEA FROM SEED TO CUP IN SOUTHERN INDIA.

(BY THOMAS BROWN, GLENDALE, COONOOR.)

XVI.

Erection of Factory.—This work may be entrusted to a good contractor at the rates quoted or, what is better, if the manager of the garden feels himself competent for the work, material can be obtained direct from suppliers. The bricks and tiles can be cut by separate contracts to four or five men. The masonry can be by sub-contract to a good bricklayer at at Rs.4 per 100 cubic feet. The woodwork to a carpenter at As.4 per square foot, and the flooring at Rs.4 per 100 square feet. The estate will thus save contractor's profits, and will have better material and work for the money. Care should be taken to advance the workmen for so much only as has been done within a week. The quantity can be easily ascertained by marks put in where the work was left off, or by measuring the whole and deducting amounts drawn thus:—

	RS.	A.
1,000 cubic feet brickwork @ 4- ...	40	0
Less paid to 15th inst.	25	0
Available 22nd inst.	15	0

The workmen are thus kept in hand, and will be prevented from trying any dirty tricks so common to the class.

Counting Bricks is easily done in the kiln thus :—Count up the number in the central line, first the number in the length, next the number in the width, multiply the product by the number of lines, and the result is the total number of bricks in the kiln. Two lines only should be allowed for furnace portion, as these furnaces are only half-filled. It should be noticed that if one side of line counted presents length of brick, the other side will present

Ends.—A little observation and thought will soon show the correct way. It is most amusing to hear objections of the workmen to this simple way of arriving at the correct number. Their number is ever in excess of actuals by about 10 per cent We have had a good deal of trouble in our Griffin days for lack of a little correct teaching in this simple matter.

Counting Tiles—is more difficult, and the best way is to have them packed in concentric circles, raising one up at every thousand, then having one row over another with a thousand less each row. A trustworthy cooly can generally be found for this work.

Foundations for Machinery—are generally improperly put down. Most machines are held down by wood (coach) screws (*i.e.*) bolts that screw into wood in the way small ordinary screws are put in. It is therefore necessary to *bolt* down the wooden frame only, and this is most efficiently done by making pits 18 inches deep and 18 inches square, in correct positions, placing bolt in the centre and ramming with concrete made of 1 lime or cement, 2 sand, and 4 parts broken granite. Such setting will hold down firmly a large 3 H P. machine: absolutely nothing more is needed. A coffee-pulper may be set down the same way. For a steam-engine, a 2-foot bed of concrete is advisable to secure rigidity; but, if it has a good iron bed-plate, pits are quite enough. Massive masonry soon swallows up money, every cubic foot of it costing 20 to 25 rupees!

Thick Brick Walls—so often seen in small factories and in dwelling houses, are another common fault. For most ordinary purposes, one brick and a half or 13½ inches for outer walls and a single brick for inner walls is ample. A 9-inch wall in England, if built of lime, is carried up to a height of 22 feet! In South India, owing to the high cost of lime, mud is generally employed, and answers remarkably well too. Cracks in walls are due to defective foundations, often to soft sub-soil, and are more likely to occur in massive than in thin walls, owing to the weight.

A 3-storied Building—with the ordinary country brick—is dangerous, as they are unable to bear the weight that comes over them. Anyone can prove this for himself by mounting, say, 6 cwts. upon such a brick which is equal to 672 pounds upon $9 \times 4\frac{1}{2}$ = say, 40 square inches or, say, 16 pounds per square inch, against, say, 27 feet of wall = 108 bricks each weighing 4 lbs. or 432 lbs. in all, *plus* 50% for weight of floors and roof and safety. It would be a different matter if compressed bricks were available, or if stone columns were put in to take the weight of the roof and floors.

Corrugated Iron—must be soldered with muriatic acid as a flux. Rivetting of sheets to form one length is a possibility many lose sight of. Were this more generally adopted, no difficulty *re* different sized sheets, getting of joints on to purlins, etc., would be experienced. Should it be decided to use iron instead of mats and tiles, the style of roof arranged for can still be adhered to, remembering that the cost of a large span is very great.

Lime in central Wall—to bear shafting is advisable and must not be lost sight of. The extra cost will be very small, being about 6 rupees per 100 cubic feet, and there being but few hundreds to build with lime.

COFFEE IN DISTANT LANDS.

IX.

Hawaii.—The coffee berry is a natural product of Hawaii. It is growing wild in locations upon several of the islands These wild trees have reached a large growth, and they are still furnishing berries to the native Hawaiians. When the berry was first introduced into the country is not known. It passes as one of the growths native to the islands and their conditions. The interest taken in coffee to-day, however, with its prospective value, is lifting the question of production from a wayside matter into one of most engaging industries of the Islands. The American Consul gives some very interesting particulars of what is being done. It appears that coffee is being cultivated upon the four larger islands. On Maui and Kauai the work has not passed the experimenting stage in areas and results. On Oahu the production is, in one district, getting on to a commercial basis. It is to the Island of Hawaii, however, that one must go in order to see what is being done and to estimate the possibilities of the industry.

There are four main coffee districts on the island of Hawaii, namely. Puna, Olaa, Kona, and Hamakua. A census of the areas in the several districts that are at this time under coffee has been attempted, but the data do not justify a precise statement regarding the number of acres and accomplished results. Many planters express areas by number of trees, but as the distances between trees are not uniform acreage cannot be reliably deduced. In the district of Olaa, which claims the largest total area and the greatest number of planters, the land actually under coffee is about 6,000 acres. The other districts have relatively smaller areas under plant than Olaa, but this present circumstance does not necessarily indicate the future relative importance of the several districts. The matter of soil with the essentially associated climatic conditions, are the prime factors which will ultimately determine the values of the respective districts for permanent coffee growing. An idea is had of the commercial importance of the coffee industry by observing the exports of the berry to other countries Foreign shipments, however, do not express anything like the volume of the total production, since the coffees used on the islands are chiefly home grown. The exports for 1897 were 337,158 pounds, valued at $100,696·62. These figures, however, not only do not represent the volume of production for the year stated but they fall still further short of indicating the present basis of the industry. The coffee tree requires several years of growth in coming to economic bearing. This means that while the present area may be in course of coming up and will be added to the actually producing lands within a year or so. This fact is well illustrated by the following conditions now obtaining in the Olaa district: Coffee area under one year old, 1,821½ acres; one to three years old, 2,749½ acres; over three years old, 2,749½ acres. Certain of the areas of "from one to three years old" in 1897 are now bearing, and other areas are closely approaching that state.

According to the authority we cite, the coffee industry of Hawaii is not destined to impress the world by the great areas under cultivation, or the volume of shipments corresponding to the production of other countries. Hawaiian coffees, however, are on the way toward a permanent reputation for high and specific quality. They have their own aroma and marked flavour as distinctly as does the Hawaiian pineapple, which makes it aromatically superior to most known pineapples. With the delicate flavor is also associated a mildness and freedom from the acridness that marks many individual and unmixed coffees that are on the market. Hawaiian is complete in itself, and no known mixture adds to its native excellence. Prices already obtained for selected samples sold abroad justify the view that this coffee is capable of reaching a unique position, where quality and not price is the first consideration of the consumer. This consideration of "quality" makes it necessary in the highest degree that the culture shall receive specially intelligent care. It is further and equally necessary that the utmost attention shall be given first to the cleaning and then to the grading of the berries, in order to place them on the market in presentable and advantageous form. The coffee industry is in the hands of men of varied nationalities. Among these are found Germans, Portuguese, Americans, Englishmen, and Asiatics. The great body of coffee growers, however, are Anglo-Saxons. These men are, in the main, prospective and permanent settlers. If they succeed in their undertakings, the country will be benefited by the addition of an industry which will bring with it a class of weighty and valuable citizens.

It is not possible at this time to speak with full detail and assurance upon the present economic condition of the industry. There are concerns which are reported to be already upon a paying basis and where good interest is being received upon the capital invested. There are others which have not yet reached the stage of returns on the outlay, and there are cases where loss and failure have resulted. These cases of actual failure, however, should not be allowed to prejudice the situation of the industry. The causes of failure in certain cases have been just those causes which would induce failure to any undertaking. For example, where a man has gone into coffee with too little capital he has not been able to hold out until the crop reached the bearing stage of or stage of returns. Again, men have gone into coffee culture without experience of, and in, the work. and loss and failure have followed in those cases also. It is most liable to be the case, however, that the man of small capital is also a man of little experience, since where there is more capital at stake and more experience to direct its expenditure men move slowly. Where both want of capital and of experience come together, then the result is sure and not far off. Apart from individual cases, it must be said that natural conditions such as soil and climate, the state of younger plantations, all these justify the belief that coffee growing can become a sound and paying industry in these islands. Any tendency in growers to give up coffee for sugar, where it is possible, at this time is very doubtful policy; not because the sugar industry may become less profitable, but rather that the lands that are now in, and going into coffee, are not suitable for continuous planting, of which there is abundant proof.

The scale upon which it will be most profitable to carry on coffee planting has not yet been determined. The small planter may be able to make it work with coffee as the money-yielding crop, but producing most of the articles of food for himself and family. By men of capital, who have looked into the question more precisely from the financial standpoint, it is definitely stated that, in order to make

coffee a permanent industry and capable of taking its place with other industries, the plantations must be on a comparatively large scale, so that it will be possible to engage a steady supply of labour for them and provide the best mechanical means for the cleaning and grading of the berries. One other view is that coffee will become the most remunerative as an adjunct to existing sugar plantations, chiefly on account of the matter of labor. It is strongly represented that as the altitude for coffee planting commences where sugar planting ceases, the industries are naturally contiguous, and by an adjustment of the labor staff could be made inter-dependent. There are two examples which indicate that this latter view may develop into a reality.

Peru.—The latest Consular report states:—The coffee crop in the Perené and Chanchamayo districts, during the year 1898, was 2,700,000 lbs. forwarded to Lima for export. It is believed that this output would have been more than double if a sufficient number of hands could have been obtained to pick at the proper time. The planters are very despondent at the low prices, and several of them have been obliged to abandon their lands. It is feared that, if low prices continue, only those who have sufficient capital will be able to hold out. With few exceptions, all the small planters are obliged to sell locally, and, therefore, at a disadvantage.

Another of the serious difficulties, that the planters have to contend with, is the cost of, and difficult transportation to, the coast.

Exports to various countries were as follows:—

	Kilos.	Soles.	c.	£
Italy	2,820	1.200	0	...
Germany	2,068	880	0	...
Great Britain	1,380	750	0	...
Chile	522	290	0	...
Total...	6,790	3,120	0	312

or, say, a total of only 145 cwts.

NOTES.

Modernised. "There's many a slip, 'twixt the Cup and the Lip-ton."

Calcutta Tea Sales. The average of the sales on 22nd ultimo was 6 as. 5 p.—a marked improvement.

The Darjeeling Disaster. We regret to note that many tea estates and factories have suffered severely from the recent landslip at Darjeeling.

Coffee deliveries in July. Coffee deliveries in America and Europe during July were very heavy —30% over those of July 1898.

Producer and Consumer. Eighty per cent. of the coffee grown in 1898 came from the plantations of Brazil. Of the entire crop of the world, the United States consumed at least 40 per cent.

Coffee receipts in July. The July receipts of coffee at Rio and Santos were 1,066,000 bags, the largest receipts for that month on record, and exceeding those in 1897, when the crop reached nearly 10,500,000 bags.

Brown Blight of Tea. Mr. G. Massee describes in the *Kew Bulletin* a fungus which he calls *Colletotrichum camelliæ*, a mould which is destructive to Tea in Ceylon. Spraying with Bordeaux mixture is recommended as a remedy.

Rejected! The first rejection of the new crop Japan teas made by the tea inspectors has been confirmed. This shows that the new teas will undergo a rigorous inspection in the United States. Shippers will need to be cautious.

Adulterated Coffee. At Leven Police-court, recently, Jesse Russell, of Skipsea, was summoned for selling coffee adulterated with chicory to the extent of 80 per cent. ! ! The chairman, in fining defendant 20s. and costs, characterised the case as a very bad one.

No Deterioration. Thus says the *I. P. G.* about tea: —The assertion, sometimes put forward that quality is falling-off, is all nonsense. Indian tea is pence per pound better value for the money than it was years ago, and buyers and brokers know this just as well as planters.

Calcutta Tea Sale. On the 29th ultimo 19,478 packages were sold. The demand was good for all descriptions. Common leaf teas were rather dearer. It is probable that little Darjeeling tea will be put on the market for some time, on account of transport difficulties.

Depreciated. The *Brazilian Review* reports that the plantation known as Santa Maria in the central district of Campinas, only a few hours from the Capital of S. Paulo, and valued at 487·000$ was lately sold at public auction for 67 : 000$000. Little more than 2 annas in the rupee!

Exports of Tea from the U. S. The *American Grocer* observes:—Quite a little comment was excited the latter part of last week by the fact that a fair parcel of green teas were sold for export. From reliable quarters we find this is the first time such a thing has happened for fifteen years.

The Cure for Blights. A leading Ceylon planter writes to the *Observer*:—"High cultivation of the right sort is the cure for blights (grey and brown), but manure, to suit the soil and climate, is necessary. It is well we have now arranged with Mr. Bamber—thanks to our Chairman of P.A., and Planting Member of Council."

Mild Coffee. The *American Grocer* of 16th Aug. says:—It is estimated that some 6,000 bags of Cucuta coffee have been sold at 7c. by a firm of first-class brokers. Mild coffees generally are being fairly well received wherever concessions are made by buyers. The cheapness of Central American coffee is now attracting attention.

London Tea Market. Cabling to Colombo on 28th ultimo, Messrs. Gow, Wilson and Stanton reported a fractional advance. Fair liquoring C. P. Souchong 7*s.* ($\frac{1}{4}d.$ up) and average for the week $8\frac{1}{4}d.$ ($\frac{1}{8}d.$) up. Reuter announces that 26,000 packages Ceylon Tea were sold out of 28,000 offered, and 42,000 Indian out of 45,000. The average of Indian was $8\frac{3}{4}d.$

Mr. Kelway Bamber's Investigations. Ceylon men are beginning to howl, and rightly too, because the results

of Mr. Bamber's investigations are not promptly made known. As Mr. North C. Davidson says, after each visit to an estate, a full report on the visited estate should be published, and, if Mr. Bamber's suggestions have been adopted, experiments can be watched.

Mr. R. H. Elliot on the Reduction of Wages.

Apropos of Mr. Elliot's recent recommendations, the *I.P.G.* observes:—"His policy is all very good, and meets with the approval of every planter in the land; but we are afraid that, under present circumstances, is impracticable, so far as relates to tea, when the Chief Commissioner of Assam is agitating, if anything, for a rise in wages, rather than a reduction.

The Rivalry of Cocoa.

The Director-General of Statistics, India, remarks in his annual review of Indian Trade that the use of cocoa in Germany increases much faster than the use of coffee and that even in a tea-drinking community such as that of England, this consumption of cocoa is increasing fast. As regards tea he urges still more strenuous efforts to conquer the markets of the United States, Russia and Australia.

'Bold Advertisement' indeed.

From a New York paper:—"In the light of the astonishing sales of *Arabian Nights Coffee* for the first half of 1899, at the low price of 16½ cents, the American consumption percentage of the world's coffee crop is likely to rise considerable above 40 per cent. for the whole year. But we are sanguine that the price of *Arabian Nights* blend will not be raised above 16½ cents on that account."

Indian Bonemeal.

We have received a very neatly got-up pamphlet from Messrs. Ewing & Co., of Calcutta, Managing Agents of the Bally Bone Mills Co., in which the merits of Indian Bonemeal are stated. We scarcely think it necessary to impress them upon our planting readers, who are no doubt fully aware of them. We fancy, moreover, that they will be able to obtain all necessary supplies from places somewhat nearer than Calcutta!

Poor Cinchona.

The *British & Colonial Druggist* says of the September bark auctions that the character of the offerings was indifferent, very little of ordinary manufacturing bark being put up, and badly-damaged parcels of South American bark forming about a third of the packages put up. Add to this that the unit declined about ¼d. (working out at 1⅛d., against 1⅜d. previously), and we see, as our contemporary remarks, what an altogether unsatisfactory auction it was.

Seeking a Billet.

The following advertisement appears in a Rio paper:—Wanted by a planter of long experience in Coffee and Tea employment from the 15th September. Understands the planting and manufacturing of Tea of good quality. Author of 36 chapters on Tea culture and manufacture in Assam. Published by the *Ceylon Observer*, Colombo. Advertiser has been three years on a coffee fazenda in Brazil. Apply to H. Cottam, c/o John Wilmot, Esq., Vista Alegre, Colonia, São Paulo.

Colombo Tea Sale.

At the public sales of tea at Colombo on 27th ultimo about 9,570 packages = 739,192 lbs. were offered, of which about 8,968 packages = 689,588 lbs. were sold. Prices were again very firm for all grades at to-day's sale. All leaf teas were well competed for, and Common Pekoes showed a fractional advance. Good liquoring brokens were also in demand, and fetched very full rates. Among the best teas in the sale were, say the *Times of Ceylon* Mocha, Agra Ouvah, Monks-wood, Harrington, Erlsmere, Killarney, Mansfield, and Marigold.

Paying Tea Companies (Ceylon).

The following interim dividends on the ordinary shares have been declared:—The *Scottish Ceylon Tea Company* at the rate of 10 per cent. per annum; the *Poonagalla Valley Ceylon Company* at the rate of 5 per cent.; the *Burnside Tea Company* at the rate of 5 per cent, and the *Highland Tea Company* at the rate of 6 per cent. The *New Dimbula Company* has paid 3 per cent. for the half-year on its preference shares. The *Yatiyantota Ceylon Tea Company* has declared an interim dividend of 3% for the half-year on its ordinary shares.

The latest Rubber Machine.

Mr. Thos. Christy writes regarding the machine we referred to in our last issue:—As far as we know, none have been sent to Ceylon. The work was first done in the West Indies, then in Brazil, and, as they have been found to answer, the demand is much larger than the supply, and we have to beg of those who have had machines to be moderate and patient, because we think they cannot require such quantity at once. We are endeavouring to send out machines to new countries when applied to, as they are very simple and inexpensive.

Packet Tea.

Apropos of a conviction later than Lipton's, the *Investor's Guardian* remarks:—The straightforwardness of the English retail trade should be zealously guarded by those engaged in it; but, in the absence of voluntary effort, it is unfortunately necessary for the law to protect the interests of the customer. Common sense demands that, when a customer asks for a pound-packet of tea, 16ozs. should be given, and we cannot see any excuse for the sellers of paper at the price of tea. If they are dependent on this shortage for their profit, obviously they must raise the price and supply full weight.

Brazilian Coffee.

The Santos correspondent of the *Brazilian Review*, writing on 10th August, says:—The quality of the goods offered has improved, slightly finer and finest coffees are marketed, yet by far too large a proportion of most undesirable stuff is offered which at present low prices, must give disastrous results to farmers. It is altogether a riddle to most how such enormous quantities of coffee are still sent down, a certain curtailment might have been justly expected. Sales of *fazendas sub hasta* and notice of bankruptcy are quite the rule in the interior of our State a *fazendeiro* saying when asked how they were getting on at present coffee prices: "oh, we shall make our church door wider." When, with just surprise at such extravagance he was asked why, he drily replied "to post all the *editaes de fallencia* (bankruptcy notices)."

The Rivalry of China.

The *Daily Telegraph* remarks:—*Apropos* of tea, it may be wondered to what extent, if any, recent differences in the trade have effected the market value of the China varieties. It will be remembered that strained relations between the Indian and Ceylon merchants and the distributors led at one time to the expectation that China might possibly have a "look in"

once more in this country, where her teas have sadly fallen from their once high estate. Anticipations in this connection have, however, been falsified, a compromise having been arrived at between the disputing parties on the various points raised, so that India and Ceylon have practically reverted once again to their supremacy in the tea trade. It must not be forgotten, however, that the China productions find an outlet in America, whilst much of the best tea grown on Chinese soil goes to Russia.

London Warehouse Charges.

Commenting on the recent suggestions of the Indian Tea Association, (Calcutta,) the *Ceylon Observer* considers that the Committee are taking the right course in threatening opposition warehouses, to be worked by tea concerns on co-operative principles, but adds :—"But that an agitation in favour of the abolition of the tea-duty should be run concurrently with this one seems foolish in the extreme and we venture to predict that a fiasco similar to that in favour of the abolition of the tea-draft would attend these agitations if they were thus combined. The reduction of warehouse charges is an object upon which all are pretty well agreed ; but many of the most experienced tea-planters and merchants (and with these we are at one) hold back from the abolition of the tea-duty. We trust that the Indian Tea Association will concentrate their efforts upon one aim—and that a sound one.

Life in the Old Presidency yet!

We are very glad to see that Ceylon has no monopoly of "go." Messrs. T. Stanes & Co., of Coimbatore, have written down to Colombo expressing their desire to push their manures in Ceylon as they are confident that they can compete successfully with local firms who import most of their raw materials from India. Messrs. Stanes say :—"We are very favourably situated for buying bones, poonacs and saltpetres, without the intervention of middlemen, and we are also, we believe, the largest importers of chemical manures in the Presidency. Some years ago we fitted-up separate manure works, equipped with the most modern machinery for preparing high-class manures. These works are under the immediate supervision of Mr. A. M. Neilson, F.C.S., an Agricultural Chemist from one of the largest Chemical Manure Works in the United Kingdom. The raw materials we use are tested before purchase, and only those of the highest class are accepted."

Preventive Inoculation for Rinderpest.

Veterinary-Surgeon E. I. Hoole, Colombo, states, with regard to the results of bile inoculation performed by him during the last two months in the Central Province of Ceylon, that, out of eighty head of cattle inoculated by him at Pallekelle, Kondesalle and Kandy, seventy-seven were rendered immune and escaped the disease during the recent outbreak of rinderpest. Thirteen of the animals got the disease, most of these having evidently caught the infection before the inoculation, and one or two of them during the first eight or nine days after the inoculation, the immunity being conferred about the tenth day. Out of the thirteen that got the disease, three cases proved fatal and the rest recovered, so that seventy-seven of the inoculated animals were saved. Mr. Hoole adds :—"The inoculation was continued by a gentleman whom I instructed in the act. He had to deal with a clean herd belonging to the Pallekelle group, and his results may be published later on if desirable."

Jyree Tea.

"By the kindness of Mr. G. S. Peterson, of Weston-super-Mare," says the *Kew Bulletin*, "we have received a sample of this so-called tea, and find that it is made of leaflets apparently belonging to some species of Acacia. Mixed with the leaflets are petals which may well be those of a Cassia, and a little ordinary tea had been added to one sample ; but Mr. Peterson says that such is not always the case. Jyree tea is the name under which this mixture has been offered for sale in Britain. It is of Indian origin, probably from Madras, and cannot as yet be said to have any extensive use. 'Jyree,' we are informed, is a name derived from that of the native servant of an Anglo-Indian who claims to have discovered its virtues. 'Jyree' oil is said to be a cure for aches and sprains ; 'Jyree' soap is said to soften the skin, and 'Jyree' may be used, too, for softening leather."

The Ratwatta Cocoa Co., Ld.

This company turns out more tea than cocoa at present, and unfortunately does not show separately the results of working the two products. A first crop from the oldest cocoa field has been harvested. The cocoa crop from the 1893 clearing (72a. 1r. 23p.) turned out 172 cwt. 1 qr. 11 lbs., or say 2⅓ cwt. per acre. This was sold in the country at an average of about Rs.43·60 per cwt. The estimate of 300 cwts., justified by the profuse blossoms, has not unfortunately been realized. The trees, it is thought, are too young yet to mature more than a small percentage of the blossoms, and that percentage is very difficult to gauge. The tea crop, including 23,395 lbs. bought leaf, turned out 60,601 lbs., which is calculated to be about 460 lbs. per acre from the acreage plucked. This sold at an average of a little over 33½ cents. On the 18 months' working there is a profit from the crop-bearing portion of the Estate of Rs.5,738·23 ; but, on the other hand, there has been a further outlay of Rs.20,203·74 on Buildings and Machinery and fields not in bearing, including a new clearing referred to below. Next year's crops are estimated at 300 cwts. cocoa and 50,000 lbs. of tea, together with 16,000 lbs. of tea, from outside leaf.

The Profits of Tea Retailing.

The *Grocer* quotes fram a hand-bill issued by a London tea retailing concern, in which is the following : "Remember—tea is sold at a price within the reach of all, viz., 2s. per lb. Owing to its immense strength and fine quality it will go twice as far as many ordinary teas, and is therefore cheaper. The——Tea Company, Limited (incorporated under the Companies Acts, 1862 to 1898), will pay to every woman who becomes a widow the following sums of money : If, at the commencement of taking tea, the husband is under thirty years of age, £30 ; forty, £25 ; fifty, £18 ; sixty, £12 ; seventy, £7 ; provided she has purchased a half-pound of tea for the five consecutive weeks prior to her becoming a widow. Customers who purchase a quarter-pound of tea weekly will receive half the above sums. In the interest of *bonâ-fide* customers, the company require that the husband shall be proved to be in good health at the commencement of the continuous taking of the tea. Quarter benefit in five weeks, half benefit in six months, full benefit in twelve months. List of moneys paid, with the names and addresses of the widows who have received the benefit, can be seen at the registered offices of the company in London, or at any of the company's branches."

Coffee in S. Paulo.

Referring to the crisis through which the coffee industry is at present passing, Dr. Guedes, Secretary of Agriculture of the State of S. Paulo, remarks in his report for 1898 that at bottom it is the result of the heavy charges that burden estates purchased at fancy prices in the boom. The remedies, he believes, lie in better organisation of rural credit; reduction of railway freights; suppression of export duties on coffee and reduction of import duties, and sensibly adds that the realisation of any one of these exacts measures beyond the ability of the State under present circumstances. It is also stated :—The severity of the crisis through which the Coffee Industry is passing, may be estimated by some of the figures given in this report. In 1895 shipments of coffee at Santos amounted to 3,354,636 bags yielding, at 90$600 per bag of 60 kilos, 222·055 : 457$ equivalent, at the exchange of 9d, to £9,160,703. In 1896 the production rose to 4,156,367 bags and value to the maximum of 312.719 : 901$ equivalent to £11,750,203. This enormous increase of production resulted naturally in a fall of prices, so that in 1898 with the largest shipments on record, 5,803,434 bags, the total yield did not exceed 273.764 : 992$ equivalent in sterling to only £8,213,032, prices having fallen from an average of 90$600 in 1895, equivalent to £3. 14s. 7d. per bag, to 48$ and £1. 8s. 9d. in 1898.

The Malarial Mosquito: some Criticism.

A Home writer remarks :—The authorities seem inclined to take the malaria mosquito seriously, and a good deal of money is going to be spent in trying to rid the West Coast of Africa of fever by destroying the particular genus, *Anopheles*. To anyone who has gone about the world much the whole thing seems rather childish. An amusing, but none the less forcible writer in the *Spectator* points out that in Rangoon, one of the worst places for mosquitos, there is no malaria. But we need not go so far as Rangoon, or the West of Africa. New Jersey, only six days from London, is notorious for malaria, and positively proverbial for virulent mosquitos. New York, just across the Hudson, has few mosquitos, and those harmless, but plenty of malaria. New York and New Jersey malaria patients go to Canada and get well in no time ; but they find the lost ten tribes of mosquitos there, in addition to the two with which they are familiar. In Alaska, the mosquitos kill the bears and other wild beasts by blinding them and suffocating them, and more than one traveller has met his death in the same way ; but there is no malaria in Alaska. In short, to a mere unscientific observer, who, nevertheless, has a large and varied acquaintance with both malaria and mosquitos, there appears to be not the remotest connection between them. However, it will do no harm to get rid of *Anopheles*, whether malaria goes with it or not.

Nitrogenous Manures.

Some interesting correspondence about Coffee and Nitrogen hunger has appeared in the *Madras Mail* of late ; but we scarcely think that any useful deduction can be made from the contradictory statements that have appeared. In a recent American Bulletin, Professor E. B. Voorhees gives a very prominent place to nitrogenous manures. He says that while the three constituents—nitrogen, phosphoric acid, and potash—are all essential, because all are liable to exhaustion, nitrogen is the one that should receive more careful attention than the others, first, because it is the expensive of the three to supply ; second, because the forms in which it exists differ so widely in their rate of availability or immediate usefulness to the plant ; and, third. because, when it is applied in an immediately available form, it is so readily soluble and so completely carried in the soil-water that there is great danger so its loss by drainage. A word of warning should be added. The soils to which high-class fertilisers are applied should possess good absorptive and retentive properties, in order that the materials applied may be held and retained for the use of the crop, and the physical character also should be such as to permit a ready penetration of heat, and an easy circulation of water, conditions which are essential in order that the activities within the soil may be unimpeded, thus making it possible for the plants to obtain their needed food. In too many cases good plant-food is wasted because applied to mixtures of sand, clay, and other materials rather than to soils in the true sense.

The Hankow Tea Market.

In a "special" to the *Ceylon Observer*, it is reported that the tea season in Hankow has followed much the same course as in previous years, with the exception that perhaps not quite so much of a "rush" has been apparent this year. This is largely owing to the all-round good quality of the crop, few, if any, teas being damaged by weather, thus affording buyers more time and opportunity of buying deliberately. As, however, the bulk of the business done is put through in three months—May, June and July—not much time is found for looking round. Figures up to 27th July show :—

	1899.	1898. (same number of days)
Arrivals—	Half-chests.	Half-chests.
(1st and 2nd crop) ...	855,000	824,000
Settlements—		
(1st and 2nd crop) ...	816,000	795,700
Stock—		
(1st and 2nd crop) ...	39,000	28.300

Figures for Russia compared with last year are as follows :—

1899. Steamers.	lbs.	1898. Steamers.	lbs.
Saratov ...	3,913,472	Petersburg ...	3,904,302
Kherson ...	4,131,884	Jaroslavl ...	4,390,212
Jaroslavl ...	3,970,943	Nijni Novgorod ...	3,770,436
Orel	2,319 896	Orel	3,605,492
Vladimir ..	4.440,525	Ekaterinoslavl ...	1,446,505
Odessa ...	2,054,414		
	20,831,134		71,216,947

Ceylon Teas in the States.

A London paper says :—Whether it is due to a desire to push Ceylon tea or not, some of the American newspapers are publishing information in respect to the increase in the popularity of the commodity which should gladden the hearts of the planters and cause Mincing-lane no little satisfaction. "The phenomenal increase in Ceylon and India tea has become very striking," is the somewhat tautological comment of one journal. The change of attitude on the part of the American public dates, it seems, from the time of the World's Fair, before which the Indian teas were practically unknown. Each year has shown a decided increase in consumption over the preceding period. No figures are given in support of the contentions, but we suppose that the statements themselves are deserving of some weight. The astute American mind is now considering whether or not tea can be produced in the United States. The conclusion arrived at is that there are several States where the climatic conditions are favourable.

but that the cost of labour is too high. There is some hope, however, that the raising of tea in certain of the newly acquired possessions of the United States will be attempted. Of course, the consumption of tea cannot be allowed to come under consideration without the inevitable reference to the Anglo-Saxon brotherhood "What a contrast there is between that tea party," said one well-known merchant, referring to the acceptance of a present of tea by Admiral Dewey at Colombo, "and the other one in Boston harbour! How indicative of the change of sentiment between the two peoples!" Well, if the United States consumers will only buy enough, we can assure them that our Indian planters will be very grateful, and will show not a little enthusiasm on the subject of the Anglo-Saxon alliance.

LETTERS TO THE EDITOR.

TEA.

Sir,—The following comparative statement will be of great interest to your readers:—

August.

—	1899	1898	1897	Comparative decrease in value.
	Crop. Price.	Crop. Price.	Crop. Price.	1899—1897
	% d.	% d.	% d.	d. %
Assam	43 × 9½	54 × 11	51 × 10	2½ 20
Cachar and Sylhet ...	25 × 6½	16 × 6	19 × 7	½ 7
Darjeeling	12 × 9½	11 × 11	11 × 11	1½ 14
Dooars	13 × 7½	14 × 7¼	11 × 7¾	¼ 3
Kangra	1 × 6¾	1 × 6¼	1 × 7¾	1 12
Southern India ...	6 × 6½	4 × 6	7 × 6½	*Nil.* *Nil*
	100	100	100	

Southern India can rejoice that they are still where they were two years ago in average price, albeit that is down to 6½!

It seems to me there is some lack in our soils, and I have so far concluded that it is lime, lime, lime.

Coonoor, THOS. BROWN.

29th September, 1899.

ARTIFICIAL DRYING OF COFFEE.

Sir,—Could you give me any information as to the temperature at which Parchment Coffee should be artificially dried?

E.

GENERAL ARTICLES.

COFFEE PRODUCTION.

In recent British and American Consular reports a good deal of information, more or less interesting and more or less authoritative, has been collected regarding the production of coffee in various parts of the world. About a year ago, says *The Grocer*, the Washington Government even printed a report under the comprehensive title of "The World's Production and Consumption of Coffee," so as to afford the fullest available data for gentlemen in the States who might be engaged in the every-day occupation of looking-out for fresh articles to establish a corner in. In the present month our own Foreign Office has followed suit with a report of an equally comprehensive nature (No. 512, Miscellaneous Series), being a *résumé* of an article in the *Jornal do Commercio* of Rio de Janeiro on the production of coffee in Brazil and its consumption in the United States. The following table shows the estimated production of coffee throughout the world during the year 1898, and may supplement the information given in *The Grocer* a fortnight ago:—

Country.	Quantity.		Source of information.
	lbs.	bags.	
Brazil ...	1,533,840,000	11,620,000	United States Consul.
Venezuela ...	116,407,800	881,877	Export returns.
Guatemala ...	60,238,000	456,424	Local calculation.
Hayti ..	57,000,000	431,813	During & Zoon
Mexico ...	48,145,492	364,729	Official.
Costa Rica ...	35,461,407	267,889	Official.
Colombia ...	34,849,639	264,770	Estimated.
Porto Rico ...	26,400,000	200,000	Spanish calculation.
Salvador ...	16,500,000	125,000	During & Zoon.
British West Indies ...	13,200,000	100,000	During & Zoon.
Ecuador ...	9,858,892	74,681	British report.
Peru ...	2,733,305	20,707	*El Commercio.*
San Domingo ...	2,400,700	18,187	Belgian report.
Dutch West Indies ...	924,000	7,000	Estimated.
Hawaii ...	726,000	5,500	Official.
Honduras ..	612,480	4,640	British calculation.
Bolivia	495,000	3,750	Estimated.
Paraguay ...	346,407	2,602	United States Consul.
Dutch Guiana ...	219,166	1,660	British calculation.
Cuba ...	132,000	1,000	Estimated.
Belize ...	132,000	1,000	Estimated.
Total of America ...	1,960,619,288	14,853,229	
Java ...	101,904,000	772,000	During & Zoon.
Ceylon and India ...	31,680,000	240,000	During & Zoon.
Padang ...	5,940,000	45,000	During & Zoon.
Celebes .	5,940,000	45,000	During & Zoon.
Total Asia and Africa.	145,464,000	1,102,000	
Grand total ...	2,106,083,288	15,955,229	

This table from the Foreign Office report referred to sufficiently indicates the importance of Brazil as a coffee-producing region. The Brazilian, we are told, resents the suggestion that there is better coffee than that of Brazilian origin; but without appealing to the knowledge of our own readers on that point we may note that the American report mentioned above quotes a late British Minister to the contrary. Mr. W. G. Palgrave, once Her Majesty's representative at Monte Video, was an orientalist and a famed traveller, and he said:—

The best coffee, let cavilers say what they will, is that at Yemen, commonly entitled Mokha, from the main port of exportation. Now, I should be sorry to incur a lawsuit for libel or defamation from our wholesale or retail tradesmen; but, were the particle not prefixed to the countless labels in London shop windows that bear the name of the Red Sea haven, they would have a more truthy import than they convey at present. Very little—so little, indeed, as to be quite unappreciable—of the Mokha, or Yemen, berry ever finds its way westward of Constantinople. Arabia itself, Syria, and Egypt consume fully two-thirds, and the remainder is almost exclusively absorbed by Turkish and Armenian esophagi. Nor do these last get for their share the best and purest. Before reaching the harbours of Alexandria, Jaffa, Beirut, &c., for further exportation, the northern bales have been, while on their way, sifted and resifted, grain by grain, and whatever they may have contained of the hard, rounded, half-transparent, greenish-brown berry—the only one really worth roasting and pounding—has been carefully picked out by experienced fingers; and it is the less generous residue of flattened, opaque, and whitened grains which alone, or almost alone, goes on board the shipping. So constant is the selecting process that a gradation, regular as the degrees in a map, may be observed in the quality of the Mokha, that is, Yemen, coffee, even within the limits of Arabia itself, in proportion as one approaches to, or recedes

from, Wadi Nejran and the neighbourhood of Mecca, the first stages of the radiating mart.

The Foreign Office report also puts it on record from the admission of Rio itself that the best coffee of commerce is "Moka," grown in Yemen and other parts of Arabia. Part of that produced in the East Indies is, however, sent to Moka, and thence reshipped as genuine coffee of the district. Some Venezuelan varieties much resemble "Moka," and are doubtless frequently sold as such. Some of the best Brazilian and West Indian coffees are also sold under the name of "Moka." The second in value is Java coffee. The Moka berry is small and of a dark yellow colour. Java and East Indian varieties are large and of a faded yellow tint American coffees are generally of a slaty or greenish colour owing to the difference of soil and humidity of atmosphere, and also to the circumstance of being gathered while somewhat green. There are good qualities of Mexican, Central American, Venezuelan, Ceylon, and Jamaica coffees which, although quoted at 10 to 14 cents per lb., are equal in appearance and aroma to the best East Indian varieties. The common coffees of Brazil, Venezuela, Mexico, and Central America belong to the class known as "red coffee." That known as "Yungas," obtained from Bolivia and Paraguay, appears to form a distinct variety. It is much appreciated by consumers, but, as the production is limited, is not much known on the markets. It is classed on a par with the best Rio coffee. For commercial purposes Rio coffee is divided into five grades:—"Fine," "superior," "good," "medium" and "ordinary." "Fine" consists of grains more or less uniform in size. The "superior" grade is grain uniform in size, but hulls and other extraneous matters are admitted. In "good" uniformity of grain is not absolutely necessary. It may contain some discoloured grains, but no stones or other extraneous substances are admitted. "Medium" contains same defective grains, hulls, pieces of wood, stones, and sometimes earth. "Ordinary" contains the same substances in a larger or smaller proportion, as well as broken grains and those of lowest quality. It is a well-known fact that coffee improves with age both in taste and aroma, and, if kept in a prefectly dry atmosphere, it is supposed to reach prefection in the eighth year. As it ages it loses weight by evaporation: consequently, as it is sold by weight, holders are anxious to sell it with the least possible delay. In the process of roasting 10 per cent. of the original weight is lost by evaporation. The best coffee is usually of a greenish yellow colour; excessive greenness is considered generally to indicate immaturity of the berry or artificial colouring.

Returning to the statistical aspects of coffee the reports represent Great Britain as a very small consumer, using only about 0·70 lb. per head, whilst Holland uses 23 lbs., Denmark 15 lbs., Belgium 11 lbs., the United States nearly 10 lbs., Germany 5¼ lbs. and France 3¼ lbs. per head The consumption of coffee is increasing constantly and rapidly all over the world, and in America the cultivation of the plant is extending very rapidly in Brazil, Mexico, Costa Rica, Columbia, and Venezuela. It is calculated that during the year 1899 the production of coffee throughout the world will amount to 1,638,120,000 lbs. and that it may attain to 1,796,256,000 lbs. in 1900. The stocks of coffee in the United States on May 1, 1899, amounted to 1,221,758 bags, made up as follows:—

	Bags.
Stocks at the various United States ports	877,758
In transit from Rio	130,000
„ „ Santos	191,000
„ „ Victoria	15,000
„ „ Bahia	8,000
Total...	1,221,758

On the same day in 1898 the stocks in the United States amounted to 1,057,068 bags. Such, at least, is the estimate given in the Brazilian article quoted by the Foreign Office report, which in turn quotes United States official statistics.

The report we have referred to as issued by the United States Government last year suggests that the relations between Brazilian coffee-growers and American merchants are not idyllically happy. The largest shippers to the United States and the largest in the entire Santo market are, the American Consul admits, the English house of Naumann, Gepp & Co. and the German house of Goetz, Huyn & Co.; but there are certain large American houses which are said to work the market in their own interest, with the special advantage of selling coffee by retail direct to the customer. In fact Brazilian coffee exportation has passed through four phases. (1) The exportations of the first crops of Brazilian coffee were made by merchants established in Rio de Janeiro, who consigned the merchandise to the consuming markets to be sold for their account and risk; (2) the increase in the production and consumption gave rise to the custom of European houses sending orders without limit of price or time of shipping, for the buying and shipping of coffee, scarcely limiting the size of the cargo, which was 5,000 bags (660,000 lbs.), paying a commission of 5 per cent. on the invoice; (3) Brazilian and European merchants began to operate on joint account, dividing the risks and profits of the business, and even admitting at other times various persons into the business the Brazilian houses sending coffee to cover the remittances which they had to make to pay for imports, giving the European house a share in the cargo; (4) the establishment of lines of steamers modified the system up to then in vogue, facilitating the more rapid transportation of merchandise and affording by this means the possibility of extending the business by a larger number of intermediaries. Houses were established in Brazil for the exclusive business of the exportation of coffee followed, through the concurrence of these houses by the establishment of telegraphic service, by the system of sales cost, and freight, the quantity, price, and time of shipment being fixed. This system worked well during many years giving good results to the intermediaries, because prices corresponded to the demands of consumption, and fluctuations depended on the larger or smaller production. Another element entered later, in the shape of "future sales." The speculation in "futures" soon assumed large proportions, increasing the risks of the business which had hitherto been inconsiderable, and giving rise to the necessity of forming "stocks." Speculation developed to such an extent that more coffee has been sold in one month than was produced in a year. From this, legitimate business has suffered, and will probably continue to suffer to the end of the chapter.

THE AUSTRALIAN TEA TRADE.

VIEWS OF A SYDNEY MERCHANT.

A Sydney correspondent writes on Aug. 22:—This afternoon I called on Messrs. John Connell of this city and had a conversation with Mr. Wallis, a partner in the firm, who told me he had been connected with the tea trade for many years, having bought Ceylon tea in London in about 1880.

What effect, I asked, has the present

DISPUTE IN LONDON

amongst tea traders, in the Australian tea trade! There had been hardly time yet to say, he remarked. Exporters generally were nervous that one effect would be that sellers in Colombo might be tempted to ship too heavily to this and other Australian ports, and he thought they should be warned that the market was easily glutted. It was not like the London market, being far from large, and they would not get over a glut soon. He had experience of this when China teas got on the market.

The markets had been very firm for a considerable time, Mr. Wallis continued, and they had responded to higher values. During the last five or six months, they had not been over-supplied, and take it all round, tea had shown good covering rates. There was an absence of fine tea on the market at the moment, thought it was very much wanted, and generally

DISSATISFACTION IS FELT IN SYDNEY

in the fall in quality in all grades from the hill-grown districts, and he had never known such teas for years as they had had lately.

Asked for a reason for this state of things, Mr. Wallis replied that, of course, they knew the reason was because of bad weather and the reports received from Nuwara Eliya and the other hill districts, where the better class teas grown, were "rainy." There was a strong demand for the better class teas received a couple of seasons ago, and if these were shipped in reasonable quantities they would have a strong and good market.

DUTY.

Mr. Wallis spoke of the penny duty recently imposed, as a nuisance, as it was not sufficient to get up the present retail prices. He was in favor of a 3d. duty. The consumer was in the habit of buying his tea with rises of 3d. per lb., for instance 1/, 1/3, 1/6, 1/9 and 2/ per lb. and if a duty of 3d were imposed the tea sold at 1/ retail would be then 1/3, and so on. But the intermediate tax of 1d had the paradoxical effect of creating in the public mind an idea

they would still get their tea at the ordinary price, and this, coupled with a rise of from 20 to 25 per cent. on import cost, had led to a big demand for a low class of Ceylon tea.

I asked if rubbishy tea sent from Ceylon was increasing in amount, and my informant replied that he could not say that there was more rubbishy tea sent from Ceylon than from other countries. There was a general desire to see the quality of tea kept up without having inferior kinds landed at all.

WORDS OF WARNING.

I asked what were the chances for Ceylon tea in the future, and Mr. Wallis replied in these words:—So long as the quality is kept up, so long will there be an increase in the demand for Ceylon teas in this country, as there is much to be said in favour of them. But if there is a continued repetition of the low quality and absence of flavour, peculiar in these teas, such as has been noticed for the last four or five months, he felt certain that the trade must eventually go back to China teas. Such a reaction would be in favour of payongs, which years ago ruled this market. Mr. Wallis also pointed out that Indian teas for price kept much better than Ceylons and were preferred by the wholesale trade for blending purposes. Therefore, unless Ceylons were not kept at equal rates to low-priced Indians, they would lose ground. Indians, costing 4 annas 9 cents, compared favourably with Ceylons at 29 cents relatively, either with leaf or cup.

There was one point in favour of Ceylon teas which must not be overlooked. They did not charge one per cent. broker's commission for buying teas in auction at Colombo as was the case at Calcutta.

Mr. Wallis had heard complaints of tea being damaged recently during transhipment. They were well packed, but were in a condition known to the trade as "India rubbery," which was doubtless due to being placed near the engine rooms on the steamers.

Finally Mr. Wallis remarked this was a good market for fine teas, if they only sent teas with a

TRUE CEYLON FLAVOUR,

but if they did not send these it will militate against the future of Ceylon teas. He commented on the difficulty of getting good tea, and said it was a fact that only for a few months in the year could they get these teas with a true flavour. Several times they would sell a tea to a customer, and when asked for some more they would have to say, "We have some from the same garden, but it is not like the last." Planters did not seem able to keep up the quality throughout the year. These facts, said Mr. Willis, are well known, and represent the views of one of the largest firms in Sydney.

"We get the *Observer* every week and like to see the tea sales" was his parting remark as I shook hands with him. The room I was in was just being fitted up, it being one of the places erected after the fire which occurred on the premises a few months ago.

A BROKER'S OPINION.

August 26.

At Messrs. Connell & Co's office I met Mr. Dyer, of Messrs. Alfred Harris & Co., of Sydney and Melbourne, and he to-day responded to a request to call on him at his office in Pitt Street. I repeated to him what Mr. Wallis had said about the tea not being up to the same standard all the year round and he said it was so, but they all knew it was on account of the weather, and from what I could gather from his remarks he did not seem to think that this was likely to prejudice our teas in the eyes of the public in Australia.

In the conversation that followed, he said, the trade in Melbourne paid for a return to be made by the Customs of all the tea landed in Australia and that was printed in Messrs. Harvey & Co's monthly report, which, I understood him to say, was the only one issued by any firm in these colonies.

Which port took in the most tea I asked? That could, he said, be seen from the figures in the report, and I notice in the August issue they are as follows:—Season 1899-1900, from Foochow 1,097,848 lbs. to Melbourne; 919,015 lbs. to Sydney, from Colombo, 557,588 lbs. to Melbourne, 644,748 lbs. to Sydney. From Calcutta 378,262 lbs, to Melbourne, 313,780 to Sydney. Those are the figures brought up to date for the August report.

Mr. Dyer said that Melbourne used to get the largest share. The reason for that was the duty was then 3d., and tea was sold with the duty paid. The trade got a discount on the duty which was charged to the consumer in addition to the price, so it was cheaper for shippers in Ceylon to consign their tea to Melbourne, instead of Sydney, and the same was done with China and Indian. Now all teas were sold in bond and Sydney imports had increased.

"NOT NEGOTIABLE."

As some of our readers resort to the form of crossing cheques, we quote, for their information, a brief report of a case recently heard in the Lord Mayor's Court, London :—

It was the Crossed Cheques Act, 1876, which first introduced "not negotiable" cheques, that is to say, instruments which are freely transferable, but to which a *bonâ fide* holder for value does not acquire a new and independent title, but can only have or pass on such title as his transferror possessed. This provision of the law was caused by a fraud on a bank which made a good deal of noise at the time, and of course it greatly lessens, if it does not entirely remove, risk from theft or loss, as a thief or finder can have no title, and therefore cannot convey one. Though cheques marked "not negotiable" are freely transferable, they ought to be carefully scrutinised, and the Assistant Judge of the Lord Mayor's Court made an observation to this effect in giving judgment for the defendants in the case to which we wish to refer of "Hill *v.* Heale, Alton and Co." Briefly, the defendants' case was that, having marked the cheque "not negotiable," the plaintiff's title under it was no better than the original payee's would have been had he sued. The Judge adopted this view, and remarked that, when cheques were received marked "not negotiable," it could not be too widely known that they should be looked upon with great care, and that the recipient should regard the special crossing as a warning. The facts of "Hill *v.* Heale, Alton and Co." were special, and need not be alluded to further than to say that their experience furnishes a little instruction for other people.

CEYLON AT THE PARIS EXHIBITION.

The *Times of Ceylon* of 3rd instant says :—

In addition to the particulars we have already given concerning Ceylon's representation at the forthcoming Paris Exhibition, we are in a position to-day to give details of an interesting character. One of the matters of the greatest moment in connection with Ceylon's interest in the Exhibition is that regarding the sale of tea in packets at the tea kiosk, and a reply to the letter urging the concession has been received, holding out no hopes of the privilege asked for being granted It will be remembered that, on the request being originally refused, a suggestion was made that the concession might be granted on the plea that the tea could be packed on the premises, so as to bring its sale under the rule prohibiting the sale of articles other than those manufactured in the presence of the purchasers. The suggestion was backed by a letter from the Government; but all to no effect. This makes the outlook a serious one, and what action the Committee will take will probably be known on the 14th, for which date a meeting is being arranged, it being thought that there should be no delay in considering the matter.

TEA EXHIBITS.

In the matter of Tea exhibits, the names of the actual estates from which the samples are to be furnished are not yet available, but the following districts have been invited to send teas, the selection of the estates lying with the District Planters' Associations. The following are the districts:—

Commercial Tea :—Ambagamuwa, Badulla, Balangoda, Dikoya, Dolosbage and Yakdessa, Hantane, Nilambe, Haputale, Kalutara, Kelani Valley, Knuckles and Keleboka, Kotmalie, Maskeliya, Matale, Maturata and Hewaheta, Hunasgeriya, Elkaduwa, Nuwara Eliya, Passara, Pundalu-oya, Rakwana, Pussellawa, Uda Pussellawa, Galle districts, Rangalla, Ratnapura.

Fancy Teas :—Dikoya, Dimbula, Kelani Valley and Uda Pussellawa.

Green Teas :—Kelani Valley and Maskeliya.

Each box of tea is to have on the outside the name of the estate, the grade and quantity, the name of the district, estate, exhibitor or agent, quantity or quality obtainable, and the price. The elevation of the estate is also to be given, and its rainfall. All exhibits are to be sent in by December 15th. Mr. Renton and Mr. Davidson will see to the details of submission of samples to the Tea Jury.

THE HAND BOOK.

One of the features of Ceylon's representation at the Exhibition is to be the Hand Book being prepared by Mr. W. E. Davidson, and arrangements for an elaborate production are being made; it is thought that without question an attractive Hand Book would be the best advertisement possible, and that the sale should be very large if a really attractive book were presented. The selection of the illustrations was a matter beset with much difficulty; but a final selection has now been made of a frontispiece and 24 full-page illustrations. The illustrations are as follow with the names of the artist supplying them :—

Frontispiece The Orient Sea	Mr. H. W. Cave.
Colombo Breakwater...	Do.
Fishing Boats	Do.
Native Life in Colombo	Apothecaries' Co.
Street Scene, Colpetty	Do.
Group of Bamboos	Mr. W. L. H. Skeen.
Banyan Tree at Kalutara	Do.
Talipot Palm in Flower	Do.
Rice Fields	Do.
A Tea Field	Mr. Andrée
View of Tea Estates	Mr. A. W. A. Plâté.
Plucking Tea Leaf	Do.
Nuwara Eliya, the Mountain Sanitarium ..	Mr. W. L. H. Skeen.
Cart Transport	Do
River Transport	Mr. H. W. Cave.
Group of Elephants	Mr. W. L. H. Skeen.
Wild Elephant and Young	Mr. A. W. A Plâté.
Temple of the Sacred Tooth of Buddha, Kandy	Mr. H. W. Cave.
The Sacred Tooth Relic	Mr. Andrée.
A Kandyan Chief	Apothecaries' Co.
A Kandyan Lady	Mr Andrée
Group of Buddhist Priests	Apothecaries' Co.
The High Priest of Adams Peak	Mr. A. W. A. Plâté.
A Native Beauty	Do
Group of Veddahs	Do.

Besides the above, some 32 or more views of various sizes will be interspersed among the text. As to the frontispiece, Mr. Cave is arranging for its reproduction by the Woodbury process of photogravure. For the full-page illustrations the half-tone process was adopted, on the advice of the Government Printer and Mr. Cottle (who had made special inquiries in London), and the order for them was placed in the hands of Messrs. André & Sleigh, Limited, of Bushey, Herts. The letter-press of the book is to be prepared in Ceylon at the Government Printing Office; but the books are to be bound by the firm named above, who, in addition to the illustrations, have, by a recent letter, been asked to provide a coloured wrapper, a map of Ceylon, and to print the text from the "Formes" of type to be sent from Ceylon with the small illustrations, the blocks for which are being made by Messrs Skeen & Co. The cost of the blocks of the full-page illustrations will be £32 8s., and the cost of printing 5,000 copies will be £36 5s. It has been decided to strike off 10,000 copies in the first instance, viz., 5,000 copies for the English edition and 5, 00 for the French edition; the titles of each being inserted in both French and English, so that copies will be available for either edition. It is estimated that the handbook will extend to say from 15 to 180 pages, and its size will be demy octave. The design for the cover, which was supplied by Miss Jowitt, was forwarded by the last mail, and the map of Ceylon is being prepared by the Surveyor-General. It is a matter of doubt what further copies of the book beyond the first supply of 5,000 of each edition may be required, but it is proposed to order fresh supplies from Paris from time to time as the demand may necessitate

FRESH EXHIBITS.

The latest addition to the stock of exhibits received include a full complement of Veddah implements sent by the Government Agent of the Eastern Province, besides a large collection of skins. The bows and arrows, fishing lines, harpoons and bark bags are all interesting and ought to prove very attractive at the Ceylon Court. Mr. A. J. Kellow, of Albion Estate, Nuwara Eliya, has sent in several specimens of coffee sticks and samples of decurrens bark used for tanning purposes, while the A. G. A. of Kegalle has sent in some excellent specimens of silver ware, including a dagoba on pedestal under roof, a model of the jubilee ambalam, a betel pounder, and a carved egg shell mounted in carved ivory. The dagoba and ambalam models are excellent pieces of workmanship and a credit to the workman.

WAREHOUSE CHARGES ON TEA IN LONDON.

Under the heading "Tea Warehouse Charges," th *Financial Times* has the following :—

To those who are conversant with the tea trade, it was somewha of a surprise to find that so much was made of the dispute, a fe weeks ago. about the 1lb draft— an insignificant matter, in compa rison—when there were many much more important grievance requiring attention. Among the chief of these are the charge imposed by the warehouse system, and shareholders in tea compa nies will probably be pleased to learn that a crusade on thi question has already been commenced in the Indian Press. T explain the position it will be necessary to go back to the date o the establishment of Butler's Wharf as a producer's warehous Prior to that time there were considerable complaints in regard t warehouse rates, and it was with a view of alleviating the difficult that Butler's Wharf was leased by a company to be run on co-opera tive principles—that is to say, only shareholders were allowed t use the wharf, the profits being divided amongst them. Th various interests of the tea industry were, at the time, invited t join, and, roughly speaking, about one-third did so. The othe two-thirds declined, either on account of not having the capita available or because they had other arrangements. Some of th agents for planters or companies that refused to embark in the ne enterprise, more long-headed than their principals, took shares, bu to this we shall refer later on. The establishment of Butler Wharf, while it certainly benefited the companies which becam shareholders, as a matter of fact accentuated the question for a outsiders. The Tea Clearing House (which, it may be explained, i an Association of Dock Companies and Warehousemen possessin bonded powers from H. M Customs) bound down all warehouse to maintain the tariff and to adhere to a maximum discount of l per cent., and these charges were and are still nominally exacte We say nominally, as it is practically an open secret that the Clear ing House regulations as to discounts are in many cases evade The pressure which was brought to bear upon warehouseme induced, we learn, a few firms to give better terms, and in som cases as much as 20 per cent. has been allowed. But, unfortunately the shareholders in tea companies do not in every case derive a the benefit from this concession. In order to evade the Clearin House rules, this extra discount is paid to agents or managers fo introducing business. In some cases, to their credit be it said, th recipients honourably hand over the amount to their principals, bu in others the payment is regarded as an entirely personal trans action, and is retained to swell the agent's profits, alread sufficiently high. There seems no justification for the retention o such discounts. It is contended that those agents who are share holders in Butler's Wharf are entitled to keep the commission o goods from principals who declined to risk their money in th concern, and in their case, provided no more than 10 per cent. ca elsewhere be obtained, there appears to be some justice on the side, but the same cannot be said of those who, as intermediaries warehouse the teas at other wharves or at the dock companie warehouses.

The tea companies who are members of Butler's Wharf are n doubt to be congratulated on their position, since they undoubtedl warehouse their tea at the lowest ruling rates, and their share the profits from that wharf must equal a discount of from 20 to 2 per cent. One of the heaviest items in warehouse charges is fo "bulking"—a process resorted to in order to average the sampl Planters complain that considerable harm is done to the tea throug this operation, and that it would realise a much better price if were sold unopened. Another grievance is that there is a tendenc on the part of the warehouses to put a poor sample on show in orde to avoid disputes with purchasers, who, if the tea in bulk prove worse than sample, would of course make claims on the importe or their brokers. Some tea planters have attempted, and with measure of success, to get over these obstacles by bulking at th gardens, but this system has not been very largely resorted t owing partly, no doubt, to inherent difficulties, but largely also the tacit opposition to it alike of the warehouse and of a certa section of the buyers. It, of course, means a reduction in th warehouse profits, and the buyers naturally prefer the prese system as they are more likely to secure goods better th samples. This is the present position, and unless active ste

are taken by those interested, there is little chance of any amelioration of the situation. There is no doubt that existing warehouse charges are a very heavy burden on the tea industry, so much so that they are already tending to divert shipments of tea to other ports and countries direct from Calcutta and Colombo; and there is equally little question that the warehousemen can well afford to reduce them. It is admitted by some warehousemen that business even at a discount of from 20 to 25 per cent. could be profitably carried on, and that basis would put outsiders on about the same footing as those who have the privileges of using Butler's Wharf. The present combination could no doubt be broken up if the whole influence of the Indian and Ceylon tea planters were properly applied.

DISTRICT ASSOCIATIONS.

SHEVAROY.

Proceedings of the Annual General Meeting of the Shevaroy Planters' Association held in the Victoria Rooms, at 1 p. m., on Monday, the 2nd October 1899. PRESENT:—Rev. M. Andersen, Messrs. H. B. Evans, S. Campbell, Thurston Short, A. G. Nicholson, C. A. G Turner, S. M Hight, H. W. Leeming, E. King-Harman, Rev. J. M. Kempf, Messrs. C. Rahm, W. Rahm, C. Dickins, E. Dickins, J. C. Large, W. J Lechler, W. W. Hight, and T. B. Nicholson. Mr. C. G. Lechler (*Chairman*), and Mr. R. Gompertz (*Honorary Secretary*).

PROXY:—Mr. F. W. Hight, by Mr S. M. Hight.
Mrs. M. Dickins, by Mr. E. Dickins.

1. Read and passed Accounts for the year ending 30th ultimo showing a balance in hand of Rs.557-4 7.

2. The Honorary Secretary then read his report for the past year as follows.

HONORARY SECRETARY'S REPORT OF THE SHEVAROY PLANTERS' ASSOCIATION FOR YEAR ENDING 30TH SEPTEMBER 1899.

MR CHAIRMAN AND GENTLEMEN,—Another year has slipped away and it devolves on me to give you a brief sketch of its progress as regards the S. P. A.:—

II. At the commencement of the year under review we had 39 members. During its course, Mr. C. Rahm (senior) and Mr. W. Daly (who has left the country) have resigned; but Mrs. Dickins, Messrs. F. W. Hight, and H. O. Newport have joined our ranks, so that we now have 40 members on our rolls.

III. The past year opened with a balance of Rs.169-15-11 in hand, and closes with a sum of Rs.557-4-7 to the credit of the Association. We owe nothing, except the price of the bamboo pass-books, which will have to be paid into the treasury as soon as the books are returned to me. There is Rs.120 due for subscriptions up to date, which will no doubt shortly be paid; and, since closing the accounts, I have learned from Mr. Leeming that he has a balance in hand of £4-8-0 (equivalent to Rs.66) out of the money sent to him to purchase books. I think therefore the finances may be considered in a fairly healthy condition up to date. It has been resolved, however, to subscribe Rs. 500 towards the expenses of advertising Indian Coffee—if other Associations will give in proportion—to subscribe to the Paris Exhibition, and to support the action, if any, taken by the U. P. A. S. I. in re-opening the campaign against the adulteration of coffee, all of which will probably entail a very large increase of expenditure in the coming year. As I said last year, it is therefore incumbent upon every member of the Association to try and obtain recruits and to point out to his friends the incongruity—to use no stronger term—of a man's benefiting by the work of an Association, to the expenses of which he refuses to contribute. We must try therefore to induce every planter to become a member, so that, by thus increasing our funds, we may be better able to meet the above expenses.

IV. I think it will be admitted by all that our union is beginning to bear wholesome fruit, and that the U. P. A. S. I., in which that union culminates, is doing good and useful work. The proceedings at its Annual Meeting have been so fully reported in the *Madras Mail* and in *Planting Opinion*, that, I need only say here that, as might have been expected, the business it transacts is expanding and its sessions are getting longer and more important. This year the meeting occupied us fully for five days, and I may mention the draft of the Act for the improved regulation of labour and the bill for amending the Act for the prevention of coffee stealing (both of which are laid on the table to-day) as indications of the value of its work.

V. Unhappily the gold price of coffee is lower now than it has ever been before; and, though the large stocks in the hands of the dealers must retard any great improvement in the price, there are unmistakable indications of a rise at no very distant date. I do not think we shall be out of the wood in a year, but I do think that within that time we shall be beginning to see light through the trees. You all know of course that the production of the world has risen to nearly a million tons per annum. of which Brazil contributes about three-fourths. In *Planting Opinion* of the 2nd September you will find an abstract of a valuable and interesting compilation of statistics by the Bureau of the American Republics from which you will observe it is stated that out of the remaining 250,000 tons, Ceylon and British India together produce the insignificant amount of only 14,170 tons! From these figures it is quite clear that the quantity of the Brazil crop is the principal factor in raising or depressing the price of coffee, and that if our production were doubled to-morrow it would not appreciably affect it. The great depression in Brazilian Exchange has unduly stimulated the production, but as it threatened to involve the country in bankruptcy, the Government, following the example of the Government of India, has set to work deliberately to inflate the milreis from 5⅝d. (at which it was quoted in May 1898) to 18d. It is difficult to arrive at the par value of the Brazilian milreis. but it is of the same fineness as the Indian rupee (·916) and weighs about $\frac{1}{100}$ more. The Statesman's year book for 1899 says that, in the early part of this century, it was 5s 7½d; in 1833 it was fixed at 3s 7½d and in 1846, *the present rate* 2s. 2½d. was established. The currency, however, is almost entirely paper, and I find that in 1889 it was quoted at 28½d.; in 1890 at 20⅝d. and in 1891 it fell as low as 10¾d. It went on falling till May 1898 when it was quoted, as above stated, at 5⅝d. and since then it has commenced to rise, and by June 1902 the Government confidently expects to raise its value to 18d.

VI. Exactly how this is to be brought about is a little difficult to explain; but roughly it is by calling in and burning some 45 % of the paper money, and borrowing gold to replace it. I say roughly; for the scheme, though heroic, is by no means so desperate as it would at first sight appear. I would advise those who wish to understand the matter to consult the pages of *Planting Opinion* of June 3rd and following numbers. I fear this little paper is not as widely read and as well supported by planters as it ought to be. The subscription is only Rs. 1-4-0 per month; and under Mr. Ormerod's able management it has become, in my opinion, a very valuable paper, and contains for its size more information of interest to planters than any publication with which I am acquainted. In *Planting Opinion* Brazilian exchange is quoted weekly; but, to re-assure those who might be disappointed at finding that the appreciation of the milreis is not unchecked, I would refer to the closing of our own mints, when the rate of exchange, though it commenced to advance on the whole, constantly receded like waves when the tide is coming in. The same thing is now going on with Brazilian exchange. It ebbs and flows like the advancing tide; but the advance is, and must be. on the whole, certain. The Statesman's year book says that the currency scheme provides for the reduction of the paper money (which is, practically, the currency of the country, for the silver milreis have almost disappeared) by 45 %; and, in *Planting Opinion* of the 9th ultimo, a long quotation is given from *The Notici* 'a Brazilian paper' shewing that the scheme is progressing as well as its most sanguine adherents could desire.

VII. It is of course obvious that, as coffee is paid for in gold, if the Brazilian can only just make the two ends meet, when the milreis is worth as at present about 8d.. so that they get only 30 milreis for the sovereign (instead of nearly 43, which they got in May 1898), at least half of their coffee must be abandoned when the milreis approaches 18d., so that they get only 13⅓ milreis for their sovereign, unless prices also more than double; and that something of this kind has commenced and is going on steadily, in spite of the ebb and flow of exchange above alluded to, may be gathered from the copious and interesting quotations from Brazilian papers with which *Planting Opinion* supplies its readers.

VIII. For instance, to comfort the weak-hearted regarding the fluctuations of exchange on July 15th, we find some valuable statistics of Brazil exchange shewing that the fluctuations were even greater when exchange was falling, than they are just now when it is rising. Thus in 1891 we find it fell from 21⅛d. to 10¾d.; in 1892 it rose again as high as 16½d., but the lowest point was 10⅛d.

—¾ lower than the lowest wave of 1891. In 1894 it rose again to 13d. but the lowest point in that year was 9 1/16d. or 1 1/16d. below the lowest wave of 1892; in 1896 the highest point reached was 10 7/16d., but the lowest was 7⅞d. and in 1897, though the highest point touched was 9⅝d. the lowest was 6⅝d. From these figures the similarity to the ebb and flow of the tides is so obvious that it seems superfluous to draw attention to it; but this fact should prevent any discouragement, because the present rise in Brazil exchange follows natural and well established laws, instead of rising on an inclined plane, without a break or a check, as some are unreasonable enough to expect.

IX. In *Planting Opinion* of the 29th July a desponding quotation is given from a Sao Paulo paper, saying that coffee production now (exchange was then about 8¼d.) leaves a surplus of only 1 % to cover interest on capital and planter's private expenses. On August 12th we are told that the *Rio News* states that the market price of coffee in some parts does not now cover the cost of transport to the coast. In its issue of 2nd ultimo, *Planting Opinion* tells us that a Brazilian paper reports the sale of a coffee estate valued at 160,000$ for only 10,000$ and adds that, at this rate, we shall soon hear of estates being given away for nothing. In the same issue, another lucubration is given from Brazil to the effect that, though it would mean ruin to many, it would be the best thing that could happen to the industry if one-third of the proprietors were driven by low prices to abandon their estates, and on another page of the same issue, we are told that it is said that most of the big planters would be only too glad to see their smaller brethren exterminated, so that the survivors might be able to make a little profit; and that as the big planters have more influence than the smaller fry, they will doubtless keep the Government up to the mark in raising the milreis to 18d.

X. The crisis must be extremely grave when the leading Brazilian papers dare to make proposals which savour so strongly of cannibalism. And if these proposals pass unrebuked, when exchange is at 8d., what is likely to be the result when it reaches 18d.? That it will go up to 18d., or thereabouts. I think there can be little doubt, for I saw it stated myself in a Brazilian paper, in August last, that the Government paper issued against the funding bonds, had risen from 75 to 90 in fourteen months. This shows that its creditors believe that the Government honestly intends to carry out its obligations, and that it has the power to do so; and the quotations in *Planting Opinion*, to which I have alluded above, give us a panoramic view of the operations and effect of the measure in question.

XI. From what I have said, I think it is clear that we may confidently predict such a contraction in the Brazil industry (which, be it remembered, is about three-fourths of the production of the world) as largely to raise the price of all coffee. The exact extent of the rise no man can possibly determine, but that it will be considerable (as soon as the large surplus in the dealers' hands has been used up) no man can reasonably doubt. Venezuela—next to Brazil, but after an enormous interval—is the largest producer in the world; and the rebellion there may interfere with the quantity exported. I do not think therefore that we have any cause to despair. History repeats itself, and we cannot doubt that, in course of time, another depression will arrive. But I trust we may all profit by the lesson we have learnt, and that, when the rise I predict takes place, we may continue to practise the economy which the present crisis has forced us to adopt, and that we may Bank our profits against a rainy day, instead of squandering them as many of us did during the former years of plenty.

XII. I am aware that this paper is scarcely what is usual in an Honorary Secretary's report; but I have been led to write it from the remarks I have lately heard, which clearly shew that some of us have not taken the trouble to read up the subject, and to think it out for themselves. I trust that this fact may excuse the digression, and that what I have said above may induce those who have hitherto neglected it to read for themselves. As I have said above, I know of no better compendium of useful knowledge, on the subjects most interesting to a South Indian Coffee Planter, than *Planting Opinion*, as it is at present; and I think we should all be grateful to Mr. Ormerod for the vast improvement which has taken place in it since he became its Editor.

XIII. I did intend to have touched on other most interesting subjects, such as the deterioration of coffee, its hybridisation, the production and competition of other countries, etc., etc., but the probability of a rise in its price, which many have told me they despaired of, while to me it seems so certain, is a subject of such paramount importance that I have been led on to detain you much longer than I intended (for which I beg to apologize), and I am thus precluded from saying anything on other matters.

XIV. The Committee and myself now place our resignation in your hands and request you will be so good as to elect office-bearers for the coming year; and that you will oblige me by electing another Secretary in my place.

(Signed) ROBT. GOMPERTZ,
Honorary Secretary, S. P. A.

Resolved that the Honorary Secretary's report be adopted and printed with the proceedings of the meeting.

3. Resolved that a vote of thanks be given to the Chairman, the Honorary Secretary, and the Members of the Committee for their services during the past year.

4. Proposed by Mr. Gompertz, seconded by Mr. S. M. Hight,—That the Member elected as Chairman shall be also Honorary Secretary for the coming year. *Carried.*

5. The office-bearers elected for the coming year were as follows:—

R. Gompertz, Chairman and Honorary Secretary.
C. Rahm for Yercaud District.
Thurston Short for Nagalore District.
C. G. Lechler for Green Hills District.
Rev. J. M. Kempf for Kodachet District.
W. J. Lechler.
Rev. M. Andersen.
J. C. Large.
T. B. Nicholson.

6. Read extract from Dr. Watt's letter of 29th August, stating that he will be at Salem from 10th to 12th December and would like to see as much of coffee as he can.

Resolved that the Honorary Secretary inform Dr. Watt that we shall be very happy to see him at Yercaud and to afford him every facility for seeing the coffee grown on the Shevaroys.

7. Read the draft Act for the regulation of labour on Tea and Coffee estates forwarded for remarks to this Association.

Resolved that Collector be informed that the matter was thoroughly discussed at the meeting of the U. P. A. S. I. in August last, and that this Association do not desire to make any further suggestions, but are quite willing to accept those of the U. P. A. S. I., which have already been submitted to Government.

8. Read letter from Mr. J. C. Large, dated 26th August, regarding the equalization of rates throughout the Shevaroys, which was postponed from last meeting.

Resolved that Messrs. Large, Leeming, S. M. Hight, C. Rahm, Thurston Short, and T. B. Nicholson having agreed to form themselves into a Sub-Committee, be requested to visit the different estates, prepare a schedule of rates, and send it in to the Honorary Secretary, who will have it cyclostyled and a copy forwarded to each member of the Association; also that the Sub-Committee be requested to go round periodically to satisfy themselves that the rates they fix are being adhered to.

9. Read correspondence about the Ghaut Road to the Shevaroys, G. O., 218 O. W., dated 15th September 1899, enquiring what contribution this Association is prepared to make towards the construction of the said road.

Resolved that the Honorary Secretary be requested to inform the Collector that, in the present state of the industry, planters are utterly unable to contribute anything towards the said Ghaut Road.

10. Resolved that this Association should request Government to retain the services of Mr. Pope, the present Medical Officer at Yercaud.

Read and recorded the following letters:—

57/N. W. Circular from the Secretary, U. P. A. S. I., informing that Mr. Mangles, the London representative of E. I. coffee, wishes the Association to appoint some one in his place.

62/N. W. Circular from the Secretary, U. P. A. S. I., regarding "*British Tea Duty.*"

63/N. W. Circular from the Secretary, U. P. A. S. I., regarding "*The Paris Exhibition* 1900," stating that the Government of India has promised the Tea Association a grant of £4,000.

65/N. W. Circular from the Secretary, U. P. A. S. I., regarding "*Alleged Coolie Crimping.*"

67/N. W. Circular from Secretary, U. P. A. S. I., forwarding communication received from various coffee-curing works regarding "*Coffee Curing.*"

68/N. W. Circular from the Secretary, U. P. A. S. I., forwarding letter from the Chairman of the Planters' Association regarding "*Coffee Curing.*"

36/c Letter from the Collector declining to reduce the upset prices of certain land requiring by Messrs. Hight and Large.

The following papers were laid on the table:—

Proceedings of the Coorg Planters' Association, dated 27th July 1899, Agricultural Ledger No. 7 (The Cattle of Kumaon), Journal of the Royal Agricultural Society of England.

Three copies of annual exhibition of the Madras Agri-Horticultural Society.

Planting Opinion (3 copies), dated 9th, 16th and 23rd September 1899.

(Signed) C. G. LECHLER,
Chairman.
(„) ROBT. GOMPERTZ,
Honorary Secretary.

CENTRAL TRAVANCORE.

The Quarterly General Meeting of this Association was held at Bon Ami Bungalow, on Saturday, September 23rd, 1899. PRESENT:—Messrs. R. H. Goldie (*Chairman*), B. Laurie, W. H. G. Leahy, G. L. Acworth, F. Bissett, H. M. Knight, Hon. V. B. Wilbraham, E. Lalter, H. S. Holder, D. MacArthur, R. W. Cole, J. E. G. Pigott, W. H. Banett, E. Williams and A. E. Veale (*Honorary Secretary*).

Before proceeding to the business of the day, the Chairman proposed that a vote of condolence be sent to the relatives of the late Mr. H. W. Baker. *Carried.*

The Chairman also proposed a vote of congratulation to Mr. G. L. Acworth on his nomination as Planting Member of the Legislative Council of Fort Saint George. *Carried.*

The minutes of the last Meeting were taken as *read.*

Read and recorded letter from the Superintendent, Cardamom Hills, giving cover to copy of a letter from first-class Magistrate, Peermaad, *re* Pambanaar Arrack Shops.

Read and recorded letter from the Dewan *re* Outlet roads.

Mr. Knight proposed and Mr. Acworth seconded "That a letter be drafted to the Dewan in reply to his No. 2596 P. W., dated 1st August 1899." *Carried.*

Read and recorded the Hon. Mr. F. A. Nicholson's reply to vote of congratulation.

Read and recorded letters from the Dewan and Dewan Peishcar, Cottayam, *re* Seizure of carts by the Kotwal.

Read and recorded letters from Travancore and Kanan Devan Planters' Associations *re* Subscriptions to the American and Continental Market Funds.

Read and recorded letter from Dr. M. Joseph.

Read and recorded letter from Indian Tea Association *re* abolition of English Import Duty.

Proposed by Mr. Knight, and seconded by Mr. Acworth, "That this Association, having fully considered the matter, are agreed that the question of abolition be left to be determined by those most interested in London." *Carried.*

Read and recorded letter from Local and Municipal Department, Fort Saint George, *re* Kumili Ghât road.

Recorded letters from Postmaster-General *re* Delay in arrival of mails.

Recorded letters from U. P. A. S. I. *re* Coffee Curing, Paris Exhibition, Dr. Watt's Tour, Duty on Artificial Manures, E. I. Coffee, Hypothecation of Crops, Coffee Stealing.

Paris Exhibition.—Messrs. Deane, Cole, Leahy and Laurie were asked to prepare samples for the Exhibition, and to forward same to the Secretary, U. P. A. S. I.

Resolved "That any expenses incurred in forwarding the samples be divided *pro ratâ* among the estates on the rolls of the Association."

Taxes and Survey.—Proposed by Mr. Laurie and seconded by Mr. Cole—

(1) "That Mr. H. M. Knight be asked to wait on the Dewan with evidence of the irregularities in connection with the collecting of taxes in this district," and also

(2) "That, owing to the conflicting nature of the various surveys made in this district, H. H. Government be requested to have a re-survey in detail of all the estates in the Peermaad District made, as soon as possible, and that members furnish evidence at once of irregularities with regard to taxes and survey." *Carried.*

Mr. R. H. Goldie having resigned the Chairmanship, as he was on the eve of departure for England, Mr. H. M. Knight was by ballot elected Chairman.

Mr. Knight briefly replied.

Mr. G. L. Acworth, in a few felicitous words, proposed a very cordial and hearty vote of thanks to Mr. Goldie for his services to the Association as Chairman, and wished both him and Mrs. Goldie a very pleasant holiday.

The proposition having been seconded by Mr. Veale was carried with acclamation.

The following papers were laid on the table:—

Travancore Government Gazette, Vol. 37, Nos. 26 to 37.
Planting Opinion, Vol. 4, Nos. 26 to 37.
Indian Tea Association Circulars.
Proceedings of the Shevaroy Planters' Association (3).
Do. do. Wynaad do. do. (2).
Do. do. Coorg do. do.
Do. do. Nilgiri do do.

(Signed) A. E. VEALE,
Honorary Secretary, C. T. P. A.

MARKET REPORT.

By Mail Advices of 15th September 1899.

COFFEE.

The London Commercial Record says:—The tone of the market generally has been rather quieter this week, except for the comparatively small quantity of fine colory, which commands full prices. A larger supply of East India offered than for some time past, and a fair proportion was disposed of at easier prices for undesirable grades, but with rather more demand for fair to good qualities. Fine Jamaica realised high prices. Costa Rica and Central American kinds opened firmly, but were barely steady at the close. Santos unchanged. The continuance of large receipts in Rio and Santos have had a further adverse influence on the market for futures, and prices are again easier, closing as follows:—

London ...	... Santos ...	Dec. delivery	... 25s. 6d.
New York	... No. 7 Rio...	„ „	... 4·50 cents.
Hamburg...	... Santos ...	„ „	... 26½ pf.
Havre ...	... Santos ...	„ „	... 31½ francs.
Holland ...	... Good ordinary Java ...		... 26 cents.

At the Dutch Trading Company's public sale held on Tuesday in Amsterdam 23,300 bags sold at rather firmer prices, good ordinary Java realising 26c, against 25¾c valuation, and 25¾c last sale. The following are some of the details:—

Lying in Amsterdam.

No.	Bags.	Valued at. Cents.	Result. Cents.
1	445	25¾	25¾ @ 26
2	390	26	26¼ „ —
6	483	27⅓	26¼ „ 26½
8	489	26¼	26 „ —
14	1,500	25½	24¾ „ 25
15	2,114	47	43¾ „ 44¾
16	1,060	44	41 „ 41¼
18	1,582	45	42¼ „ 42½
20	419	29½	27¾ „ —

Imports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
Tons ..	25,104	19,628	39,773	37,528
	Home Consumption.		Export.	
	1899.	1898.	1899.	1898.
Tons ...	11,456	10,078	17,643	17,515

The preceding figures exhibit—

	Tons.
In the Imports an increase this year of	2,245
Home Consumption an increase of	1,378
Export an increase of	128
Stock an increase of	5,576

Auctions this week have passed off as under:—

CEYLON.—2 casks 2 tierces 17 barrels 16 bags partly sold, Plantation smalls 28s to 37s, low middling 60s, pea-berry 44s. Liberian 16s 6d to 20s.

East India.—2,252 bags partly sold as follow:—*Coorg*, low middling 41s, peaberry 48s to 71s. *Neilgherry* smalls 31s to 36s 6d, fine middling 37s to 38s 6d, middling 45s 6d, bold 46s 6d to 61s 6d, pea-berry 40s to 45s. *Mysore* smalls 22s 6d to 34s, low middling 35s to 37s, middling 51s 6d, bold 42s to 70s, pea-berry 40s to 54s 6d.

Wooden.—27 half-frazils withdrawn.

Jamaica.—28 barrels 21 bags partly sold—smalls at 32s, fine small blue 51s 6d, medium ditto 104s 6d, bold ditto 123s.

Costa Rica.—Of 2,274 bags offered 1,500 bags sold, smalls 36s 6d to 37s 6d, ordinary pale greenish 31s 6d, good to fine ordinary 33s 6d to 38s 6d, low middling colory 44s 6d, middling 48s to 56s 6d, good bold blue 65s to 70s, pea-berry 34s to 47s 6d.

Guatemala.—Of 4,989 bags offered about 2,500 bags sold, smalls 26s 6d to 36s 6d, ordinary brownish 28s 6d to 30s 6d, good to fine fine ordinary greenish 31s to 38s, middling to good middling 42s to 45s, pea-berry 35s 6d to 68s.

Salvador.—Of 1,467 bags about half sold, smalls 28s, ordinary greenish 30s 6d, good to fine ordinary 31s to 33s, fine fine ordinary gravish 37s 6d to 38s 6d, pea-berry 37s to 44s.

Colombian.—2,872 bags about half sold, smalls 25s to 36s 6d, fine ordinary bold pale 36s 6d, fine fine ordinary 36s 6d to 38s, low middling to middling 39s to 45s 6d, good middling 46s to 50s 6d, bold greenish colory 53s to 57 6d, good to fine bold blue 71s to 77s, peaberry 37s to 64s 6d.

Mexican.—Of 256 bags 76 bags sold, good to fine fine ordinary greenish 35s to 39s.

Guayaquil.—60 bags fine ordinary foxy sold at 29s 6d to 30s.

Peruvian.—27 bags partly sold at 25s 6d for smalls.

Trinidad.—10 bags ordinary dull greenish sold at 26s.

Nicaragua.—241 bags mostly sold—smalls at 34s to 37s, low middling 41s 6d to 42s, pea-berry 55s 6d to 58s.

Brazil.—490 bags washed Santos sold—smalls 23s, medium greenish mixed 29s, bold 32s landed terms.

At auction to-day the following offered:—2 casks 2 tierces 7 barrels 2 bags Ceylon, 80 packages Mocha, 93 bags East India, 18 cases Penang Liberian, 505 bags Colombian, 62 bags Salvador, 804 bags New Granada, 9 bags Nyassaland, and 74 bags Coban. The sales went off quietly at former quotations.

Receipts in Rio and Santos.

1899-1900.	1898-99.	1897-98.	1896-97.
Bags.	Bags.	Bags.	Bags.
3,234,000	2,514,000	3,449,000	2,394,000
Crop —	8,772,000	10,461,000	8,680,000

Rio Exchange $7\frac{23}{32}$d, previous day $7\frac{11}{16}$d.

Havre, Sept. 14.—Santos good average September opened barely steady at 31f. and closed irregular at 31f., December opened at $31\frac{1}{2}$f. and closed at $31\frac{1}{2}$f.

Hamburg, Sept. 14.—Good average Santos September opened quiet at $26\frac{1}{4}$pf. and closed quiet at $26\frac{1}{4}$pf., December opened at $26\frac{1}{2}$pf. and closed at $26\frac{1}{2}$pf.

New York, Sept. 13.—Closing prices of No. 7 Rio were as follow:—

	Sept.	Oct.	Nov.	Dec.	Jan.
Sept. 13 ...	4·20	4·20	4·25	4·50	4·55
Sept. 12 ...	4·20	4·20	4·25	4·50	4·55

Prices realized at auctions for some of the principal marks of East India:—

NEILGHERRY.

	A	B	C	PB	T
Craig Lamont	77-0	50-0 bid	—	76-0 bid	—
Adderley	35-0 bid	35-0 bid	—	—	22-0
Palmer	50-6	37-0	32-0	40-0	28-0
					29-6
Manaar	46-6	37-0	35-0	43-0	32-0

MYSORE.

	A	B	C	PB	T
DH Sidderkhan Mysore	43-0	37-0	28-0	53-0	25-0
DCG Koosboor Mysore	68-0	51-6	32-6	54-6	30-6
RK Mysore	55-6	43-0	28-0	44-6	17-0

TEA.

Indian.—Public auctions were rather heavier, comprising 42,300 packages contrasted with 39,600 packages in the previous week, and 38,500 packages a year ago.

The moderate range of values current for some time past has evidently stimulated business throughout the country, there being more general demand, and quotations for nearly all grades showed an advance. Common Pekoe Souchongs and Pekoes in some cases rose ½d per lb. Broken teas were steady, while for good to fine Pekoes as also Broken Pekoes there was a brisker enquiry and they went on the whole dearer. Fine and finest continue in request and some high figures were paid.

It is satisfactory to note from the figures given below that exports from here are increasing, while the total deliveries from the commencement of the month mark some expansions.

For 37,600 packages on garden account 9¼d per lb was obtained compared with 9¼d per lb. for 29,900 packages, and 9½d per lb. for 34,100 packages in the two preceding seasons.

Ceylon.—There was again a slight shrinkage in the amount brought forward, which totalled 29,100 packages, against 30,500 packages on 5th instant. At this period last year, owing to temporary small arrivals, only 15,700 packages were offered.

The above quantity was evidently well within the buying power of the trade and this, coupled with improved quality in many of the invoices now arriving, caused spirited bidding. Under these circumstances the sales passed with a buoyant tone, prices for most descriptions tending upwards. Common to fair leafy sorts sold in favor of importers to the extent of ½d per lb. and the better kinds occasionally ½d per lb. Ordinary Broken Pekoes did not alter much, but good to fine elicited strong competition and were distinctly higher. Choice lines brought enhanced rates, among the best Broken Orange Pekoes being: Goatfell Estate, 1s 5½d; Cranley and Henfold Estates, 1s 5d; Eilden Hall Estate, 1s 4¾d; Ingestre and Talawakelle Estate, 1s 4½d per lb.

The average is a little under 7¾d per lb. On the 7th instant it was barely 7½d per lb., and 8¼d in 1898.

Java.—About 1,600 packages of direct import were enclosed in the catalogues and met with considerable attention, dealers having to give ¼d per lb. more in nearly every case than for prior purchases. Catalogues comprising 1,250 packages have been issued for the 21st instant.

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns were:—

	Lbs.
From 1st to 12th Sept., 1899	7,238,517
Do. do. 1898	6,089,957

During the week the following have been printed for sale by public auction:—

	Sold. Pkgs.	Withdrawn. Pkgs.	Total offered. Pkgs.
India	39,611	2,595	42,206
Ceylon ...	27,629	1,505	29,134
Java	1,489	141	1,630
Total ...	68,729	4,241	72,970

Also 348 packages from second hands.

Arrivals—	From Calcutta.	From Colombo.
Ex *Clan McKenzie*	803,000	65,000
„ *City of Bombay*	2,955,000	69,000
„ *India*	—	135,000
Totals	3,758,000	269,000

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated September 15th, 1899, says:—

Quantity brought to Auction in London from 1st June to Date.

	Indian. Pkgs.	Ceylon. Pkgs.	Java. Pkgs.
1899-1900	319,093	325,530	18,570
1898-1899	296,357	383,842	14,135

42,480 *pkgs.* Indian
29,243 „ Ceylon
1,630 „ Java
} Total 73,353 packages were offered in public auction this week.

So much of the accumulation in Importers' hands has now been disposed of that the market may be considered to have almost regained its normal condition.

Dealers' stocks were so much reduced by the long cessation of auctions that the resulting demand has now proved sufficient to cause an advance from recent low prices. A strong enquiry for low priced Teas has also been noticeable during the past week, indicating a shortage of this grade in buyers' hands.

As recent advices from India and Ceylon point to only moderate supplies coming forward, prospects seem to favour a good market, which should be maintained through the aid of the Regulating Committee, by bringing easily working quantities to auction.

Considering the high price of low grade Teas last spring it is satisfactory to see that markets outside the United Kingdom practically held their own during the first six months of the year.

Indian.—The hardening tendency noticed last week further developed, while Teas for price have been especially firm, a slight advance being noticeable here and there.

The official wire with estimate of the Indian Tea Crop has just arrived, viz :—"The total Season's Crop is estimated at 163,000,000 lbs. The total estimated crop for the United Kingdom is 135,000,000 lbs." This compares with an actual crop of 154,000,000 lbs. last season, of which the United Kingdom received 135,400,000 lbs. The following averages are worthy of note:—Darj. Amal. T. Co.'s gardens "Dooteriah," 2/2; "Nagri," 1/8½ and "Chong Tong," 1/5½; "Margaret's Hope," 1/5¾; Lebong T Co.'s gardens "Tukvar," 1/5¾ and "Badamtam," 1/4½; "Liza Hill" and "Rungmook," 1/4¼.

Week's av. of Tea sold on Garden Account 1899, 38,137 pkgs., av. 9·02d. 1898, 30,878 pkgs, av. 9·65d.

Total Tea sold on Garden Account 1st June to date 1899, 203,006 pkgs., av. 8·41d. 1898, 197,548 pks., av. 9·00d.

Ceylon.—The market has at last responded to the gradual reduction in the supply, and the smaller sales of this week passed with strong competition at a slight advance in prices, the lower grades showing a further rise of fully ¼d. per lb. The better quality of some of the Teas now arriving has also improved market quotations. An invoice from the Carolina T Co.'s "Goatfell Estate" realised an average of 1/3.

Average for week 7·62d., against 8·28d. same period 1898.

Ceylon Tea sold on Garden Account 1st Jan. to date 1899, 733,746 pkgs., av. 7·93d. 1898, 830,893 pkgs., av. 7·62d.

Java.—The auction passed with good competition and in sympathy with other grades showed better prices for the lower grades.

Bank Rate 3½ per cent. Exchange on London three months sight:—Calcutta 1/4 7/16. Colombo 1/4 7/16.

COCOA.

A much quieter tone dominates trade, and at auction on Tuesday only 380 bags sold out of 3,338 bags brought forward. There was, however, no alteration in prices except in the case of Grenada growth, which declined 1s per cwt. Of 805 bags Trinidad 110 bags sold—fine red 72s to 73s, fair to good 66s to 70s Of 370 bags Grenada 60 bags were placed at 62s to 65s for good to fine, and 59s for common. 85 bags Jamaica withdrawn. Of 386 bags Bahia 70 bags dull and wormy sold "without reserve" at 55s to 56s. 12 bags country-damaged bold Colombian brought 66s 6d. 91 bags Venezuelan were bought in. Of 838 bags Guayaquil 50 bags were sold at 67s for Caraquez and 66s for Tumaco. Of 750 bags Ceylon catalogued 80 bags sold—middling dull pale red 70s, common medium 61s, smalls 56s 6d, pickings 47s. Private sales include 200 bags Grenada at auctions' rates; small lots of good African at 64s; 150 bags Ceylon at 59s for common Native and 65s for good; and 100 bags Guayaquil—Caraquez at 68s per cwt.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

	1899.	1898.	1897.	1896.
	Bags.	Bags.	Bags.	Bags.
Imports, B.P. ...	111,727	111,634	102,588	112,321
Foreign ...	60,968	89,320	61,878	54,897
Home Con., B.P. ...	60,881	75,652	60,537	53,918
Foreign ...	37,289	42,488	41,841	39,951
Exports, B.P. ..	35,365	27,733	36,070	30,358
Foreign ...	20,667	23,384	31,716	20,789
Stock, B.P. ...	61,064	68,288	83,856	93,899
Foreign ...	55,586	57,638	48,539	60,522

PEPPER.

Black.—The market has been quiet this week, and no sales are reported for arrival; near at hand shipments offer at 5 11/16d, September-November at 5 13/16d. and October-December at 5 15/16d. On the spot 700 to 800 bags fair Singapore have been sold at 5 19/32d to 5⅝d.

Auctions on Wednesday presented 210 bags Penang and 10 bags Tellicherry, which passed the hammer unsold.

White.—Has met a good demand and business has been done at firm prices, including Singapore at 8 5/16d for September-November shipment; Siam has been sold on the spot at 8¾d fair Singapore 8¾d, and fair to good Penang at 8½d to 8 9/16d.

At public sale on the 13th instant of 24 bags Singapore, 7 bags fine sold at 9¾d. Of 159 bags Penang, 50 bags fair limed realised 8½d per lb.

GINGER.

Cochin.—Offerings were more moderate, the total being 111 cases, 1,781 bags. A steady demand has ruled during the week, and about 600 bags of washed rough have changed hands at 23s. Under the hammer competition was fairly general, but holders maintained very stiff backs, which restricted sales to 63 cases 465 bags at somewhat lower rates, viz., dull small and medium roughly cut, rather wormy 29s, small lean cut 27s 6d, cut small and ends 25s, dullish cuttings 16s, medium and small plump washed rough 23s to 23s 6d, mouldy 20s to 21s, and shrivelled D's 18s 6d to 19s per cwt.

Jamaica.—Biddings were shillings below the ideas of importers, and of 122 barrels offered only 5 barrels sold at 64s to 66s for medium washed and 60s per cwt. for rather leaner ditto.

CARDAMOMS.

Meagre supplies were catalogued yesterday, consisting mostly of Ceylon-Malabars, for which there was no demand. following rates were paid:—Ceylon-Mysore, dull bold long bleached, 2*s.* 8*d.* to 2*s* 9*d.*; medium, ditto, 2*s.* to 2*s* 2*d.*; small ditto, 1*s.* 10*d.*; splits and pickings, 1*s.* 5*d.* Ceylon-Malabars, medium lean brown, 1*s.* 8*d.* No seeds were sold publicly. Some of the parcels offered were not on show in time.

The shipments from Ceylon for the week ending August 22 were 6,711 lbs.

QUININE.

Dull and easier. Quotations in second-hands have dropped about ¼d. per oz. To-day's quotations is 11 5/8d. per oz spot (with buyers at 11¼d.), and 11 7/8d. for December delivery, which figure has been paid. Makers' prices are unaltered.

CINCHONA.

The *Chemist & Druggist* says:—At auction on Tuesday supplies were again small, amounting to 1,907 packages (including 729 packages all more or less damaged by smoke in the late fire at Bull Wharf). The demand was quiet, although the bulk was disposed of at lower rates, or generally on a unit basis of 1⅛d. against 1⅜d. in August and 1⅛d. at the last Amsterdam auctions. The supplies offered were as under:—

	Packages offered.		
East Indian cinchona	471,	of which	381 were sold.
Bolivian Calisaya cinchona	283	,,	283 ,,
Cuprea bark	177	,,	127 ,,
Java cinchona	148	,,	148 ,,
Columbian cinchona (damaged) ...	159	,,	159 ,,
Ceylon cinchona	146	,,	146 ,,
Paita cinchona (damaged)	129	,,	129 ,,
Yellow and red cinchona	80	,,	... ,,
Mixed bark	314	,,	314 ,,
	1,907		1,687

The following are the approximate quantities purchased by the principal buyers:—

	Lbs.
American and Italian factories	99,206
Mannheim and Amsterdam factories	59,005
Brunswick factory	31,929
Frankfort-on-Maine and Stuttgart factories ...	13,750
Druggists, &c.	29,865
Total quantity sold	233,755
Bought in or withdrawn	44,292
Total quantity offered	278.047

The following prices were paid:—

Java.—Good stem chips, 5½d.; common dusty, ¾d. to 1¾d. per lb.

South American.—Bolivian cultivated calisaya, good quill, 6⅛d. to 7¼d. Cuprea was bought in at 2¼d. per lb.

East Indian.—Red natural chips and shavings, 3⅝d. to 3¾d.; root, 3¼d.; hybrid broken quill, 4¼d.; crown, chips, &c., 3¼d to 3½d per lb.

Ceylon.—Succirubra: Natural chips and shavings, 2¾d. to 3¼d.; mixed stem and branch ditto, 2¼d. to 2½d. Ledgeriana: Stem chips and shavings, 4½d. to 6¾d. per lb. Officinalis: Stem chips, 3d. per lb.

In the drug-auction only 10 packages of bark were offered, but no business was done publicly, good thin Guayaquil being limited at 11d. per lb.

Tuesday's public sales offered a total of 1,204 packages, the bulk of which sold with good competition at 1⅛d per unit, or about equal to the rates obtained at the last Amsterdam sale, which, it will be remembered, registered a fall of 20 per cent.

825 bales, &c., *South American* offered, and 210 bales cultivated yellow Calisaya quill sold at 6½d to 7½d, also 159 bales soft Colombian 129 bales Pitayo, and 127 packages Cuprea, all smoke-damaged. "for account of whom it may concern," at ¼d to 1d per lb.

146 bales, &c., *Ceylon Cinchona* all sold—Officinalis, chips 3d; Succirubra, chips and shavings 2¾d to 3¼d, ditto mixed stem and branch 2¼d to 2½d; Ledgeriana, chips and shavings 4½d to 6¾d per lb.

Of 471 bales *East India Cinchona* catalogued, 385 bales sold—Officinalis, chips and shavings 3½d to 4⅝d, broken quill 3½d, branch 2½d to 3¼d; Red, chips and shavings 3¼d to 3¾d, quill 3½d root 3¼d; Hybrid, quill 4¼d per lb.

148 bales *Java Cinchona* sold—Ledgeriana, chips ¾d up to [illegible] per lb.

OFFICIAL QUOTATIONS.

Sulphate of Quinine—						
		In Tins.			*In Bags or Barrels.*	
Howards & Sons	1s 3d	@	1s 4d	{	1s 5d @ 1s 6d { (for Ledgeriana)	
Thomas Whiffen	1s 2½d	„	0s 0d		1s 4d @ 0s 0d	
Brunswick	1s 2d	„	0s 0d	nominal		
Mannheim	1s 2d	„	0s 0d	nominal		
Auerbach	1s 2d	„	0s 0d	nominal		
Zimmer	1s 2d	„	0s 0d	nominal		
Milan	0s 0d	„	0s 0d		0s 0d	„ 0s 0d
Taillandier	1s 2d	„	0s 0d			
Amsterdam	1s 2d	„	0s 0d	nominal		
Pelletier's	0s 0d	„	0s 0d		1s 9d	„ 0s 0d

(AVERAGE FOR ALL INDIA 8·48d.) September 8th.

GARDEN.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust, and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price.
Neilgherry	**316**	**8**												
New Hope ...	211 p	7⅛	55½c	8⅛	35	7½	42½c	8¾	...	...	24	7¼	55	6½
Non Such ...	105½c	9⅛	57½c	10†10¼	48½c	9	...	...	...	...	...	...	...	...
Travancore	**777**	**6·54**												
BA .	8	5¾	...	...	...	...	....	...	...	...	8	5¾	...	...
Bon Accord ...	90 p	6¾	...	...	31	6½	29	7¾	17	6	...	...	13½c	5¾ 6¾
Ellangy ...	132	5¾	...	...	63	5¾ 6	25	6½	33	5½	3	4¾	8	5½
Great Valley .	80½c	6	...	...	50½c	6	25½c	6¼	...	...	3½c	5½	2½c	5¾
Isfield T C Isfield ...	35 p	6¼	...	...	16	6	12	7	...	..	...	...	7½c	5½
STTCoVenture ...	89	6¾	...	...	48	6½	33	7½	...	...	1	5¾	7	5½ 5¾
Stagbrook ...	202	6¾	51	7 7¾	68	6½	...	...	42	6¼	38	6 6½	3	5¾
Vembenard ...	141	7	15	7¼	38	6¾	55	7½	14	6¼	10	6½	9	6½
Wynaad	**282**	**6·70**												
Erramaculla ...	67 p	6¾	...	...	26	6¾	26½c	7½	15	6	...	...	...	...
Perrindotty ...	135 p	6½	12½c	9	51	6 6¼	25½c	8½	27	5½	...	...	20½c	5½ 6¼
Wynaad T Co. Per...	80 p	7	...	...	50½c	6¾	18½c	8	9	6¼	...	..	3½c	6½

PROGRESS STATISTICS.

The following official statistics are supplementary to our Leading Article (in issue of 2nd September 1899) on the subject of "Tea, Coffee and Cinchona."

III.—PROGRESS OF CINCHONA CULTIVATION IN INDIA FROM 1886-87 TO 1897-98.

Provinces.	1886–87.	1887–88.	1888–89.	1889–90.	1890–91.	1891–92.	1892–93.	1893–94.	1894–95.	1895–96.	1896–97.	1897–98.
					NUMBER OF ACRES UNDER CULTIVATION.							
Madras ..	8,989	7,352	7,254	5,808	7,101	6,771	7,720	7,923	5,819	5,091	3,937	2,641
Bengal ..	3,524	3,563	4,064	3,955	3,934	3,738	3,295	2,899	2,508	2,230	1,636	1,394
Mysore ..	271	384	387	396	396	396	320	319	350	340	335	303
Coorg ..	1,707	1,971	742	742	63	63	198	94	33	26	8	8
Total..	14,491	13,270	12,477	10,901	11,494	10,968	11,533	11,235	8,710	7,687	5,916	4,346
					NUMBER OF TREES IN PERMANENT PLANTATIONS.							
Madras ..	19,868,020	11,555,051	13,935,503	7,789,493	9,717,567	8,115,596	9,465,486	8,242,608	5,467,339	6,277,405	4,683,785	2,406,831
Bengal ..	6,900,976	6,985,994	6,864,721	6,622,601	6,277,561	5,799,841	5,358,120	3,772,500	4,018,000	3,813,780	2,738,430	2,346,719
Mysore ..	177,720	233,983	244,597	251,597	254,597	254,597	218,121	218,121	207,783	201,814	195,381	140,640
Coorg ..	1,366,237	1,537,350	444,002	289,215	..	498,067	170,572	189,297	37,097	18,597	12,500	12,500
Total..	28,312,953	20,312,378	21,488,823	14,952,906	16,249,725	14,668,101	15,212,299	12,422,526	9,730,219	10,310,966	7,630,156	4,906,190
					QUANTITY OF BARK COLLECTED (lbs.).							
Madras ..	750,478	856,316	1,140,302	827,884	1,656,872	1,473,204	2,065,177	1,170,801	1,449,947	1,532,445	773,284	1,[illegible]38
Bengal ..	255,631	342,410	445,100	420,705	416,272	435,560	459,232	433,010	577,682	507,436	717,222	522,701
Mysore ..	1,312	4,218	1,810	120	2,128	100	102	100	160	150	60	60
Coorg ..	49,744	87,874	40,254	8,214	57,828	51,506	89,904	76,450	..	..	..	..
Total..	1,050,165	1,290,818	1,627,466	1,256,923	2,133,100	1,960,370	2,614,415	1,680,361	2,027,789	2,040,031	1,491,566	1,693,499

PLANTING OPINION,

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ADVERTISEMENTS.—The charge for line advertisements is As. 4 per line for the first, As. 3 for the second, and As. 2 for the third and succeeding insertions. Five-line (or shorter) advertisements from Subscribers will be inserted for three issues for One Rupee; non-Subscribers will be charged Two Rupees.

DOMESTIC OCCURRENCE.—The fee for inserting a domestic occurrence will be *One Rupee* for each insertion, payable in advance.

N.B. Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 20th instant. Season reports should be sent direct to the Printers, Messrs. HIGGINBOTHAM & Co.

Coorg.

POLLI BETTA, 11th Oct.—*Weather.*—Last Friday a storm accompanied by high wind, which twisted and tore branches off trees and uprooted some, passed over these parts; but a little way East there was hardly a drop of rain. Since then the weather has been fine. Last night it rained somewhere, as it was thundering and lightning in one direction. *Crops.*—Eastern *totes*, which had a big February blossom, are ripening up. One place has nearly its century of bushels in already. Coffee is looking well, but every new branch has lost 4 or 5 pairs of leaves through leaf disease. *Labour*—continues plentiful, and *General Health*—good.

SEQUELÆ.

SERIOUS diseases of tea bring minor maladies in their train, and it even happens, all too often, that apparently slight indisposition paves the way for the entry of dangerous attacks of more potent foes to health. So is it, too, with quarrels, and with wars. Slight causes lead to attempts to interfere with the ordinary course of nature, and it frequently happens that quite unexpected *sequelæ* result. This has been marked in the case of the recent dispute about the 1-lb. draft in London. Ostensibly, the war is at an end, and peace has been declared. In reality, the dispute has but opened the road to dissensions, and these threaten more grievous calamities than the disastrous effects that are directly attributable to the struggle between importers of tea into England and retailers there. For instance, we are threatened with a general opening-up of the question of warehouse and dock charges in London, and with attempts to divert the stream of the tea-trade to other markets within the limits of the United Kingdom, quite apart from efforts to cultivate direct trade between producing centres and foreign consuming markets. Worse still, a note of discord has been struck with force, and threats of a perman-

ent want of harmony among producers vibrate in many quarters where unity of purpose and of interests has been persistently proclaimed during the last few years. From questions of rivalry between tea and coffee, coffee and cocoa, cocoa and tea, we have passed to grave doubts whether British growers of teas will not find it to their interest to encourage, what may be termed, civil war rather than confederation in defiance of, or defence against, the tea-growers of the rest of the world.

The truth has had to be raised from the bottom of a very deep well. Whether it has yet been brought to the surface remains to be seen, for time is needed before the true results of the tests applied can be ascertained. As regards the war itself, the statement is now openly made that buyers of tea have gained much more by it than sellers. A paper contributed to the *Indian Planters' Gazette* expresses this view very plainly. It remarks that the difference in London terms brought about by the articles of peace is, briefly, that, instead of all tares being taken at the full pound above for packages turning the scale to any extent whatever over the next lower full pound, they shall be recorded at the weight of the next full pound below, so long as they do not turn the scale with a half-pound weight added. For instance, an empty package weighing 28½ lbs. or over will be marked down for tare as 29 lbs., while one just under 28½ lbs. will be marked down for tare as 28 lbs. As first sight, this appears to be a concession to the importers by the buyers of about a half-pound per package on the average ; but the writer of the article under reference says that, in practical working, it should not prove to be so. "The leading brokers, in their carefully prepared directions for making up packages in the factories, have repeatedly enjoined on managers that tares should, if possible, be merely a few ounces below an even number of pounds, so as to minimise loss by the system of taring. There is no doubt that this advice has been largely adopted, and that the loss supposed to be made by the importer by the method of taring has been, in many cases, purely imaginary." Moreover, he explains, "in connection with the settlement an agreement was made that in future no 'overtakers' should be used. Those were introduced for tea many years ago, with a view to saving high-class, bright, tippy teas from having their appearance injured by treading back into the package the full quantity originally contained, the Customs having sanctioned the use of additional packages and the consequent alteration of the original landed weights. Advantage was taken to use these for an entirely different purpose, and it was found that the excess ounces over the even pounds of the gross weights were, in certain cases, being removed from the chests and repacked in overtakers. In future the excess weight derivable from the system of gross weighing is not to be taken from the buyer in this manner, and that may readily compensate for any possible loss in the matter of the tares. The same individuals may not make the gain and the loss, but it is probable that, taken over all, the total nett weight of tea, which buyers fail to pay for to the sellers under the new conditions, will differ little from what it was previously." It is added that the buying section of the trade generally have benefited materially in various ways at the expense of the sellers, in consequence of the dispute. The scarcity of tea available for immediate use, artificially caused by the suspension of sales, enabled dealers to work off much better than they would otherwise have done stocks bought in the inflated market last spring, and saved, to some extent, the heavy discounts usually taken in July to close up old season's remainder. At what is generally the most dead period of the year fo trading in tea, the majority of the importers, instead of offer ing their teas on arrival as usual, carried them for some si weeks on the average, thus saving rent and interest to th buyers, and they ultimately sold them to the latter at ½d. t ¾d. below the rates they might have obtained on arrival. Th importers, besides, accumulated a large reserve of stock fro which they decided to supply buyers in limited quantities, a required, again relieving them from the charges of rent an interest, and they agreed to continue this regulation o supplies in the interest of the buyers, so that the latter nee never again, until the stocks in bond materially diminish, pur chase more than a single week's requirements. In short, th buyers have learned, during the crisis, that it is possible t work their business with much smaller stocks than were for merly considered necessary, and will, in this writer's opinion not be slow to take advantage of the willingness of importers to carry the stock for them, which, of course, will save them from the risks of a constantly dropping market, and from any necessity to keep up prices so as to protect their own holdings.

This may be an extreme view, and a very one-sided one but it is one that certainly deserves to be carefully considered. London conditions and charges apart, there can be no doubt that one result of the war has been increased cohesion among buyers. Sad to say, with sellers the result has been just the reverse. In Ceylon, for example, the work of the far-famed "Thirty Committee" is being criticised with a hostility never previously exhibited. It is asserted that the whole system adopted by this committee tends, in the long run, to hinder, rather than to advance, progress towords the conquest of such markets as Russia and the Continent of Europe. The methods of the committee are criticised in detail as well as in general, and, while there may be much false argument employed by the attacking party, there is a manifestation of a very regrettable want of confidence in the appointed leaders of the campagin that Ceylon has been conducting for years past. All this may make for increased strength in the future, when mistakes shall have been pointed out and rectified or the schemes of the committee justified to the satisfaction of the critics who are now so keen. In the meantime, however, lassitude and weakness are the symptoms most perceptible, and nothing but the most careful and studied treatment can restore an industry that is passing through a period of grave debility. We do not hide our sympathy with the critics, who, we are inclined to think, have ground for many of their complaints about the treatment favoured in the past. Our present aim is, however, not to offer a prescription or suggest a course of treatment, but merely to call attention to the existence of *sequelæ* that should be studied with the most serious attention, if not with actual anxiety.

EAST INDIA COFFEE.

In his annual report for 1898-99 the Director-General of Statistics remarks :—"There was a material recovery in this trade from the depression which marked the two preceding years : but the trade still leaves much to be desired. The acreage under coffee in Brazil has extended so greatly in recent years that, as regards the common kinds of coffee, the supply is in excess of the demand, and the fall in prices of Brazilian coffee to the lowest level ever known has

affected all the descriptions of coffee which enter into competition with Brazil coffee. The prices of the superior descriptions of coffee are not so affected and are well maintained ; but Indian coffee is essentially of the class with which Brazil coffee competes ; and the competition involves severe efforts on the part of the coffee-planter of Southern India who has to face a range of prices for this product which constantly tends downward and cuts into what has hitherto been a fairly expansive margin of profit. There was actually a considerable quantity of Brazilian coffee imported into Bombay last year. There may possibly be a reaction, for the fall in prices has been as great a subject of complaint in Brazil as the fall in prices of tea has been to the India tea-planter. But in Brazil, as in India, extensions were made very rapidly, and supplies must continue to be on a very large scale as the produce from the extensions is brought to market."

The exports have been—

	cwt.	Rx.
1894–95	281,297	2,122,373
1895–96	290,902	2,198,192
1896–97	210,797	1,585,039
1897–98	225,008	1,519,130
1898–99	270,056	1,749,824

The allusion to E. I. Coffee as "of the class with which Brazil coffee competes," and not as offering the "superior descriptions" that maintain their price, would certainly appear to point to a belief that this coffee has deteriorated ; but Mr. O'Conor has gone astray. East India coffee includes superior descriptions still, though it also comprises a large quantity of bean, very little, if at all, superior to average Brazilian. Unquestionably, too, prices of even superior sorts have been affected : it is only a very few exceptionally choice descriptions that have held their own.

THE INTERIOR TEA TRADE OF THE UNITED STATES.

In an interview with a representative of a New York contemporary, Mr. Davis, of Messrs. Russell and Co., gave a fairly encouraging account of the position of tea in the interior districts of the United States—the American Mofussil. He had recently returned from an extensive Western trip, undertaken with a view of finding out the nature and extent of the stocks of tea carried by interior jobbers, and what, if any, proportion of present holdings were of tea two or more years old. He says, he started from New York with a settled idea that he should, in his travels, unearth a considerable amount of old teas stored away and was preparing himself with arguments to combat any suggestion on the part of the jobbers as to duty effects and its probable repeal ; but he was surprised beyond all mention to find that the country jobber realized as fully as he did that the duty had come to stay, and the chance of ever again selling 25-cent teas was exceedingly remote. Furthermore, says, Mr. Davis, "I was struck with the very small stocks held by houses outside New York, and in no single instance did I discover teas older than last year's importation. Some of the 'big fellows,' who are in the habit of carrying 1,500 or 2,000 packages, are now content with a meager 250 or so, and the interest displayed in the general line is very slight indeed ; and I attribute it to this reason that they are waiting until their salesmen have been out for their first trip, for the fall season, and educated the retailer into the knowledge that they must charge for their goods in proportion to their cost." One particular point he noticed in nearly every town he visited : The jobbers are holding to the insane view, recently believed in even in New York, *viz.*, teas for price, which will, says Mr. Davis "naturally tend to ruin the good tea business and disgust consumers. Low grade teas will never induce consumption." The gentleman whose opinions we here quote does not think the consumption has fallen off to any extent—at least, not to the extent that has been stated. He further remarks :—

"Rather an amusing explanation was given me in Chicago why the tea business has appeared to droop in the West. 'Why, you see,' said a fellow, who in his time has speculated in teas and cups and saucers, 'the reason why there is not more tea being used in this section is that we fellows have turned our attention to some other goods, where it will pay to give something away with them gratis. You see, we can't afford to offer the inducements we did, and then again we have had to reduce the commissions given the men on the road; and then they struck.'

Perhaps there may be some sense in what this man says, but, after all, he only represented one portion of one section; and I really believe the consumption of tea to-day is as great as it was before the duty was placed on the product."

A STANDARD FOR COFFEE.

A short time ago, South Indian Coffee planters considered the possibility of establishing a uniform standard of sizes for their coffees and decided that this could not be managed, as the beans grown in different districts varied greatly in shape. The Queenslanders have "gone one better." At a special meeting of the Cairns Coffee Growers' Association last August, a proposition was brought up for the prevention of export of inferior coffee. The idea was that Mr. H. O. Newport should inspect all coffee intended for shipment. It was finally resolved "That a letter be sent to the Under Secretary for Agriculture stating that the Cairns Coffee Growers' Association were anxious that all coffee grown by members of the Association should be examined and classed by an expert before leaving the district, and requested that Mr. Newport's services might be available for such examination." A Sub-Committee was appointed to interview Mr. Newport after the receipt of a reply from the Minister, and details were left over for discussion when this Sub-Committee should have submitted its report. The movement seems to have originated in reports that Cairns Coffee was very inferior to coffee grown in other parts of Queensland. It reflects a very praiseworthy desire to effect an improvement.

THE CHANCES OF COFFEE.

From a well-informed source a New York paper learns that the question of a rise in price of No. 7 Rio depends entirely on the percentage of better grades. At the moment, the prices of the good grades of coffee are very low, while those of Nos. 7 to 9 stand at a considerable premium. A correspondent figures it out in this way : If No. 4 are regular at 6¼c and No. 7 stand at 5¾c, the latter are fully ¾c above their approximate value, and should the proportion of production be of No. 7 coffee, there is little doubt that the price will naturally succumb to the inevitable reduction, so that in November, at the latest, the price of No. 7 may in all probability be 5c or a fraction lower. This view is strengthened, says the *American Grocer*, by a conversation overheard between one of the factions of the coffee war and a friend, upon

the former's return from Europe. "I was much surprised," said the big man, "to find out, when on the other side, that the English held view of another large crop of coffee for 1900, and they substantiate their opinion by the fact that next year will be the eighth year of the coffee plant, and which invariably delivers the largest crop; so that I was considerably out in my calculations. However, I feel satisfied now that I covered myself and protected my company before I went abroad, so that now I can play a waiting game, and see how my friends 'pan out' with their big stocks." As regards mild coffee it is remarked that there is a better feeling in Europe owing to the reported large purchases, which seem to be made every year about this time by certain parties, who apparently buy on speculation. The last few years this action must have been a losing business, and the parties probably continue it, hoping that some day the long-desired turn in affairs will arrive and they will be able to recoup their losses. This is the only reasonable explanation, as it is impossible to find any one else buying in very large quantities, as the statistical position of the article does not warrant such action, unless they believe the present prices are below the cost of production.

BOARD OF TRADE RETURNS.

AUGUST.

As usual the statistics furnished by the Board of Trade are very interesting."

Cocoa (raw) showed free arrivals and an increase of stocks.

In the eight first months.		1899.	1898.	1897.
Imports... ...	lbs.	36,226,199	33,321,949	28,509,646
Home consumption...	,,	23,610,396	20,442,212	18,311,261
Exports... ...	,,	7,566,160	7,630,663	9,732,685
Stocks in bond ...	,,	20,858,000	19,978,000	24,513,000
Value of imports ...	...	£1,088,082	£1,022,720	£752,679
,, exports ...	...	236,000	245,469	259,420

Cocoa (prepared) continues to reflect a waning demand.

In the first eight months.		1899.	1898.	1897.
Imports... ...	lbs.	3,332,655	5,647,209	5,436,180
Home consumption...	,,	3,546,260	4,039,542	4,878,517
Exports... ...	,,	517,375	420,304	326,503
Stocks in bond ...	,,	590,000	1,571,000	313,000
Value of imports ...	...	£318,106	£411,447	£373,450
,, exports ...	...	56,754	45,030	36,949

Coffee supplies were smaller and deliveries larger, so stocks are down, but they are still very heavy.

In the first eight months.		1899.	1898.	1897.
Imports... ...	cwts.	874,316	793,092	624,267
Home consumption...	,,	176,532	169,705	165,794
Exports... ...	,,	394,364	372,148	301,794
Stocks in bond ...	,,	611,000	452,000	271,000
Value of imports ...	...	£3,074,412	£3,237,891	£2,884,083
,, exports ...	...	1,372,719	1,448,611	1,308,443

Chicory.—There was a good home delivery, and stock reduced.

In the first eight months.		1899.	1898.	1897
Imports... ...	cwts.	59,854	63,104	63,2
Home consumption...	,,	49,556	51,160	53,0
Exports... ...	,,	325	363	3
Stocks in bond ...	,,	17,000	19,000	16,0
Value of imports ...	...	£28,373	£27,111	£28,1
,, exports ...	...	375	366	1,0

Tea.—The month's arrivals were on a parity with those last year, but with bumping deliveries the relative position the stock was unaltered.

In the first eight months.		1899.	1898.	1897.
Imports—China ...	lbs.	18,198,772	16,343,662	16,599,72
,, British East India	,,	58,353,715	54,785,442	53,985,48
,, Ceylon ...	,,	70,397,111	69,936,286	71,375,50
,, Other countries	,,	6,950,773	5,294,359	4,696,52
Total imports ...	...	153,900,371	146,359,749	146,657,23
Home consumptions—China	lbs.	11,417,615	9,992,941	11,867,81
,, ,, B.E.I.	,,	86,380,208	85,640,247	80,507,58
,, ,, Ceylon	,,	54,562,076	55,374,753	55,951,35
,, ,, O.C.	,,	4,988,551	3,178,088	2,545,83
Total ...	,,	157,348,450	154,186,029	150,872,59
Exports—China ...	,,	7,525,438	10,623,421	13,858,59
,, British East India	,,	4,213,753	4,329,045	3,281,68
,, Ceylon ...	,,	7,553,903	7,644,380	6,837,47
,, Other countries	,,	448,594	835,076	681,02
Total ...	,,	19,741,688	23,431,922	24,658,78
Stocks in bond ...	lbs.	75,831,000	68,068,000	73,281,00
Value of imports ...	...	£5,706,270	£5,616,646	£57,04,76
Of which British Indian	...	2,220,510	2,173,353	2,193,26
,, Ceylon...	...	2,573,262	2,657,875	2,750,06
Value of exports ...	...	863,904	969,613	1,001,31

TEA FROM SEED TO CUP IN SOUTHERN INDIA.

(BY THOMAS BROWN, GLENDALE, COONOOR.)

XVII.

Cement Floors.—A few simple directions for the laying down of these are sure to be of the greatest assistance. A badly laid floor gives endless annoyance and is a continual expense for repairs. The actual cost of a hundred square feet on these hills at present is Rs.14 and the details as follows :—

½ a barrel or bag or 1½ cwt. Madras cement, etc.	6	0
1 cubic yard broken granite	1	8
½ cubic yard river sand	0	8
¼ cubic yard of lime	2	0
Cost of laying	3	0
4 cubic feet washed river sand	0	4
Contingencies	0	12
Total ..	14	0

The Contractor's rate is Rs.18, but he will not put in the proper amount of material if not closly watched.

A bushel equals 1·28 cubic feet, so that in a yard of 27 cubic feet there are roughly 20 bushels.

The Coonoor Salagay—is supposed to be three bushels (we say supposed because it too often pans out to 2½ only as measured by Rungasawmy, unless he fully understands that

one is up to his ltttle tricks). A cartload of lime is 7 Salagays = 21 bushels of slaked lime. A ton of lime, or a double bandy load = 10 Mettapollium = 14 Coonoor salagays = 42 bushels and costs, delivered in Coonoor, from Rs. 20 to Rs. 25. After slacking it should give about 60 bushels or 20 salagays free of stones. We have gone thus lengthily into this small matter as we are aware that it is a great puzzle and a source of endless annoyance to planters.

The way to lay the floor is as follows :—Take down earth to a depth of 3 inches from basement level. Water and ram well and get it as even as possible. Test level by holding a string across taut. Mix your broken metal and sand with lime in the following proportions :—

Lime one bushel. Sand two bushels. Stone four bushels. Have a botomless bushel for measuring. Mix over three times dry, then add water and mix till all looks like sugared almonds ! Lay on and ram. On completion you will find you have 4 inches ; allow this 24 hours to set. Next, mix one bushel of cement with two of sand, and lay on half an inch thick. Such a floor will be found as good at the end of ten years as the day it was laid.

Tiled floors—are far more expensive and do not last as well. Cement tiles are expensive to transport and cost more to lay down than the floor described.

Any pretty design can be marked off on the floor while the cement is soft at an extra cost varying from 1 to 5 rupees per 100 square feet.

Cisterns and Drains—are beautifully done with Portland cement concrete. For this purpose the metal must be broken finer at double the cost, and cement takes the place of lime in forming the concrete. The proportion is the same *viz.*, 1-2-4. For some rough purposes 1-3-6 will suffice. The cost of material for a drain is four annas per running foot and of labour two annas. The concrete must be only an inch and a half thick and moulds used for forming the drains, six inches wide and nine inches deep, will answer most purposes.

To make a cistern excavate to the required dimensions, lay the bottom first 1½ inch thick, then lay the sides, one at a time, using a board. The concrete sets in a few hours. These drains and cisterns are far cheaper and more efficient than bricks in mortar. Rats may burrow under them but not a stone will move ; such is not the case with bricks, as many know to their annoyance. The Coonoor Municipality might have done better to lay such drains as here described and which can be seen at Carolina Tea Estate, than to have laid the more expensive earthenware drains they have done at far greater cost. The joints of the earthenware drains can never be efficiently made, and the pipes are always being broken by mischievous boys.

There appears to be a mistaken idea that the concrete for drains must be put in six inches thick to be any good. We have found an inch and a half to two inches ample. We have recently seen drains laid in brick and mortar at several fine houses in Coonoor, broken in every direction.

Lime mortar is used for plastering them and a veneer of cement put over, which chips away constantly. The price paid we know to be in all cases eight annas and over per foot. In these days of plague the matter should engage the earnest attention of every householder. A work of this kind is hardly the place perhaps to advocate sanitary measures, but our excuse is that we are not likely to be writing a sanitary work ever, yet would like this important matter to be recorded somewhere. The planter's comfort too is important. The happier he is, the greater will be the success of the garden. A variety of things to occupy his attention will wed him to his work.

Coffee Planters—will find these hints on cisterns useful. The small size of the excavation needed and the small quantity of material needed, with the efficient vat he will have, will astonish him and be, we trust, an eye-opener.

Barbecues for drying coffee can be formed on the lines given for floors, the side walls being made three inches wide only with cement concrete. For outside work, care must be taken to cover over with straw or ferns for a month or the formations of steam underneath while work is raw will develope cracks. Some planters condemn cement for barbecues but we think where they have failed is in the use of lime mortar with a veneer of cement, popularly called a cement floor.

Arches over doorways—of the factory must all be put in with lime mortar, as also the pillars. Since deciding to plan a factory with a double gable we have seen numerous houses in Coonoor recently put up, with similar roofs, so that no difficulty whatever need be anticipated with such.

On the point of a wooden roof *versus* corrugated iron, it must be borne in mind, that rain upon the latter when not covered with tiles, makes a most distracting noise, besides the heat when the sun is out. We know of a building up at Ootacamund (the roof of which is of corrugated iron and not plannned to carry the weight of tiles,) the authorities of which are at their wits' ends for a remedy.

NOTES.

The London Cinchona Market. Reuter reports this steady ; price per unit 1⅛d. The monthly sales amount to 900 packages.

Depreciated. In 1894-95 coffee was nearly three times as high as at present. In March, 1895, No. 7 Rio, spot, sold in New York at 16¾ cents.

Bar Blends! Mr. R. V. Webster, of Colombo, is bringing forward a scheme to protect Ceylon tea from being blended with cheap China and Indian leaf.

E. I. Coffee. London quotation for Mysore average (B) size on 10th instant was 48s. The stock was 23,042 tons. Landings during the fortnight 800 tons. Deliveries 2,300 tons.

Mr. E. E. Green. This gentleman has returned to Ceylon, and will re-commence work at once with head-quarters at the Peradeniya Gardens, where a new laboratory is being put up for him.

Cacao Pests. A Matale correspondent reports to the *Observer* that the 'local fly' is on again, and attributes much of the disease in cacao and paucity of flush in tea to this voracious insect. "To plant life, its shadow is death !" he says.

Central Travancore Planters' Association. The members of this Association are to be congratulated, says the *Ceylon Observer*, upon having secured the services of that able planter and shrewd man of business, Mr. H. M. Knight, as chairman.

Coffee in Reunion. Coffee continues to be largely planted in the island of Réunion, and exports (mainly to France) show a rapid development. From 82 tons in 1897 to 103 tons in 1898 marks a large percentage of improvement, though even the larger quantity is not one of any great magnitude.

Ceylon Tea at the Paris Exhibition. An area of 285 square metres is to be allotted for the sale of Ceylon Teas at the Paris Exhibition, and the Indian Committee having contributed £850 towards the cost, only £290 remains, which is payable in two equal portions on 1st October 1899 and 1st March 1900.

Ceylon's Cryptogamist. It is reported from Home that Mr. J. B. Carruthers has applied for a home appointment to be decided in December. Meantime, he remains open to accept an appointment from the Ceylon Government. Our Colombo contemporaries appear a little anxious lest his services may be lost to the Ceylon people.

Indian Tea Prospects. The tea reports from Assam, Dooars, and Terai show that the immediate prospects are fair, but too much rain has fallen in some quarters. The Cachar prospects throughout the district are generally favourable. The Sylhet outturn last month was about normal. Darjeeling estimates are unlikely to be realised.

Calcutta Tea Sales. At the sales on 6th ultimo, 23,728 packages were sold. An easier tone prevailed throughout, and prices were irregular, especially for medium discriptions. Broken pekoes were very difficult to sell, while common leaf teas were slightly lower, chiefly owing to the large quantity placed for sale.

The Brazilian Coffee Crop. Having commenced a month earlier than usual, the Brazilian Coffee crop may be expected to end sooner. Present estimates put the total for Santos and Rio at about 10,000,000 bags, barring, of course (says the *Brazilian Review*), the possibilities of a fall of prices preventing the coffee from being marketed.

Far Eastern Coffee. The *Singapore Free Press*, September 28, remarks:—This afternoon at Messrs Powell and Co's sale-rooms, the valuable property; known as the Silian Coffee Estate, about 10 miles from Port Dickson, was put-up for auction. This freehold property, which consists of about 2,000 acres, together with buildings thereon, was disposed of to Mr. Rahmin for $8,500.

A Japanese Green Manure. The U. S A. Experiment station at San-in (Japan) has been cultivating a plant known locally as umakoyashi (*Medicago denticulata*). This has been selected for experiment because its cultivation and utilization, as a green manure, is considered a matter of special importance locally. Analyses show the plant to contain 0·78 per cent. of nitrogen.

Shipments of Pepper from Bangkok. Exports of Pepper from Bangk in 1898 amounted to [illegible] tons, valu at £35,226, against 608 tons, valu at £22,693, in 1897. Prices ruled from 7½d. to 8⅝d. per cif. U. K., and, consequent on the rise in values, cultivation being extended. Practically no black pepper is export now, as all the better varieties are bleached to meet the bett demand for white pepper.

Colombo Tea Sales. At the public sales of tea Colombo, on 4th instant, about 7,8 packages = 585,332 lbs. were offered, of which about 6,7 packages = 496,258 lbs. were sold. All leaf teas were keen sought after and fetched full rates, while common and mediu Broken Pekoes were a trifle easier. Among the best teas i the sale were, says the local *Times*, Agra Ouvah, Glasgo Glassaugh, High Forest, and Palmerston.

Tea by Parcel Post. Many English families in Ital obtained their supplies by parce post from London, and the following details of a 10-poun parcel may be interesting :—

	£.	s.	d.
Ten pounds of tea at 2s.	1	0	0
Postage	0	3	3
Duty 14 lire 75c.	0	11	6
Total ...	1	14	9

Not 1s. 4d. The *Times of Ceylon* states tha "The Principal Collector of Cus toms notifies that the value of the £ sterling will be calcu lated in the assessment of duty at the rate of 1s. 4 3/32d. to the rupee." The "£ sterling" may be something different from the "£" or the "pound sterling" of British commerce; bu we do not quite understand why 3/32d. should be added to its value, unless merely to pay for a little tautology. According to *Indian* laws £1 is worth Rs. 15.

Tea Shipments from the West Coast. The following Tea was exported from Calicut last month :—

	Chests.	½ Chests.	lbs.
To London ..	351	653	65,131
,, Liverpool ..	14	..	1,375
,, Trieste ..	20	..	2,000
,, Calcutta ..	..	100	6,850
,, Colombo ..	46	..	3,540
	431	753	78,896

Nothing was despatched from Beypore.

Coffee in Porto Rico. America's new possession, Porto Rico, produced in 1898, 260,000 bags, or, say, 33,800,000 lbs. The total coffee crop of the world last year amounted to 806,650 tons, of which the United States consumed, say, 322,660 tons. It will thus appear, observes the *American Grocer*, that the total production of our new coffee-growing state—Porto Rico—being only about 1-20 of one per cent. of our consumption, will not seriously disturb our markets this year.

Tea and Coffee. The Coffee Trust at New York are represented as being as nervous about the rivalry of Tea as the Indian Tea Association seem to be about that of coffee (in respect to the Paris Exhibition), and it is thought that Sir Thos. Lipton will not let the America Cup blind him to the interest he has in

American cups of Tea. It is wonderful, by the way, how Sir Thomas continues to make the papers "weigh in" to help his business along; and this, now, along lines to which no magisterial exception can be taken.

Amsterdam Bark Market. We have now, says the *B. and C. Druggist* of 22nd ultimo, full particulars of the analysis of the bark to be put up at the next auction in Amsterdam. Last week we gave the full weight of the bark (639,424 kilogrammes); this is divided amongst manufacturing bark 495,741 kilos., and druggists' bark 143,683 kilos. The former has a quinine content equivalent to 26,025 kilos. of the sulphate—a percentage of 5·25, and the latter represents 3,381 kilos of quinine sulphate, the total of quinine offered being thus 29,406 kilos.

Vanilla in Reunion. The British Consul in Réunion reports that Vanilla is now so largely planted in the island, "and in places so widely different in climate that there must sooner or later be a rapid fall in price owing to over-production." It is a little difficult to see why the fact that it is grown in places widely different in climate should help over-production. But for the Consul's hints as to the results, we might have thought that this diversity of climate would necessarily mean the unsuitability of some of the parts tried for vanilla cultivation. Exports in 1897—100 tons, value £158,932; in 1898—200 tons, value only £275,351.

Too late! In connection with the proposed stall for Malay products at the Paris Exhibition of 1900, the Chairman of a general meeting of the U. P. A. of the Federated Malay States informed the meeting that a letter had been received from the Resident-General forwarding copies of letters from the Colonial Office, which made it evident that it was now too late to carry the proposal through in a proper manner, and the Committee had decided, subject to the approval of the present meeting, to take no further steps in the matter. It is greatly to be feared that the U. P. A. of Southern India has also run Exhibition matters rather close in point of time.

Foochow Tea. The *Straits Budget* observes to the casual observer the Foochow tea trade must appear to be booming with four steamers clearing for London in two days. This happened at the beginning of the month, not reckoning the intervening Sunday. The "Benvenue" cleared on the 2nd instant, and the "Formosa," "Ching Wo," and "Stentor" on the 4th; but after all the four steamers only took between them 1.235 tons or about 865,000 lb., and not all this was for London; so that the addition to the export, notwithstanding that four steamers carried it, is moderate, especially when looked at as following very light shipments during August.

Mr. Kelway Bamber at Work. According to the local *Times*, the Ceylon planters' scientist is hard at work at Hatton, from morning till evening, testing, analysing, and comparing the data he has collected on his visits to the several tea districts; and there is every likelihood of Mr. Bamber's report to the Thirty Committee being completed by the 15th of this month, which is the date on which it is due. His work is not to cease with the presentation of his report, and he will remain to carry on private work for all who are willing to engage his services, sufficient private guarantees having been obtained to keep him in Ceylon, although the Government refused to contribute a penny or render the slightest help in the matter.

London Tea Market. Cabling on 5th instant, Messrs. Gow, Wilson and Stanton, reported a week market, but prices unchanged. According to Reuter 29,000 packages Ceylon Tea were sold out of 31,000 offered, and 42,000 Indian out of 48,000. The following are the particulars of stocks of Ceylon and Indian tea in London at the end of September:—

	lb.
Ceylon Tea.	
Stock	22,000,000
Months' landings	7,400,000
Do. deliveries	9,100,000
Indian Tea.	
Stock	35,500,000
Months' landings	19,400,000
Do. deliveries	12,300,000

Tea Seed Cake and Oil. A Calcutta paper writes:—"As tea seed is, or in the course of the next month will be, maturing on those portions of estates that have been thrown up on account of inferior *jât* or from other causes, we would once again urge upon planters in charge of these places the submission of the pressed cake to competent authorities in order to ascertain its value as a fertilizer... We are not much given to castle-building or dreams of Eldorado, but cannot shake-off the conviction that we are, by neglecting to investigate the posibilities of tea-seed cake, ignoring a bye-product that may prove of value. In a former note, we suggested the use of the oil in breaking the crests of waves in a storm at sea, and now would recommend experiments being conducted with a view to ascertain its powers as an insecticide."

Tea in Canada. The enlarged business in tea, in a distributive sense, that traders have been predicting for several weeks back, refuses to materalize, and, says the *Canadian Grocer*, importers now assert their belief that the higher cost this year, as compared with last, has a tendency to check the actual consumptive movement. The changes in this connection are quite noticeable. For instance, black teas are fully 2c per lb. higher for all grades than at this time last year, and Japans and Pingsueys also are dearer. In China, the latter are very high in price, and consequently a smaller quantity is said to be on the way to this continent than at the same time last year. Pea-leaf gunpowders seem to be scarce at all leading distributing points in Canada, and no well-made goods are to be had under 17 to 18c.

The "Crop" of Otto of Roses. Mr. H. A. Holstein, of Kezanlik and Constantinople, estimates this year's crop of otto of roses at 460,000 meticals, equal to about 69,000 oz Turk., against.

320,000	meticals,	equal to about	48,000 oz. Turk	in 1898
470,000	,,	,, ,,	70,000 ,, ,,	,, 1897
740,000	,,	,, ,,	110,000 ,, ,,	,, 1896
480,000	,,	,, ,,	72,000 ,, ,,	,, 1895
385,000	,,	,, ,,	57,750 ,, ,,	,, 1894
380,000	,,	,, ,,	57 000 ,, ,,	,, 1893
280,000	,,	,, ,,	42.000 ,, ,,	,, 1892
460,000	,,	,, ,,	69,000 ,, ,,	,, 1891
500,000	,,	,, ,,	75,000 ,, ,,	,, 1890
550,000	,,	,, ,,	82,000 ,, ,,	,, 1889
500,000	,,	,, ,,	75.000 ,, ,,	,, 1888

Indian Tea for the U. K.

The Indian Tea Association's estimates for this season run to 163,762,850 lbs. total crops. The *Pioneer*, however, puts the total at only about 155,000,000, and remarks :—"Instead of there remaining 135,000,000 lbs. for export to Great Britain (the Indian Tea Association's estimate), our estimate is 127,000,000 lbs. only, thus falling short of the former by eight million pounds. Such a falling short in the amount available for home consumption should certainly create a boom in Indian Teas. We shall be glad if planters will favour us with their views on the subject. If we are correct in *our* estimate—as we have every reason to think we are—this season's crop will most certainly fall very short of the estimate published by the Indian Tea Association, a matter of vital importance not only to growers but also to buyers."

Tea-growing in the United States.

Fifty years ago Junius Smith, LL. D., wrote an essay on the cultivation of the tea plant in the United States. He advocated tea-planting in New Castle County, Delaware ; in the hilly western counties of Maryland ; in Virginia, where the soil adaptable to tea "was sufficient to meet the demands of all the enterprising tea cultivators in the Union for many years to come ;" in North Carolina ; in South Carolina, where "no cultivator should waste his time in searching for a favorable location until he reaches the high hills of Santee, ninety miles from the ocean ;" the upland territory of Georgia, and the Gulf States, Arkansas, Missouri, and the western slope of the mountains of East Tennessee or the southern slope of those in Middle and Western Tennessee, and some portions of Kentucky." To-day, hundreds of journalists are writing, or "lifting" essays, on the same subject.

Coffee—Supply and Demand.

It is certain, says the *American Grocer*, that nothing but a calamity of great dimensions, or some phenomenal decrease in consumption, such as the Civil War of 1861-63 brought about, could so alter the relation of supply to demand as to advance prices to any extent. A few years of extreme low prices would tend to check the extension of the industry, and thus bring about a reaction ; but this is not in sight at this time. Brazil has a large area adapted to coffee cultivation, and many plantations in new districts that have not yet come into bearing, and which will more than offset the decrease in the older districts. Mr. Hauguitz, late United States Consul at Santos, recently declared that it will be several years before the full productive limit of Brazil is reached. There is a vast extent of unexplored territory west of the present producing districts adapted to coffee cultivation, and which will meet all the demands of the world for coffee for many, many years to come.

Rubber in Sunlight and Shade.

Mr. Thos. Christy writes to the *Ceylon Observer* that his firm has received an important drawing and full particulars of the experience with *Castilloa elastica* seed. In one case the seed had been planted in the shade, as was suggested and is adopted generally ; the other was planted in the open. Mr Christy says :—I had hoped to send you a photograph by this mail of a drawing which has been sent to us. I may tell you that the description at the foot of the drawing reads as follows :—"Rubber plant raised from seed grown in open ground in full sunlight. 1st July 1898 measured and sketched 3rd July 1899, circumference of ste one inch above ground 5¾ inches, height of topmost branc 4ft. 2 in., spread lateral of branches 5ft." Alongside of th "large tree" are three others, "average sized plants of man thousands sown in forest shade 3rd July 1898—sketched an measured 5th July, 1879, height 1 ft. to 14 inches. Leave larger than plants sun-grown, but stems very slender an will not bear transplanting into sunlight.

Tea in East Africa.

The *Zanzibar Gazette* of the 30t August says about *Tea.*—We hav decided to give this product a trial because of the health appearance of the tea bushes at Miss Thakeray's shamba Mbweni, planted by Sir John Kirk. These were prune down in October and flushed well, bearing enough new growth in two months to form a plucking surface and leave six inche of pruning wood. Half a maund of Horagalla, Ceylon, Assam Hybrid, has been obtained and planted in the new nursery a Mpapa and is growing well. This should give us enough plants for six acres, planting five by five, and leave a margin for supplies and distribution. I don't think that Zanziba will ever enter the lists as a tea-producing country, even i low-country varieties are found to flourish here, as the labour-supply is too small and uncertain. The plentiful supply of organised labour in Ceylon is one of the chief reasons why that country has taken the lead in this industry, while Natal is an example where the comparatively adverse conditions of labour have operated unfavourably. In our present unstable condition of labour we could not do more than grow a few acres for local consumption and perhaps induce the Arabs and natives to cultivate a few trees for their own use. Another point to remember is that tea is a declining market and is probably already over-produced.

Brazilian Exchange.

The report of proceedings of the Shevaroy Planters' Association given on another page includes some interesting remarks by Mr. Robert Gompertz on Brazilian Exchange. As supplementary to his utterances we give the following remarks of the *Brazilian Review* of 22nd August :—"As it is we are already drawing heavily on our coffee, but, in spite of all, exchange not only refuses to rise but is inclined to fall ; nor do we see that there can be much improvement until the banks succeed in liquidating a good deal of the purchases against which they have now been drawing for some months past. As month by month the account is passed it grows heavier and heavier. Within another month or so rubber bills will be available and aid in the process of liquidation, but until something of the kind happen it seems hopeless to expect much improvement. Even with the demand as reduced as it is at present by the suspension of Government specie payments on the debt and the shrinkage of imports, it is clear that our resources are being taxed to the utmost to merely retain equilibrium. How then would it be were specie payments renewed or any further considerable slump were to occur in the prices of coffee? Next year, too, we have to provide a not inconsiderable sum for the "guarantee fund, "which will still further diminish the supply of bills available for the market and unless some improvement occur in coffee prices it is hard to see how exchange is to rise. It is true that the paper money is being

burned, but even if that were alone sufficient to raise exchange, which it is not, the proportionate effect of the destruction of 42,000,000$ contos on the immense sum of over 700,000 contos in circulation must be insignificant and almost imperceptible." On the 29th August the same contemporary remarked :—"A fall of exchange in the month of August, though not unprecedented, is unusual and points to some radical weakness that the unassisted resources of the market are insufficient to overcome."

Tea in the United States.

The advanced report of the United States Bureau of Statistics makes the imports and exports of tea for the past three years, ending on June 30, as follows :—

	Pounds.	Pounds.
1899.		
Imports..	74,088,153	
Exports..	170	
Net imports		74,087,983
1898.		
Imports..	71,957,715	
Exports..	3,260,420	
Net imports		68,697,295
1897.		
Imports..	113,347,175	
Exports..	439,627	
Net imports		112,907,548
Total net imports, three years. ..		255,692,826
Average per year		85,230,942

The imports of 1899 came from the following countries :—

	Pounds.
China	39,597,365
Japan	29,277,708
East Indies	2,068,243
United Kingdom	1,687,507
British North America	1,221,639
Other Asia, Oceanica, and other countries ..	235,691
Total..	74,088,153

From the above it appears that 54 per cent. of the total imports came from China, 39 per cent. from Japan, and 7 per cent. from all other sources. It is evident that the consumption of tea is decreasing. It is thought to be high price that tells, but as the *American Grocer* remarks : "If the people appreciated the fact that one pound of India or Ceylon tea at 60 cents per pound makes fifteen gallons of infusion, affording one gallon of well-flavored, heavy-bodied beverage for 4 cents, they would not be so quick to substitute coffee for tea; and the imports of 7 per cent. of those growths would speedily increase."

Special Tea.

A correspondent of the *Liverpool Courier* writes :—It is the universal practice in London—and for anything I know to the contrary it may be the universal practice in the provinces—for hotel-keepers and publicans to designate the best liquors which they retail by the glass as "special." Hence the customer will call for "a Special Scotch" or "a Special Irish," and even if he calls for a glass of port or sherry he will probably be asked if he wants "special." I mention this because it partly explains a significant little incident in my recent experience. I went into an unlicensed restaurant and called for a pot of tea. "Special tea?" at once queried the dainty maiden in attendance. I was rather surprised and amused, for with a wide experience of such establishments I had never heard that question asked before. "What do you mean by 'special' tea?" I inquired. "Why, good tea—China tea," she answered, with a strong emphasis on the word China. Of course I ordered the special tea, and, served as it was with the accompaniment of cream, I found it very well worth the extra charge of two-pence. The incident set me upon making special inquiries, and as a result I find that the incident is simply the sign of a reaction against the Indian and Ceylon teas and in favour of China tea. Having always used China tea in my own household, and being familiar with its greater delicacy and superior hygienic qualities as compared with other teas, I rather wonder the reaction has not begun sooner. It has been hindered by the higher price of China teas, which, taking them grade for grade, are about one-third dearer, whilst the very best qualities of China tea are more than double the price of the best Indian and Ceylon teas. Then, too, the average housewife does not understand that China tea, especially if it is good, requires a minute or two longer to infuse. I now learn, however, that in the best hotels and the best houses in London it is China tea that is generally used, and that medical men are more and more advising their patients to give it the preference.

GENERAL ARTICLES.

TEA, &c., COMPANIES.

The Associated Tea Estates of Ceylon.—The *Times of Ceylon* says :—This is one of the concerns of 1896 which obtained estates from vendors at excellent prices—for the vendors. A year ago the Chairman, Sir Alexander Wilson, had a curious state of things to explain. The preference shares take 3 per cent. half-yearly, and an interim dividend of 2½ per cent. had also been paid on the ordinaries, presumably in the hope that the Company would do the same as in its first year, distributing 5 per cent. for the year. When the accounts were closed, however, the available balance was £1,809, of which the remaining 3 per cent. on the preference shares claimed £1,800 The Directors thus stated that the year just closed with the handsome sum in hand of £9 The explanation given was the deplorable way Doragalla in Pussellawa had been worked; and in 1898 the Chairman declared that under the new superintendent there was every prospect of that estate proving profitable like the rest The explanation this year, we suppose, is shortage all round, for our London correspondent telegraphs that the Company's yield for 1898-99 was 119,000 lbs. short of the estimate : that the net profit is £3,622; and that the ordinary shareholders get nothing. The net profit, we presume, is without the £3,800 required for the preference shares, and, if so, last year's balance of £9 has been increased to £22; but without a 2½ per cent. interim distribution on the ordinary stock—not a re-assuring position when most Ceylon concerns have been pulling round.

Vogan Tea Co. of Ceylon, Ld.—At an extraordinary general meeting on 9th instant it was resolved :—"That the offer, submitted by a Syndicate for the lease of mining rights belonging to the Vogan Tea Company of Ceylon, Limited, on their Kalutara properties, upon terms which have been approved at this meeting, be accepted by the shareholders. That the directors be authorised to execute an agreement embodying the terms of such offer."

Nyasaland Coffee Co., Ld.—The annual general meeting of the shareholders of the Nyasaland Coffee Company was held at Colombo on 9th instant, Mr. V. A. Julius in the chair. The report stated :—

ACREAGE :

10 acres	Coffee	planted Dec.	1895.
240	do.	do.	1896—Feb. 1897.
383	do.	do.	1897—Feb. 1898.
633 acres under cultivation.			
2,843 acres reserve.			
Total.. 3,476 acres.			

During the financial year under review no more land has been opened, the energies of the Superintendents having been devoted to supplying. This work has been completed, although it is a

matter for regret that the plants which had to be put out were of small size. However, Mr. Barclay in his last letter dated 7th June, 1899, states: "The young clearings are looking remarkably well and have made wonderful progress the past month. I think that all plants alive now may be calculated to survive the hot weather, if we have any, there being no indication so far of the present weather changing." During the season a small crop of 341 bushels cherry was picked and sold in the cherry at 6s 0d per bushel to a local trader. Of this Mr. Barclay remarks: —

"The coffee, I am pleased to say, is of exceptionally good quality, and the trader referred to speaks very highly of it. There is no light berry to speak of, and the bean is a fine large compact one, as good as I have seen anywhere. The soil on this place being excellent, there is no reason why this should not be the case with succeeding crops. Personally I think you have picked out an ideal place for a coffee estate, though a slightly heavier rainfall would be an advantage. With regard to next year's return, there will be pickings over an area of about 200 acres calculated as fully planted up, and you ought to get at least 30 tons from it."

FINANCIAL POSITION. From the Balance Sheet it will be apparent that the capital of the Company is exhausted. In the meantime, and pending further particulars from Nyasaland as to the probable expenditure and crop for the two following years, the directors have arranged with Messrs. Carson & Co., that the latter should lend £500 sterling to carry on with, until it is seen what further additional capital is required and can be raised, or whether a loan for the requisite amount can be arranged in London.

The Bishnauth Tea Co., Ld. The actual net profit for the year was Rs. 2,631-15-7 and profit-and-loss account now shows a bited of Rs.18,832-15-6.

The Patupaula Tea Estate Company. – The annual general meeting of the shareholders, was held at Colombo, 29th September. The report stated:—

Acreage:		
Tea in full bearing	421	Acres
„ 2 years old and under	40	„
Liberian Coffee and Para	10	„
Forest, Grass, &c. Waste land	228	„
Grand Total	699	Acres

The crops secured amounted to 170,300 lbs. tea, against an estimate of 175,000 lbs., and the nett average price realised was 36·89 cents per lb., the f. o. b. cost during the season being 22·44 cents, including cost, written off, of applying artificial manure to 50 acres.

It is proposed during the current season to treat about 13 acres with artificial manure, at a total estimated cost of R5,000.

The profits for the year amount to R21,363·83, equal to nearly 11 per cent. on capital, making, with R3,916·54 brought forward from last year, R25,270·37 for distribution. Of this, a sum of R6,000 was absorbed in payment of an interim dividend of 3 per cent., leaving a balance of R19,270·37, which the Directors recommend should be applied as follows: –

	R. c.
5 per cent. depreciation on buildings and machinery	1,740·03
Bonus to Superintendent	1,000·00
To be placed to Reserve Fund	4,000·00
In payment of a final dividend of 6 per cent., making 9 per cent. for the year	12,000·00
Leaving to be carried forward to next account ...	530 34
	R19,270·37

THE MALARIAL MOSQUITO.

The *London Times* of 5th ultimo contains the following information, most of which has been already given in brief in our columns: —

In a letter dated August 20, received by the Honorary Secretary of the Liverpool School of Tropical Disease, Major Ross writes:— "In my last I told you that I had found a malaria parasite in an *anopheles* from the asylum at Kissy, where there had been an outbreak of fever. We now turned our attention to the 3rd West India Regiment, stationed at the suburb of Wilberforce, where they are suffering severely from fever. On going there we found all kinds of parasites in the patients in hospital. At the same time, we discovered that the only form of Mosquito which is plentiful there, is a large species of *anopheles*. We caught a number of these in the hospital and barracks. Out of thirteen examined, we have found the malaria germs in no less than four, which, anyhow, accounts for the fever at Wilberforce. It was, however, necessary to make a definite experiment by actually feeding an *anopheles* on a case of malaria, and examining afterwards. This was done on the 17th. The insect was dissected yesterday and found to contain malaria germs growing in its tissues. Hence there is no longer any doubt that that kind of *anopheles* carries malaria, and I consequently wired to Mr. Jones 'Mosquito found.' This means success for the expedition, but we have still to study where the *anopheles* breed. Scientific details have been sent to the *British Medical Journal*, which will publish weekly notes from us. I also wired to Mr. Jones to ask the Government to send out men at once to continue the work. I advise strong action to be taken, and have written to Lord Lister, Professor Ray-Lankester, and Dr. Patrick Manson. The men or man must arrive here before September 20, as we return on the 23rd. Any man who comes here to continue our work must be taught the preliminaries by us, or he cannot do much. Hence the hurry. You understand why we want a man to continue the work. It will be criminal if a strenuous endeavour is not made by the Government or the school to get rid of these *anopheles* here. At the same time, we cannot possibly undertake this in five weeks, whilst it is evidently the duty of the Government. The expedition has done really smart work, I consider. The parasite, which I have cultivated, is the quartan one which has never been cultivated before. We are all perfectly well up to date. I am looking round as to sanitary details, &c., as Mr. Jones suggested. Austen has discovered the tsetse-fly here. This is a matter of very considerable importance."

INDIA AT THE PARIS EXHIBITION.

The following "Special" for *British Indian Commerce* should interest many of our readers if only because of the conspicuous absence of reference to Indian coffee: —

Beyond the formation of a Committee for the British-Indian section of the Paris Exhibition, the acquisition of space for all the British sections, the preparation of plans, the settlement of finances, and the arrangements with India and the Colonies, nothing practically had been done in the way of securing India a prominent place in the Exposition of Nations until a few months ago. Much had been designed. Many difficulties had presented themselves unexpectedly. The Government of India could not provide the money required to advertise India to the world. Then Sir Seymour-King stooped to bear India's burden. France, the inviting nation, objected, and rightly so. The invitations to participate in the great display of 1900 were not issued to individuals, but to nations. Then the Government of India stepped in and granted a subsidy of £12,000—not very much, but a good deal considering that the Indian Government could itself, by its agencies and officials, accomplish a great deal of the work to be aimed at and accomplished. Those of the Colonies participating did things on a more generous scale. They not only voted subsidies, but they provided the carriage of exhibits to Paris, and gave the space without price and without reward. Even Ceylon gives its exhibitors free space. The Committee of the British-Indian section is compelled to charge twenty shillings for each superficial foot of the ground space occupied by the private Indian or Anglo-Indian exhibitor. This is bad policy – the penny-wise and pound-foolish sort of thing. The result has been that the native and other manufactures of India, the representatives of arts and industries as privately conducted, have not crowded the Committee with applications for space. The Government of India might have doubled its subsidy without any fear of bankruptcy. It was clearly its duty to see that every facility was given to the advertisement to the rest of the world of the productive, manufacturing, art and industrial resource of the vast empire which it administers. India

is not a self-governing country. Therefore the duty falling on the India Government is the higher one, being the faithful trustee of all Indian interests. The parsimony of the Indian Government in the matter of the Paris Exhibition does not evince an adequate appreciation of the duty. But there still remains time to hurry up the private exhibits.

Meanwhile, vast collections of everything representing Indian resources and industries of the past and the present, as indicating the possibilities of the future, have been collected under the auspices of the committee, and with the assistance of the Indian Governments, Central and Provincial. The buildings to house them are designed, the foundations have been laid, and the materials for their completion are already on the ground. Mr. B Ribbentrop C.I.E., under whose direction the Oriental character of the buildings will be worked out, has arrived. Mr. Ribbentrop is the Inspector-General of Indian Forests, and most of the emblematical ornamentation of the buildings will be in carvings of the woods produced by India.

We are able to give the readers of British-Indian Commerce a preliminary glimpse of the most important departments of the British-Indian Section—we may call it the first glimpse, for as the plans are developed, and approach more nearly towards perfection in other departments, further description and illustration will be forthcoming. Already our readers have had a perspective view of the Indian pavilion. The illustrations which we now present depict departments of the interior and very important ones

We are, of course, largely indebted to official sources for the details of the beautiful buildings in which the sample treasures of India are to repose during the Exhibition. In what may be called the Indian Palace of Arts and Industries, the grand entrance and vestibule will be a most prominent feature; the walls of its interior are to be decorated in colour mainly from designs in Colonel Jacob's magnificent work, the "Jeypore Portfolio of Architectural Details." The floor will be paved with a parquetry of Indian woods. The flight of steps at the entrance will, it is hoped, be of green marble, supplied by the Baroda State.

The main courts all occupy the interior: (*a*) The Imperial Court. in which the exhibits collected by the Government of India and those contributed by the Native States will be shown; (*b*) the Private Exhibitor's Court, in which exhibits described as "the more artistic productions of Indian manufacturers, merchants, &c.," will we displayed; and (*c*) the Commercial Court, for the exhibition of trade and economic samples. Our illustrations give views of the two former. In the Imperial Court the exhibits will be exceedingly rich and varied, and illustrative in character.

The official contributions of the Government of India will, it is understood, mainly consist of elaborate collections of timber, carved wood-work, and forest products. Specimens of the varied and rich mineral wealth of India, together with carpets, hangings, &c. These collections are being prepared in the Revenue and Agricultural Department, under the direction of the Secretary Mr. T. W. Holderness, C S I.

A striking and attractive feature of this court will be a central stand or trophy of carved wood and stone-work, some 36 feet long and 12 feet wide, and over 25 feet in height. This trophy is being prepared in India, from designs made by and under the general superintendence of Mr. Ribbentrop, C.I.E., Inspector-General of Forests, to whom the Government of India have entrusted the whole of the arrangements of this court. The trophy, a sketch of which we reproduce, has been designed to show in the most effective manner possible specimens of all the best carving executed on various oranamental woods produced in India, and at the same time to provide a handsome and suitable show-case for the valuable art productions which are being generously contributed by the Native States. On its longer sides the trophy will be pierced by an archway, flanked by richly ornamented columns and carved panel-work The two sides have been allotted to Burmese and Punjab carvers; and whilst one end will show carved work of the Mysore State, the other end will exhibit that from Baroda The show-cases are to be carried on marble pedestals, and the floor under the archway will be of ornamental parquetry, with polished panelling of Indian woods, &c. It is believed that the trophy will be a commanding and worthy exhibit of Indian workmanship.

The government of India have decided to send several qualified officials to Paris to assist in the proper arrangement of their important collections, and to supply to all those out of the many millions visiting the Exhibition who may desire it, expert information regarding the poundless economic resources of the Empire of India.

The Madras cigar industry will be prominently represented in the private exhibition, and space has been allotted to Indian condiment, textile, art-ware, &c., merchants, as well as to some of the principal importers of Indian products.

An admirable position on either side of the main entrance, which leads directly through the Indian and on to the Colonial Sections, has been let to the Indian Tea Courts and to the Indian Tea Association. The tea verandahs will be surrounded by carved wood screens, and the entrance to the Courts from Central A venue will be through a handsome carved archway. Two spacious tea rooms have been arranged, one in the Imperial Court and the other in the Private Exhibitors Court, having entrances from these Courts as well as from the Central Verandahs. The Indian Committee is anxious to give the utmost prominence to this important industry, and a Sub-Committee of the Tea Association in London has been appointed to fully take every advantage of the unique opportunity thus afforded them of making Indian teas better known on the Continent. The drinking of tea is steadily increasing among the French people, especially in Paris, and the Tea Association seem determined to advertise Indian teas in an effective manner. It is understood that the Indian Tea Association have entrusted all the arrangement of the Tea Courts to Mr. E. Langdale, who has so successfully represented the Association at many past Exhibitions, notably at the Healtheries in 1885, and at the Empire of India Exhibition of 1895-96.

The Indian Section, apart from the quality and variety of the exhibits it will contain, its Oriental architecture and its illustrations of Indian art, will have a picturesque living attraction in the parties of costumed natives of all the provinces of British India, who will act as attendants and craftsmen, and give object-lessons in the manners and industrial pursuits of their country. Within the limitations of the space allowed, the visitors to the Exhibition will be enabled to enjoy an epitome of Oriental life under British rule. For our illustrations we are indebted to the *Journal of Indian Art*.

FORKING TEA LAND.

The *Ceylon Observer* says:—A veteran planter, whose experience goes back to the old coffee days, in the course of a private letter, writes to us about Mr. Kelway Bamber's work in Ceylon, and its result on estates in the hill districts. He says:—

"I think you should utter a note of warning with regard to adopting *all* Mr. Kelway Bamber's suggestions and advice. That he will do a lot of good in Ceylon I firmly believe, and I am very glad indeed that his services have been secured by the planters. A long time ago, in the early days of tea planting, there were one or two far-sighted men who urged such a course as the planters are now adopting, namely, recourse being had to science to help them in the cultivation and manufacture of tea, in the same way that it is applied to so many other industries and also cultivations. Their arguments were not listened to at the time, as everybody was making money at tea, or hoped to do so; prices were high; pests were unknown; and the possession of a tea estate was taken to indicate that the owner was on the high road to making a fortune. Science was pooh-poohed, as it was easy enough to make tea, and the experience and instinct of a planter were supposed to be sufficient to guide him towards perfect tea curing and the realization of high prices. A good many years have passed since then, and changes have taken place in the tea industry. Prices have dropped about 50 per cent., and there seems no immediate prospect of any *large* recovery, for. as soon as prices rise, the demand at once falls off, and the China leaf is resorted to by buyers to enable the packet trade to retain the huge profits it is making; and, furthermore, one or two unpleasant pests had appeared which, though not of a serious nature, have convinced planters that it is time to set their houses in order. When you think of it, there is no more reason why the tea industry should be able to do without science than such an industry as brewing, which is of a similar nature. In the old days, brewing was carried on by rule of thumb, and according to

the instincts of the brewer, which were supposed to be infallible. Pasteur, however, upset this idea, and proved that brewing was a matter of science, like so many other things, and at the present time the chemist is about the most important person in a large brewery establishment. It is the same with tea. The old happy-go-lucky and unscientific methods of the past must be abandoned in these times of low prices and excessive competition, and we must learn not only to secure certain results and carry out certain methods, but also the reason why we do so. It is on this account that I am glad to see that planters are coming to their senses about the absurd rejection of outside advice. At the same time, there is one of Mr. Kelway Bamber's methods that I cannot approve of, and which, I think, must be reconsidered and modified. This is the forking of tea estates, which has been advised and which is already being carried out by some planters. Now it stands to reason that, on the sides of the steep hills up-country, which are exposed every year to the heavy tropical rains that fall during the monsoons—from 100 to 200 inches—the digging up and loosening of the earth is a most unwise procedure, for it means the top soil of the estate being carried away wholesale by the rains and lost for ever; while there is the additional danger by forking of the damp getting into the soil and encouraging fungoid growths. In one district I know of, where forking has been started during the recent wet weather, the ravines have been running thick pea soup, and this forking business, however suitable to countries where the rainfall is light and on level land, is, I maintain, out of place in the hill districts of the Central Province. It was tried in the old coffee days and was a failure, and for exactly the same reasons—the less the soil of our steep estates is disturbed the better. It is probable that Mr. Bamber will himself come to see this very shortly."

The points raised by our correspondent are well worth the attention of the planting community, for there is no doubt a great deal of commonsense in what he says. The mere scraping of the soil too heavily by weeders has always been deprecated by a large number of planters from the earliest days of planting in Ceylon, and, if the damage done in this way is to be avoided, it stands to reason that the far more heavy work of forking must cause proportionately larger damage to estates. With regard to the necessity for the introduction of science into tea cultivation and curing, we quite agree with the above, and long before Mr. Kelway Bamber was heard of we had been urging on the planting community the necessity for calling in science to the aid of our planting industry. Not only with regard to the treatment of the tea bush and of the leaf in the factory, but as regards the application of manure, there is a vast deal to be learnt yet, besides the treatment of pests, vegetable and insect—though, of course, these belong to a different category, and must be dealt with by special experts. We fancy, however, that the majority of the planting community are quite aware of all this by now, and that the prejudice against outside advice and expert opinion has been dropped.

THE TEA TRADE OF INDIA.

In the report on the trade of British India for the year ending March, 1899, with foreign countries by Mr. J. E. O'Conor, C.I.E., Director-General of Statistics, we find the following remarks on the Indian tea trade:—So far as the London market is concerned, the competition of Chinese tea may be and is regarded, by the tea-planters of India and Ceylon, as a thing of the past. The closing of the mints in 1893, which was claimed to have a fateful significance for our trade and to the signal for the restoration of Chinese tea to the position it once occupied, did not bring about even a momentary pause in the rate at which that trade was being destroyed—another proof, if one were wanted, that a bad currency system does not promote trade and that a good currency system cannot injure it.

Whether the importations of China tea will be much further reduced must be treated as an open question. There are qualities of China tea which cannot be rivalled by the tea of India or Ceylon, and it is possible that those qualities will continue to be consumed by those who can afford to pay for them. A certain quantity is also still used for blending with the stronger Indian and Ceylon teas. Whether the irreducible minimum is to be found in from 20 to 25 million pounds or in a much smaller quantity cannot predicted. Some complaint has been made of the difficulty capturing foreign markets, and it has been suggested that it w be materially lessened or removed if the Indian currency stand were allowed to depreciate, so as to permit India to compete and undersell China. Yet it is practically certain that, even if rupee were reduced to a gold value of sixpence, no sensible ef would be produced in the foreign markets which Indian tea is s ing to enter. The question is certainly not exclusively one price, for Indian tea has always been more highly priced t China tea in the London market and the dislodgment of Chin tea from the position it had acquired was effected as the outc of prolonged endeavour based on other considerations than single consideration of price. Success was achieved in the e but the end did not come for twenty years, although the Indian gardens have had all the advantages of being worked with cap from London, the owners of the capital being, of course, under inducement to stimulate the use of their tea, while the tea produced in a British dependency by men whose domestic and fin cial and commercial relations were cast exclusively in the Uni Kingdom where their tea was to be consumed. Things are v different in the other countries which Indian tea is seeking to ent The consumers of tea there have no relations, either of blood finance, with the growers of Indian tea and have therefore special inducement to spread its use. Entering strange mark without any support but its own merits, it should be expected th the contest for supremacy must be longer in those countries th it was in the United Kingdom, for there the old vested intere in China tea were met by the new vested interest in Indian t while in the foreign markets there is no such collision. In so of those markets China tea is supreme, in others Japanese t competes with it extensively, in others again Java tea holds t field. There are still others where tea from any country is not popular beverage and coffee is in universal consumption. This the case all over the European Continent with the exception Russia, and perhaps to a small extent in Holland, where Java tea consumed.

SIR THOMAS LIPTON'S ARMS IN DETAIL.

The following is from *Punch*, under the well-known headin "Ready-made Coats (-of-arms); or, giving 'em fits"!—

ARMS FOR THOMAS, BARON LIPTON OF SANDY HOOK.

Arms: quarterly: 1st, a typical English fishing-boat (recentl observed on the coast of Norfolk). Smacking somewhat, surely, o réclame, shoppy, and odious to the last (no relation we trust to th bearer of these arms, though apparently poaching on his preserves) 2nd, crossing a bar sable, a greyhound of the sea, volant under bend proper of canvas, prodigious in acreage, resisting, in this case temptation to advertisement, bearing a crew "selected from the bes tea-growing—I beg pardon!—*sea-going* countries." pitted in rivalr against a champion starry stripy to the full; 3rd, a virginal racin yacht proper, "direct from the producers," docked skirted an modestly draped below the water line, surreptitiously scaled an boarded in stealth by a yellow journalist, under a great press o canvass, infringent rules, disreguardant notice "*we guarantee correc measure without wrapper*" (*motto*: "quae deorsum volo videre!"— "I am resolved to look at what is beneath!"); 4th, on a cours wavy aquamarine, buoyed proper, of contest, a horde of tripper in frenzy, transported in packets at popular prices, warned urgen against encroachment, but pushant and shovant like the deuce screment shrilly with sirens.

Crest: On a steam-yacht crinois of luxury, under a flag verl semée with trefoils, a sporting knight ("Limited") [illegible] stalwart, rosy, chirpy on the beam, "Popular in every Home," reguardant over the counter from habit, and chantant hopeful i advance a Ceylon plantation-song of victory—query? (*motto*: I an Dudum paratics sum."—"I have made every kind of *provision*")

Supportess:—Respecting each other in desuetude—Dexter, a bu at gage radiant in expectancy (with a "bit on") somewhat debruis ed of late in the field of sport; Sinister, an heraldic Jonath Yanquedudulois; navally gorged with laurels, sportsmanlike and princely in hospitality, if prove to triumph somewhat unduly. (*Second motto*: "We guarantee the public an exhilarating Cup.")

THE REVISED ESTIMATES OF INDIAN TEA.

The position of Indian tea statistically is strong, says "J." in *Capital*; and our prophecy that there had been a good deal of speculative buying in the early season, which was not justified, has come true, and the heavy drop in prices of a month or two ago, was not due to the statistical position, but to undue speculation at the opening sales. Every year the market becomes more sensitive, and all sorts of rumours float about, if one district, or even two, run away ahead. It has been amply proved that one or two of the tea districts may have a very good or bad season, without affecting the market very much, if only due regard is paid to the remaining district's crop. Last year Sylhet and Cachar had an abnormally bad season, Assam, an abnormally good one. This year the position is reversed, and Assam is having unfavorable weather, affecting not only the outturn, but the quality of the crop, if one is to judge by London sales. One or two companies' marks stand out, but the general average of the sales at home held up to date is decidedly below last year's and Assams and Darjeelings are looked to, to keep this up, but up to date this year generally have failed. Glancing at the figures of exports to outside markets, the amount that has gone to Bombay is disappointing. The brokers seem to hold that this is due to higher prices ranging for teas such as suit this market, but a reference to last year's prices does not uphold this view. Is it not due to the fact that the wily buyer has found out that he was paying more than London? And he did not wish to do this, but to get his money's worth as near London values as possible. Australia makes but slow progress in taking Indian teas; and we cannot understand it, considering the good value it could get as compared to China stuff. Any one who has been in Australia and seen the "post and rail" ration tea supplied to stations, must marvel at there being any difficulty in pushing in at least three times the amount that now goes; thus Ceylon and India, combined after a campaign on the part of the latter of close on twenty years, can only point to an export of six or seven millions lbs. Supposing Ceylon sends an equal quantity, this would only represent about ·40 per cent. of the annual consumption, which is, we believe, close on 30 million lbs. The squatter and digger classes are consuming most of the teas, and the proper key cannot have been struck in the beginning to win over those two classes. The Australian digger and squatter are very clannish, but patriotic withal, and the former, at any rate, hates John Chinaman in a most thorough manner, and were it thoroughly rubbed into the diggers, about the tea they were drinking, being brought from the flowery land, we feel sure they would go solid for the produce of India or Ceylon, no matter whether they liked it or not.

America has done more for us in one or two years than Australia in ten, and yet Australian consumption per head is very much larger than any other, outside the United Kingdom. In a few years there seem signs that America will take a good number of millions, and provided no more extensions on a large scale are undertaken in the near future, the present discovered outlets should easily take off the present increasing crop and without difficulty. Fixity of exchange, whatever may be said by some to the contrary, has been a boon in this way at least, that a manager or proprietor can, with some degree of certainty, know what he is doing, and what profit or loss on the season's working may accrue, or have to be met. In days before fixity, hopes were sometimes blasted like a tree by a flash of lightning and profits vanished, and losses came in, and no one seemed to know how it was done. The thing happened like a trick of cards in the hands of an expert prestidigitator, the only difference being that one did not know how it was done, and now that matters are settling down, we do not think there are so many enemies to the 1s. 4d. rupee as there were. Looking at the figures of the revised estimates we scarcely think that the amount to be manufactured to the end of the season can be exceeded. So far as general accounts go, September has not been a good month in any of the districts. so that the amount estimated for during this month will most probably not be approached, and there is not much time to make up leeway now. Assam, Sylhet and the Dooars carry on pretty late in the year, but Darjeeling, Terai, Chota-Nagpore, Chittagong and Cachar close much earlier, the first named probably the earliest. One of our largest agency houses used to publish a record of when the quarter, half and three-quarter season's crop should be made, and it would be very interesting if our brokers would add in their report when quarter, half and three-quarter crop was made in former years. If our memory serves us rightly, the firm, we referred to above, made about 1st to 3rd August, mid season for Cachar, and for Sylhet the 20th to 25th August. Unfortunately the statistics only related to these two districts, but brokers should have no difficulty in picking out the others. If the above figures are correct, the deduction with regard to the revised estimate figures is that they will not be fulfilled. Cachar is set to make 10 million odd, against 12 odd up to 15th August, and Sylhet to make almost 16 millions after that date, against 13 millions prior to that date. Cachar may do it, but the proportion set to Sylhet is in our opinion too high, and if it had been given two million more, it would have been ample. Darjeeling is perhaps the only other amongst the districts that is set a high task to do; and we think it will do well if it fulfils its task. The inference to be drawn from all this is, that there will be no large increase thrown on the London market, in fact the other way about, and there will be a stiffening in prices—we do not say a boom, but certainly a stiffening—unless more friction is caused in London by the attempt to regulate the sales. Had the tea been allowed to go forward this year in the ordinary way, and no insane row made over the 1-lb. draft, there would not, we venture to say, have been such a drop in prices as occurred in Calcutta. The 1-lb. draft should never have been attacked, unless it was fully determined to carry it through. Her Majesty's Custom House authorities could have been approached, and no doubt the same concession gained as has now been without an iota of friction between producers and and consumers. What will the result be of the attempt to regulate the sales? Nil, we think, for just as they think all is arranged, some one, considering he has a prefect right to benefit himself, or his company, at the expense of others, will put up his tea *nolens volens*. Money regulates everything in this world, and if these wealthy companies, who can afford to hold their teas to advantage till the spring, by all means let them do so, and business is nowadays run on such fine lines that it is a most unlikely thing amongst all the sharp business men connected with tea and tea garden. If some one or more companies have not calculated whether it is best to realize at once, on a lower market, or hold till the spring, losing interest on money, and running a considerable risk in other things, such as damage by vermin, etc., to be compensated for by 1s. 2d. per lb. better average. No. We think until harder times in tea have introduced more unanimity into the councils of the leading firms in London, there is not much chance of any good coming out of these attempts to interfere with the laws of nature, supply and demand.

THE JULY COFFEE MOVEMENT IN THE UNITED STATES.

The deliveries of coffee for the first month of the trade year 1899—1900 must be considered encouraging, says the *American Grocer*. They reached a total in the United States and Europe of 1,069,610 tons—a gain over July, 1898, of 247,160 bags, or over 30 per cent. They were, however, 53,874 bags below the average monthly deliveries in 1898-99, but surprisingly large for midsummer, when trade is always the lightest for the year.

The movement of stocks is shown in the following statement:

	Bags.	Bags.
Stocks, July 1, 1899—		
United States	1,315,882	
Europe...	3,783,131—	5,099,013
Receipts during July—		
United States	419,316	
Europe...	608,324—	1,027,640
Total supply		6,126,653
Less stocks, August 1—		
United States	1,301,834	
Europe...	3,755,209—	5,057,043
Deliveries, July—		
United States	433,364	
Europe	636,246—	1,069,610
Deliveries, July, 1898		822,450

The total visible supply of the world, August 1, was 6,769,043—an increase over July 1 of 569,030 bags, and showing an increase in the world's visible supply in one year of 1,067,621 bags. On August 1,1894, the total visible supply was 2,259,920 bags, so that in spite of a remarkable increase in consumption the visible supply was 4,509,123 bags greater on August 1, 1899, than five years previously.

We present for reference a table showing the total deliveries for the five years ending June 30, together with the visible supply July 1 each year, as follows:

	Deliveries United States and Europe. Bags.	Visible supply July 1. Bags.
1898-99	13,480,904	6,200,013
1897-98	14,571,902	5,435,974
1896-97	12,244,204	3,975,880
1895-96	11,142,813	2,588,193
1894-95	11,212,851	3,115,680
Total five years	62,652,674	
Average deliveries per year	12,530,535	

From the above it appears that the yearly average deliveries for the past three years were 13,432,337 bags, with the average yearly supply for the same time 15,346,674 bags, these two sums fairly representing the annual coffee requirements and supply of the world, and proving that production is largely in excess of consumption, although the crops of 1898 99 were in Brazil alone 1,691,000 bags smaller than in 1897-98.

The following table summarizes the general movement for three years:

	Bags.
Visible supply July 1, 1896	2,588,193
Arrivals, United States and Europe, three years (1897-99)	43,451,830
Total supply, three years	46,040,023
Average yearly supply	15,346.674
Average yearly deilveries	13,432,337

The increased supply naturally led to a break in prices which, in turn, brought about an increase in consumption.

PRODUCE AND PLANTING.

Moscow and the Tea Trade.—The prospect of an Anglo-Russian Exhibition at Moscow is now remote, as it has been decided that it cannot be held until 1902. This is a long time to look forward to, but if the Exhibition is held there will be an excellent opportunity of adding to the good work already in active progress of developing the Indian and Ceylon tea trade in Russia. A recent consular report from Moscow shows that so far as Ceylon tea is concerned the trade has grown from the very small beginning of ten years ago to an enormous trade At first, the British Consul tells us, the tea merchants would have nothing to say to anything but the pure Chinese article, but gradually they took to mixing Ceylon tea with cheap Chinese, and selling the mixture as Chinese, and now many of them sell the tea under its own name. The import for 1898 is given at over 10,000,000 lb, of which 75 per cent. went to Russia *viâ* London, and the remaining 25 per cent. direct from Ceylon.

The Charges on Tea.—Upon the subject of bulking in London a correspondent, signing himself "Planter," in the course of a letter which is an indictment *inter alia* of the agency system, so far as charges, commission, &c., are concerned, which we do not think it necessary to print in its entirety, says: "Notwithstanding the most painstaking personal supervision of this operation, which I carried out at the factory for years, break after break of tea was reported from London as irregular in quality, necessitating re-bulking there. and I ultimately gave up the practice and packed each day's manufacture separately. In the light of observation made during the past two years in London, it has become quite evident to me that my agents have not supported my efforts to the extent I, as manager of the estate, or as a shareholder, am justified in expecting of them. It is obviously against the interests of companies selling in London to have their teas bulked there. as the charges are heavy, and besides the teas deteriorate in quality from the operation, and it is surely the duty of the home agents to see that these charges are avoided. They, however, say the broker is the responsible party, and if this contention be correct, then on what grounds do they—the agents—claim to earn the 2½ per cent. commission on gross sale proceeds of the teas. My agents charge 2½ per cent. at Calcutta and 2½ per cent. on this side."

"The Geisha" up to Date -An Anti-tannic Tea Infuser Syndicate has been formed to exploit the merits of a patent tea-pot, the invention of Miss Bain, and as one of the means to that end, arrangements have been entered into "to supply by capable notice si Geisha girls who would serve tea in full Japanese costum Whether Japanese tea is to be served from the tea-pot or w ther Indian and Ceylon teas will be considered good enough d not appear from the circular issued to the shareholders. This cular, which extols the merits of the "Geisha" tea-pot, menti that it "should more or less cause a revolution in the liquid trade, and be placed in the heart of every house-hold. Bein source of novelty as well as utility, it should also open up a spl did field for advertising. It is our intention," says the circular, take advantage of this means of profit by introducing so ma thousand tea-pots to the public, as, for instance, the Lyons, A.B.C. Slaters, Limited, or any other large company that will re nerate us for such advertisement without disfiguring the arti With regard to the dry tea trade, we intend to manufacture cially-designed pots, such as the Towerteapot, Mazawattee, &c., a to sell to all agents who deal in these particular brands of teas, that their advertisement will always be under the immediate ey the user. The Carpetto Syndicate have kindly consented to p our concern to the best of their ability, and as they are more or working in every theatre, restaurant, hotel, music-hall, mansi club, &c., their aid should prove invaluable—in fact, they are putting the 'Geisha' before the Gordon Hotels, London and Nor Western Railway and others with a view to supplying them throu out. It is reasonable to suppose that, if the A. B. C. could fo such a gigantic concern on aerated bread, an article such as possess must eventually prove to be the nucleus of the liquid trade. We hope at no very distant date, if successful, to place fore the shareholders a group of city shops, which we have well hand, with a view of working them on the lines of a 'Geisha' t house Our chairman has also entered into negotiations w Japanese agents to supply by cable notice (if necessary) s Geisha girls, who would serve tea in full Japanese costume. absolute novelty of this idea, combined with a better and health cup of tea, should prove very lucrative to the syndicate if th think it desirable to take the matter up. An attractive display 'Geisha' teapots is on view at the Greater Britain Exhibition, Ea Court, and inquiries are daily reaching the office from various pa of the country asking where these teapots can be bought in Lond and the provinces. It is gratifying to report that the 'Geisha' b been awarded the Exhibition gold medal. We have quite un pectedly executed a trial order from Paris for tea-pots, and are n packing several teapots in completion of a repeat order from Mess Cooper, Cooper and Co., Limited, London, which firm has now h over 2,000 teapots within the past few months. Several china a earthernware manufacturers have applied to us for permission license to manufacture for sale to their own customers our pate teapots, for which they offer to pay royalty from 4d to 4½d per p For the present we have considered it prudent to grant only o license, and in that instance we have restricted the out-put 100,000 teapots, which must be sold at prices and discounts unifor with our printed lists. We are at present considering offers fr foreign manufacturers to make and sell in foreign markets; it also our intention to have our teapots made in Japan at very l cost and sample patterns are now on their way out.

The Teapot and the Tea:—As regards the effect of the teapot the tea, a report from Mr. George Combe Stewart, F.C.S., M.B.P. &c., public analyst and consulting chemist at the Country of t City of Glasgow, says: "I hereby certify that I have carefully te ed, in a practical manner, an ordinary tea-pot fitted with the t infuser and separator (Bain's patent) which was submitted to m I have also read the descriptive pamphlet which you have issu to the public, and I am of opinion that there is nothing stated the pamphlet which the performance of the apparatus does not ful justify. The following points, which are not mentioned in yo circular. were brought out by me in my experiments—namely: It is a considerable saver of tea over the ordinary methods of t making as now practised in this country. Given a teapot lar enough for a family meal there would be no necessity for seco infusions, the last cup served being as free from tannic acid as t first served off. 2. It thoroughly filters the infusion. allowing sediment or powdered tea to be found in the beverage, and u formly insures a beautifully clarified and refreshing cup of te 3. It allows the boiling water to be kept in contact with the t leaves just the exact and proper time for extracting all the thei allowing none of the bitter elements to go into solution." T *Home and Colonial Mail.*

THE STATE AND THE PLANTER IN CEYLON.

The following is an extract for the address of H. G. Sir E. Noel Walker, K.C.M.G., on opening the session of the Legislative Council of Ceylon on the 4th inst :—

The Tea industry may, I believe, claim to be in a sounder and better position financially than it was a couple of years ago Though a large area of tea land has still to come into bearing, the energy, and success of those interested in increasing the consumption of Ceylon tea in foreign lands has contributed much in keeping the demand well abreast of the supply. While any appreciable fall in price would probably throw some less productive estates out of cultivation, as was the case in India last year to our possible advantage towards equalizing of demand and supply, there are happily not wanting indications of a rise in the market, at any rate to some slight extent. From an agricultural point of view, there would appear to be cause for some anxiety and for a continuance of vigilance and activity in representing blight, the ravages of which may in time reduce the productiveness of the tree but will never probably destroy it. It is gratifying to note that the Planting Community with their wonted energy and resource have availed themselves of scientific aid in their battle against this enemy, and they can count in this respect on the sympathy and support of the Government, so far as it is needed and so far as it can be given in their own interests and in those of the other classes of the community. The supply of labour seems to be still sufficient notwithstanding that the arrivals of immigrants have been only 17,213 and the departures 25,538, up to a recent date this year, against the corresponding figures of 89,105 and 44,636 in 1898.

E. I. COFFEE PROSPECTS.

The *London Commercial Record* says :—

Interesting news has reached us from the Coffee-growing districts of that country, which unfortunately sounds not more satisfactory than the reports from the Ginger-growing parts. The drought appears to have done some serious damage to Coffee as well, for from almost all parts gloomy reports have came in. The official forecast of the growing crop in Coorg for the ensuing Coffee season estimates the total yield at 2,800 tons only, of which 2,100 tons are calculated as the yield from European and 700 tons from Native gardens. The gathering from European estates is estimated not to exceed 1½ cwt. per acre, and ¼ cwt. per acre from Native estates. This is, indeed, a poor result if we consider that last year's yield amounted to about 4,200 tons. The Coorg crop, therefore, will be close upon 35 per cent. short this season Last season's crop was certainly and exceptionally bountiful one, for the average yield in this district amounts to 3,326 tons only. Bad as the reports are from the Coorg gardens they are actually worse from the Mysore districts. There, only half a crop is expected. The reason for this unfavourable result may, no doubt, be found in the fact that the natives are not such good and careful planters as the Europeans, a disaster such as prolonged drought causes, as a rule, therefore, far greater damage to these districts. Natives, probably for the want of the necessary means, do not bestow sufficient care upon their gardens, above all they do not manure their fields so thoroughly as they require, and as it is universally done by Europeans. Time, no doubt, will teach the natives, but in the meantime the damage is done. What we have said about the prospects of the Mysore gardens, practically applies to the Shevaroys as well. There the gathering promises a poor result also, and estimates put down the probable total not less than 50 per cent. short of last year's yield. From the Nilghiris the reports that reach us sound not more cheerful than from the other districts. on the contrary, some planters almost fear a total crop failure whereas others expect a total of 50 to 75 per cent. short of last year's gathering The poor results of this season's plantations in the India Coffee Gardens are greatly to be regretted, for they hit a class of hard-working men. who. during the last few years, have had an unbroken record of bad luck, and who will severely feel the absence of remittances from London in exchange for their coffee crops. It would be idle to imagine for one second that the crop failure in India would have a stimulating effect on the world's market. The total number of tons is too insignificant as compared with the enormous supplies of other coffee descriptions. But the fine coloury East Indian Estate coffees have a large number of admirers who, we feel sure, would greatly regret the absence of their favourite berries, it is, therefore, very probable that a better competition will shortly arise for the London stocks, particularly so if it is found that the new season's coffees fail considerably short in quality of their last season's rivals. Prices have declined enormously, buying on a small scale has already set in with small supplies. An increased demand and enhanced values are confidently expected.

CUSTOMS AND WAREHOUSE.

We append the Custom House rules as to teas bulked in London, and the Warehouse charges on tea, which will be of special interest at the present time.

The difference between bulking, which costs 1s, and bulking and taring, which costs 1s 5d per chest of 129lb. gross, is 5d, a heavy item to pay for simply weighing an empty package. Ceylon bulks only 28 per cent. of its import in London, while India bulks about 90 per cent. here, thus increasing the cost of laying down its tea considerably, instead of following the example of its younger rival and completing the work on the factory. China and Java always put their tea on the market in a finished condition, while in India only a very small proportion of the planting community seem able to do this. The trade (including Lipton) all admit that they much prefer garden bulked tea (if it is properly done, of course) as it saves the tea from being exposed to much injury to its keeping qualities. Where the bulking is done here the tea suffers, while the lead lining of the box is almost destroyed. Before long it will be absolutely imperative that all the work be done in the factory, thus saving London charges. The example of the few Indian tea companies which bulk on the garden might with advantage be followed by all. They seem to have no difficulty in carrying out the process, or in securing even tares.

General Order, Custom House, London, December 22, 1894.

Taring of Bulked Teas.

Officers are informed that paragraph 62 of General Order, 127, 1892, in regard to the taring of Indian, Ceylon and Java teas, has been cancelled, and that the following regulations are to be observed instead thereof:—

In the case of teas bulked in warehouse, for which average tare has been allowed prior to the operation of bulking, that tare may be retained, provided the packages which were selected for taring on taking the landing account did not vary to a greater extent than 2lb; or the actual tare of each package may be taken at the time of bulking.

If the selected packages varied to a greater extent than 2lb, each package must be tared at the time of bulking.

All copies of G. O. 127, 1892, are to be noted accordingly.

By order of Board,
John Courroux.

General Order, Custom House, London, February 11, 1899.

Reweighing of Tea after Bulking Abolished; and Amendment of General Order, 107, 1894; and Code Paragraph 441.

The Board direct that the general practice of reweighing tea after the operation of bulking be relinquished. the usual request for permission to bulk parcels of tea being still required as hitherto. In order, however, to maintain the principle of a check on all operations in bonded warehouses, the surveyors at the tea stations will occasionally as a test-check in the ordinary course of their daily visits call for the production and reweighing in their presence of some of the packages of tea after bulking and refilling. The board further direct that the regulations contained in General Order 102, 1894, as to the taring of bulked Indian, Ceylon, and Java teas be amended as follows:—

Delete the words—

If the selected packages varied to a greater extent than 2lb each package must be tared at the time of "bulking;"

and substitute the words—

If the selected packages for an average tare vary to a greater extent than 2lb, and the surveyor be satisfied that the difference is only exceptional, an actual tare may be taken for the exceptional package or packages, and an average tare given for the remainder of the bed by selecting other packages in lieu of those rejected: provided that the warehouse keeper also agrees to the course adopted.

The Board further direct, in concurrence with the Board of Inland Revenue, that the provisions of Paragraph 441 of the Warehousing Code, which will be affected by the abolition be amended accordingly, by deleting the words—

and payment to the collectors of a deposit sufficient to cover the expense of the officer re-weighing.

Copies of General Orders, 127, 1892, and 104, 1894, and of the Code, are to be noted accordingly.

By order of the Board,
(Signed) R. T. Prowse.

Bonded Tea Warehouse.

Charges on Tea.

To apply to all parcels by ships reporting on and after July 1, 1898, and to New Season's China Tea arriving prior to date.

Discount 10 per cent.

	PACKAGE WEIGHING GROSS.								
	160lb to 199lb	130lb to 159lb	90lb to 129lb	80lb to 89lb	60lb to 79lb	45lb to 59lb	35lb to 44lb	17lb to 34lb	Not exceeding 16lb
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Landing and Housing Rate ...	2 3	1 10	1 6	1 4	1 3	1 0	0 10	0 6	0 3
Management Rate	2 9	2 3	1 10	1 8	1 5	1 2	1 0	0 7	0 4
Bulking and Taring ...	2 0	1 8	1 5	1 3	1 2	0 11	0 8	0 6	0 4
Bulking, Taring, or Weighing net separately ...	1 6	1 3	1 0	0 11	0 10	0 8	0 6	0 5	0 3
Rent per week ...	0 1	0 0¾	0 0½	0 0½	0 0½	0 0½	0 0¼	0 0¼	0 0¼

The above rates are chargeable on the average gross weights on each break. When the fraction of the average weight is half a pound or more the higher rate will apply. Thus: The average of a break being 79½lb gross, the whole break will be rated at 80 to 89lb, but the average being less than 79½lb the whole break will be rated at 60 to 79lb.

DISTRICT ASSOCIATIONS.

INDIAN TEA ASSOCIATION.

The following are extracts for the proceedings of a meeting of the General Committee of the Indian Tea Association, held on 3rd October, Mr. H. S. Ashton in the Chair.

Paris Exhibition—In his letter of 15th September Mr. Tye stated that he had interviewed the Secretary of the Indian and Ceylen Committee of the Royal Commission with reference to the question of tea exhibits. It was suggested at this interview that the samples should be arranged as a trophy and placed in the centre of the Court, or that they might be arranged in cases and exhibited in the tea room. It was considered that about one hundred samples, representative of the various tea districts, would suffice to illustrate the different classes of tea grown. Mr. Tye also stated that he understood the Revenue and Agriculture Department of the Government of India were prepared to receive and forward all exhibits. Special labels numbered and marked for attaching to the exhibits in Calcutta would also be supplied by the Exhibition authorities through the India Office.

The Committee directed the Secretary to communicate with the Secretary to the Government of India in the Revenue and Agriculture Department asking for definite information in regard to the dates by which samples would be required; and also in reference to the special labels mentioned in the London Committee's letter.

The Secretary was also instructed to write to Mr J. Buckingh C. I. E., Chairman of the Assam Branch, asking his assistan procuring a collection of dried leaves of the various classes of A collection of this description had been previously asked for the London Committee as being likely to prove an interes exhibit.

London Warehouse Charges.—Mr. Tye stated in his letter 15th September that the Committee in London had had under c sideration the General Committee's letter of 17th August u this question. After a full discussion they had decided again address the Tea Clearing House Committee urging a reconsid tion of the request put forward for a reduction of the charges.

As the General Committee's letter, No. 561-O of 13th Septem in which the question was fully dealt with, was not before London Committee at the time Mr. Tye's letter was written, it now agreed to await their views upon that letter before tak further action.

Considered letter of 11th September from the Acting Secreta Planters' Association of Ceylon, in reply to the General Comm tee's letter, No. 463-O., of 17th August, on the question of the ab tion of the English import duty; also letter of 14th Septem from the Honorary Secretary, Dehra-Dun Planters' Associati and letter No. 1,793 of 2nd September from the Secretary, Darjeeli Planters' Association, on the same subject.

In the letter from the Ceylon Planters' Association it was stat that the Committee of that Association were not convinced that t time was ripe for a movement in favour of the abolition or redu tion of the duty; or that abolition would be in the best interests the producers. They were, however, continuing to collect info mation, and asked upon what figures the General Committee ha based their statement: "that it is admitted that reduction of du in the past has tended to increase consumption as a whole, an that further reduction would have a similar effect."

The Honorary Secretary of the Dehra-Dun Planters' Associati stated that he would be unable to submit the views of the membe of that Association until November, when the next General Mee ing would be held. He considered, however, that abolition wou enormously stimulate consumption, but it was, he thought, question whether the effect on production would not mean a ver large addition to the area under tea; an addition probably out o all proportion to the increased demand, and which might eventuall place the industry in a worse position than would otherwise hav existed.

It was stated in the letter from the Darjeeling Planters' Associa tion that that Association cordially supported the action taken up b the Ceylon Planters' Association and directed the Secretary to give when relpying the figures upon which the statement referred t was based. The following extract from a speech made by the Chair man of the Ceylon Planters' Association on the 17th February 189 was also to be quoted, *viz.*, "They knew, and they felt undoubtedly the reduction of duty in past years had tended to increase consump tion. Figures that were before him were most encouraging. Going back to 1837, when the Queen came to the throne, only 30,000,00 lbs. of tea were consumed in the United Kingdom, and the duty was 2*s.* 1*d*; in 1887 the duty was 6*d*. and the consumption was 183,000,000; and in 1897, ten years later, the duty was 4*d*. and the consumption 232,000,000. He did not mean to say that that was entirely due to the reduction of duty, because the increase in population had to be taken into account, but it was quite sufficient for his argument that the reduction of duty tended to increase consumption."

The letters from the Dehra-Dun and Darjeeling Planters' Associations were to be recorded and the further consideration of the question was to stand over pending the receipt of the views of the London Committee, and of the Assam Branch.

Considered file of replies to the Committee's Circular No. 545-O of the 12th September, which had reference to the question of restricting offerings at tea sales in Calcutta. It was stated in the Circular that the representatives of sellers on the Committee of the Calcutta Tea Traders' Association did not feel themselves in a position properly to serve the interests of sellers in the Culcutta market having regard to their constitution, and the rules under which they acted. The General Committee, therefore, proposed that a Sub-Committee of sellers should be appointed with the object of, if necessary, restricting offerings to what, after consulting brokers and buyers, and taking into account the statistical position, they might consider to be the amount required by the

trade. It was suggested that the Sub-Committee should consist of the present representatives of sellers on the Committee of the Calcutta Tea Traders' Association, with power to add one broker as consulting member. The two following questions were also asked, *viz*:—

(1) Whether members would be prepared to give such powers to the proposed Sub-Committee, or,

(2) Whether they would prefer a Sub-Committee appointed direct by sellers.

From the replies received it appeared that four firms only were unwilling to delegate the powers in qestion to a Sub-Committee The remaining replies were favourable to the delegation of the powers, but there appeared to be a more or less general feeling that the Sub-Committee should be elected direct by sellers. In these circumstances the Committee ordered that a second Circular should be drawn up and issued to the members forming the majority. In the Circular they were to be informed approximately of the quantity of tea the firms in favour of the proposal sold on the Calcutta market; they were also to be informed what proportion this represented of the total quantity of tea sold in Calcutta, and in view of this information they were to be asked to state definitely if they were agreeable to bind themselves to accept the decisions of a Sub-Committee. With regard to the constitution of the latter it was to be pointed out that there appeared to be a general feeling in favour of direct election by sellers, and in the event of it being agreed to proceed with a scheme, steps would be taken to formulate one.

SOMETHING IS AFTER YOU.

Far away, in the Jungle of Central India, a village lies asleep. Only a solitary human figure can be seen, following the winding jungle path in the moonlight. It is early night, and the native who comes has been delayed on his way home.

But what is that dark shadow that crosses the path behind him? Quite oblivious, the man marches on. He looks neither to right nor left, nor behind him, where crouches that dark shadow. A few yards more and he will be out of the jungle. A few minutes more, and he thinks he will be sleeping in the bosom of his family. But see, the shadow moves! With two noiseless bounds like a giant cat the tigress is upon him. One despairing scream and all is quiet Bitten through the head, the victim is snatched up and carried by the grim man-eater to her lair in the hills. Meanwhile the village slumbers peacefully on.

Was it the man's fault? Yes, I think it was. Had he not lingered, he would not have been caught. The tigress would not have attacked him in broad daylight. But he was no worse, I think, than those in this country who are to-day doing the very same thing. Thousands and thousands of Englishmen and women have a shadow in their path. It is after them. The time will come, if they do not take heed, when they will feel, like Mrs. Lydia Golding, "as if something had overtaken" them. Here is a letter from her in which she tells her experience:—

"All my life I had been a strong healthy woman, and up to the autumn of 1891 I never ailed anything. At this time I began to feel weak, weary, and tired, and as *if something had overtaken me.* I had a foul taste in the mouth, my tongue being furred, and a sour fluid would rise into my mouth. I had no appetite to speak of, and the little food I took gave me no strength. After eating I had a heavy weight and pain across my chest, and a gnawing feeling in my stomach. I belched up a deal of frothy fluid, and in the night I awoke with a suffocating feeling. Cold clammy sweats broke over me, and what with loss of appetite, and not being able to sleep at night, I soon got so weak that *I found it hard work to get about.*

On December 23, 1892, (one Sunday morning), whilst preparing breakfast for my husband, I was suddenly *seized with paralysis*, which affected the whole of my right side. I had no use of my hand or leg on that side, and a numbness took me on *both left and right* sides. My husband got me to bed, and fetched a doctor from Northfleet, who gave me medicines. After this I lost my strength rapidly and what I suffered I could not tell.

"I could not rest night or day and I was in and out of bed every now and again. I got little sleep, only dozing off for a short time and then starting up I was afraid to be left alone, and often in the night I have been so nervous and frightened I could scarcely bear it. I took medicines of all kinds, but was little better for any thing, until one day in August, 1893, my husband read in the paper, "Weakly People," of Mother Seigel's Curative Syrup, and got me a bottle from Perry and Son, Chemists, High Street, Gravesend. After taking it a short time, I began to gain strength, and got stronger, and stronger until I was free frem the effects of the seizure. I now keep in good health. You can publish this statement if you wish."—Yours truly, (Signed) Mrs. Lydia Golding, 12 Carter's Road, Perry Street, Gravesend, May 14th, 1896.

What was the shadow that had crossed Mrs. Golding's path? What was it that "overtook" her and laid her helpless and suffering upon a bed of sickness? Surely you can recognise the monster that sprang upon her as the dreaded disorder Dyspepsia, which attacks you when you are most defenceless and weakest. Paralysis; yes, Mrs. Golding had it, and could feel it, but what she could *not* feel was what it was that had so acted upon her nerves and muscles as to cause them to become so helpless. Nor could she, I suppose, understand *how* Mother Seigel's Curative Syrup cured her so quickly, though *we* know now that it was because the Dyspepsia was got rid of.

But, as the native was never heard of more, so there are *some* who cannot get out of the clutches of Dyspepsia, even with such help as Mother Seigel's Curative Syrup, if the help comes too late. Hence the best way of all, say I, is to keep out of the jungle after dark; and, if you *must* go, *walk quickly.*

MARKET REPORT.

By Mail Advices of 22nd September 1899.

COFFEE.

The London Commercial Record says:—The market has been quiet and irregular this week. Plantation Ceylon has been dull of sale at easier prices. Although there is no improvement to report in the value of East India, supplies met a better demand at about previous rates, except for grey and faded, for which very low prices were taken. Mocha firm. Colory Costa Rica and Central American sold with good competition at higher prices, but other qualities were rather easier. For a few days there was a better market for "futures" on rumours of a possible reduction in the Brazilian receipts, and an advance of 9d per cwt. took place, but at the close the tone is dull, and part of the improvement has been lost. We quote:—

London ...	... Santos ...	Dec. delivery	... 25s. 9d.
New York	... No. 7 Rio...	„ „	... 4·45 cents.
Hamburg...	... Santos ..	„ „	.. 26¾ pf.
Havre ...	... Santos ...	„ „	... 32 francs.
Holland ...	... Good ordinary Java ...	...	... 26 cents.

Imports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
Tons	24,595	19,294	40,201	38,098
	Home Consumption.		Export.	
	1899.	1898.	1899.	1898.
Tons ...	11,717	10,319	18,322	18,176

The preceding figures exhibit—

	Tons.
In the Imports an increase this year of ...	... 2,103
Home Consumption an increase of	... 1,398
Export an increase of	146
Stock an increase of	... 5,301

Auctions this week have passed off as under:—

Ceylon.—*Plantation.*—Of 100 casks 13 tierces 36 barrels 18 bags only part sold—smalls 55s to 72s 6d, low middling 65s to 80s, middling 96s, bold 85s to 102s, pea-berry 78s to 112s. *Native.*—Of 388 bags only 2 bags damaged sold at 23s 6d.

East India.—2,983 bags partly sold as follows: *Naidoobatum*, smalls 27s 6d to 35s, middling hard gray 54s to 54s 6d, good bold 87s 6d to 91s, pea-berry 42s 6d to 55s 6d; *Mysore*, smalls 29s to 37s 6d, low middling 32s to 43s 6d, bold 48s 6d to 52s 6d; *Coorg*, smalls 31s, low middling 37s to 43s 6d, bold 50s to 65s, pea-berry smalls 31s, low middling 37s to 43s 6d, bold 50s to 65s, pea-berry smalls 28s to 38s 6d. low middling to 49s 6d to 69s 6d; *Neilgherry*, smalls 28s to 38s 6d. low middling to middling 36s to 44s. bold 53s to 61s, pea-berry 35s to 46s; *Wynaad*, smalls 34s, pea-berry 39s; *Nelliampathy*, low middling 40s to 40s 6d, bold 57s to 57s 6d, pea-berry 56s.

MOCHA.—132 packages offered and 17 half-bales sold—fine short-berry 105s.

JAMAICA.—61 barrels 138 bags nearly all sold, ordinary to fine ordinary greenish 28s to 34s 6d.

COSTA RICA.—Of 1,780 bags catalogued about 1,150 bags sold, smalls 25s to 33s, good ordinary 31s to 33s, middling greenish 54s to 56s, good to fine colory bold 75s to 89s, pea-berry 36s 6d to 71s.

GUATEMALA.—Of 2,112 bags offered 1,480 bags sold, smalls 25s to 33s, low middling to middling 41s to 45s, good middling 49s 6d bold 48s 6d to 68s 6d, pea-berry 33s to 63s.

VERA PAZ.—Of 623 bags offered 340 bags sold, low middling to middling 40s to 47s, good middling gray 56s to 63s 6d, bold 70s good colory bold 87s 6d, pea-berry 45s to 70s.

SALVADOR.—Of 2,106 bags brought forward 1,330 bags sold—smalls 24s to 29s, good ordinary 30s 6d to 32s 6d, fine ordinary 34s to 35s, low middling to middling 40s 6d to 45s, good bold bright 54s, pea-berry 36s to 60s 6d.

NICARAGUA.—393 bags sold—common mixed to good ordinary 24s 6d to 35s 6d, find ordinary 36s to 37s 6d low middling to middling 40s to 47s 6d, good middling 48s to 52s, dull bold 50s 6d to 56s, good blue bold 70s to 74s, pea-berry 42s to 79s.

MEXICAN.—284 bags nearly all sold—smalls 29s 6d, ordinary 27s 6d, fine to fine fine ordinary 36s to 38s, low middling to middling 41s to 45s, bold 52s 6d, pea-berry 35s to 49s 6d.

COLOMBIAN.—Of 2,605 bags offered 1,800 bags sold—smalls 23s to 36s, good to fine ordinary 33s to 36s, fine fine ordinary to low middling 38s to 42s, middling to good middling blue 43s to 50s 6d, bold 51s to 63s, fine blue 70s 6d to 72s 6d, pea-berry 32s to 65s.

ECUADOR.—15 bags sold—damaged greenish 22s to 26s 6d.

Auctions to-day consisted of 170 packages Jamaica, 188 bags Mexican, 423 bags 6 barrels Vera Paz, 779 bags Costa Rica, 443 bags Columbian, 695 bags Guatemala, 489 bags Salvador. The sales passed off quietly without alterations in quotations.

Receipts in Rio and Santos.

Since July 1	1899-1900. Bags.	1898-99. Bags.	1897-98. Bags.	1896-97. Bags.
Rio	1,098,000	935,000	1,319,000	988,000
Santos ...	2,494,000	1,887,000	2,319,000	1,651,000
Total... ...	3,592,000	2,822,000	3,638,000	2,639,000
Crop ...	—	8,772,000	10,461,000	8,680,000

Rio Exchange 7¾d, previous day 7⅝d.

Havre, Sept. 21.—Santos good average September opened steady at 31½f. and closed barely steady at 31½f., December opened at 32f. and closed at 32f.

Hamburg, Sept. 21.—Good average Santos September opened steady at 26¼pf. and closed steady at 26¼pf., December opened at 26¾pf. and closed at 26¾pf.

New York, Sept. 20.—Closing prices of No. 7 Rio were as follow:—

	Sept.	Oct.	Nov.	Dec.	Jan.
Sept. 20 ...	4·20	4·20	4·25	4·50	4·55
Sept. 19 ...	4·15	4·15	4·20	4·45	4·50

Prices realized at auctions for some of the principal marks of East India:—

NEILGHERRY.

	A	B	C	PB	T
A G N ◇ Dolphin Nilgiris... ...	52-6 bid	37-6 bid	32-0	42-0 bid	27-6
A G N ◇ Hallacarry Nilgiris ...	55-0 bid	37-0 bid	33-0	—	25-0
J M ◇ Woodlands Nilgiris... ...	55-6	40-0	34-0	40-0	26-6
Glenburnie	54-0	39-6	34-0	42-0	29-0
Corneillon	64-0	41-0 bid	32-6 bid	42-0 bid	31-6
Madanaad Nilgiris	48-0	38-0	32-0	44-0	27-6
Gleumore	62-0	42-0	35-0	48-0 bid	30-0
Tudor Valley	51-0 bid	37-0 bid	31-0	37-0 bid	26-0
Colacumbie	64-6	44-0	36-0	45-0	33-0
Craigmore Nilgiris	49-6	37-0 bid	—	40-0	—
Belutti Nilgiris	54-0	43-0	35-6	40-6	22-6
Elephant Devicolam Estate Ltd Talliar	no bid	40-0 bid	33-0 bid	46-0	31-0
Lockhart	63-0 bid	44-0	38-6	44-0	30-0
Elephant Vagavarai Talliar ...	37-0 bid	32-6 bid	28-0	36-0	2

MYSORE.

	0	1	2	PB	
Dytapoor Mysore	42-0	35-0	29-0	40-0	2
Addakhan Mysore	43-0	37-0	34-0	38 0 bid	2
Merthi Subungudigy Mysore ...	43-0 bid	34-0 bid	31-6	40-0 bid	

	A	B	C	PB	
Hyathkhan Mysore	52-0	43-6	37-6	45-0	2
Tippenhully Mysore	66-0 bid	42-6 bid	31-0 bid	53-0 bid	2

COORG.

	A	B	C	PB	
Aynsley	40-0	34-6	27-0	40-0	25
Gundagutte Coorg	56-6	43-6	31-0	69 6	30

NAIDOOBATUM.

	A	AA	B	C	PB	
Barwood W P C	42-0 bid	42-0 bid	34-6 bid	27-6	42-6	25
Hope W P C	—	—	39-6 bid	30-0	50-6	—
Talloes W P C	56-0 bid	50-0 bid	—	30-0	53-6	—
Goodaloor Mullay W P C ...	91-0	87-0	54-6	35-0	no bid	—
Kelly W P C	68-6	53-0 bid	41-0 bid	33-6	55-6	—

TEA.

CHINA.—An insignificant trade is passing privately in Congou at unchanged rates. Under the hammer only 1,785 packages hav been offered the greater part of which was placed at about valu ations, viz:—Old season's Panyong 6¼d to 6½d; Formosa Oolon 7¼d to 7¾d; common Oolong 5d to 5¼d; new season's, Moning 6½d Souchong 7¼d; Formosa Oolong 1½d to 1s ¼d; Scented Caper 6¾ to 8¼d per lb.

INDIAN.—A somewhat larger quantity was brought forward aggre gating 48,900 packages, compared with 42,300 packages last wee and 39,200 packages at this period of 1898.

There was again a strong enquiry and dealers operated freely prices all round being fractionally dearer for descriptions up to 8 per lb.; not much clean common leaf selling under 6½ per lb Good liquoring Pekoes and Broken Pekoes as a rule shewed an up ward tendency, and choicest parcels commanded extreme rates.

Quality of the arrivals from South India, of which 1,800 package were included in the catalogues, was of ordinary character Dooars, Cachars and Sylhets occasionally marked some improve ment, Kangras were more desirable while many of the Assams and Darjeelings were superior to former consignments from the same estates, the following being among the best results. Assam:— Beesakopi Estate, D.D.T.Co., 203 packages, 1s 2½d; Hangura Estate, D.D.T.Co., 297 packages 1s 1¾d; Deamoolie Co., 35 packages 1s 1d; Makum Co., 117 packages. Mokalbari Estate. 118 packages and Samdang Estate, D.D.T.Co., 412 packages 1s 0½d; Dhendai Estate, 78 packages, and Lattakoojan Estate, A.T.E.Co., 216 packages 1s 0¼d; per lb. Darjeeling:—Dooteriah Estate, A.T.E.Co., 112 packages 1s 10d; Murmah Estate, D.C.T.Co., 90 packages 1s 5½d; Chong Tong Estate, A.T.E.Co, 110 packages 1s 5¼d; Ambootia Estate, Dar.T.Co., 120 packages 1s 3½d; Moondakotee Estate, A T. E Co., 190 packages and Teesta Valley Co., 145 packages 1s 3¼d; Ging Estate, Dar.T.Co., 136 packages and Runglee Rungliot Estate, 105 packages 1s 2d per lb.

For 40,400 packages on Garden Account 8¾d was obtained *versus* 8⅞d per lb. for 30,600 packages, and 8¾d per lb. for 35,500 packages in the two preceding seasons.

CEYLON.—Public sales were again lighter, having comprised 26,900 packages against 29,100 packages on the 12th instant, and 21,900 packages a year ago. A very brisk tone prevailed, all kinds meeting with keen competition, and a further rise was established on Pekoe Souchongs and Pekoes below 7d per lb. For the better grades there was also an increasing demand both from home and foreign buyers quotations in nearly all instances being higher, partly due to the attractive flavour of many of the invoices offered. Best Broken Orange Pekoes fetched full figures, notably—Dimbula and Talawakelle 1s 8d, Ingestre 1s 7¼d, Derryclare 1s 6¼d, Loinorn 1s 5⅝d, Dessford and Mount Vernon 1s 5d, Hautville 1s 4¾d. and Wootton 1s 4d per lb.

The average is 8⅛d per lb. On the 14th instant it was barely 7¾d per lb., and 8½d per lb. on this date in 1898.

Java.—Rather over 1,200 packages of direct import received considerable attention and went off in favour of Importers.

Deliveries —The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns were :—

	Lbs.
From 1st to 19th Sept., 1899	11,681,761
Do. do. 1898	10,260,949

During the week the following have been printed for sale by public auction :—

	Sold.	Withdrawn.	Total offered.
	Pkgs.	Pkgs.	Pkgs.
India	45,489	3,412	48,901
Ceylon ...	26,281	656	26,937
Java	1,244	—	1,244
Total ..	73,014	4,068	77,082

Also 480 packages from second hands.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated September 22nd, 1899, says :—

Quantity brought to auction in London from 1st June to Date.

	Indian.	Ceylon.	Java.
	Pkgs.	Pkgs.	Pkgs.
1899-1900	368,491	352,832	19,814
1898-1899	334,856	405,915	15,482

49,398 *pkgs.* Indian
27,302 „ Ceylon
1,244 „ Java
} Total 77,944 packages were offered in public auction this week.

During the last week or two decidedly more confidence has been shown by buyers in the future of the market; they have in consequence operated more freely, resulting in a brisk demand for all grades.

There is little doubt that the stock of Tea in buyers hands was reduced to a minimum during last July, and it is possible that the fear of a fall in the market through recent accumulations in importers' hands alone checked their operating with more freedom during last month.

Now that so much of this Tea has been worked off there seems no probability of any immediate reaction in price, while the position is materially strengthened by moderate estimates both of the Indian and Ceylon crop.

The enquiry for low priced Teas noted last week has been even more pronounced, and when it is remembered that stocks of this grade were depleted both in this country and in other markets during the advance last spring, it is not unlikely that the demand may become even stronger.

Indian.—General firmness was the chief characteristic in the bidding, prices tending to harden all round. The official wire gives exports to the United Kingdom for the first half of September as 12,030,000 lbs., against 10,250,000 for the same period last year, making the total exported to United Kingdom from 1st April to 15th September as 64,672,000 lbs., against 58,167,000 lbs. last year.

Week's av. of Tea sold on Garden Account 1899, 39,535 pkgs., av. 8·77d. 1898, 39,645 pkgs , av. 8·75d.

Total Tea sold on Garden Account 1st June to date 1899, 242,541 pkgs., av. 8·47d. 1898, 228,388 pkgs., av. 9·05d. Comparative prices of Indian Tea in London.

Ceylon.—The auction passed with considerable spirit at prices showing a fractional advance, Teas for price especially being fully ½d. dearer. Now that arrivals are coming in of better quality a better selection is offered which meets with correspondingly increased attention from buyers. Private telegraphic advice from Colombo gives exports for first half of the month as 5,200,000 lbs , and estimates the total for the month as 9,000,000 lbs. The official estimate published at the beginning of this month was 7¼ to 8¼ million pounds.

Average for week 8·08d., against 8·34d. same period 1898.

Ceylon Tea sold on Garden Account 1st Jan. to date 1899, 759,902 pkgs., av. 7·94d. 1898, 851,002 pkgs., av. 7·64d. Comparative prices of Ceylon Tea in London.

Java.—1,244 packages were brought to auction comprising selections from 8 gardens, being on the whole of a useful character; prices were very firm, the market generally inclining to better rates.

Bank Rate 3½ per cent. Exchange on London three months sight :—Calcutta 1/4 5/16. Colombo 1/4 5/16.

COCOA.

No auctions were held this week. Privately the sales are about 1,000 bags, including Trinidad at 70s to 71s, Jamaica at 62s 6d, Puerto Cabello at 130s, Guayaquil Caraquez at 66s to 68s, and Arriba at 68s to 70s per cwt

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

	1899.	1898.	1897.	1896.
	Bags.	Bags.	Bags.	Bags
Imports, B P. ...	112,335	111,999	102,937	113,163
Foreign ...	61,749	90,156	63,795	55,119
Home Con., B.P. ...	63,014	78,181	62,998	55,711
Foreign ...	37,750	43,859	43,282	40,453
Exports, B.P. ..	35,889	28,353	36,833	30,890
Foreign ...	20,822	23,264	33,096	21,570
Stock, B P. ...	59,015	65,504	80,981	92,416
Foreign ...	55,751	56,533	47,635	70,637

PEPPER.

Black.—The market has been quiet this week, with value fairly steady. On the spot about 1,000 bags have been sold, including fair Singapore at 5 9/16d to 5⅝d, fair Lampong at 5½d, and Tellicherry at 5 9/16d to 5⅝d. For arrival 100 tons Singapore have been sold at 5 11/16d for near at hand and August-October shipments, and at 5 13/16d for October-December.

Offerings at auction on Wednesday were only 80 bags of Tellicherry and 57 bags of brown light Singapore—the former were bought in at 6d per lb. and the latter sold privately.

White.—Is firm and dearer; about 50 tons Singapore have been sold for arrival, including near at hand at 8⅞d, September-November shipment at 9d to 8 1/16d, October-December at 9⅛d, and January-March at 9¼d. On the spot sales of fair Singapore at 8¾d, and ordinary to fair Penang at 9 7/16d to 8½d per lb.

At public sale on the 21st instant only 20 bags Singapore of fine quality were brought forward, and these retired unsold at 10d per lb.

GINGER.

Cochin —A very flat tone has supervened the recent activity, and of the materially reduced quantity of 221 cases 378 bags offered, only 73 cases 15 bags sold—medium and bold rather roughly cut and scraped brought 77s, medium and small 42s, bright small little part medium 32s, rough brown medium partly shrivelled 21s, and medium and small washed much shrivelled and lean 15s 6d per cwt. These prices show an improvement on cut kinds.

There has since been a good demand for cut qualities, resulting in large sales at advancing prices—a rise of 5s on the week being recorded in some cases. Full particulars of the business done are not divulged, but medium and bold Native cut, which a week or two ago was obtainable at 40s, has sold this week at 50s per cwt.

Jamaica.—Slow of sale, and the 79 barrels catalogued were bought in at 60s to 65s per cwt.

Nicaragua.—1 case hard brownish washed brought 40s per cwt.

INDIA RUBBER.

Para receipts continue very small, about 700 tons this month, and prices there are higher. Considerable sales have been made at advanced rates, including hard fine, new 4s 4d, old 4s 4d to 4s 4¾d; soft fine, new 4s 2¾d, old 4s 3d to 4s 3½d. Scrappy negrohead in demand, and large sales at 3s 3½d to 3s 4d for spot and forward. Cameta at 2s 7d per lb.

Peruvian sold freely, ball at 3s 1½d, slab at 2s 7d per lb. At to-day's auctions sellers' limits were rather high and not much sold.

Central American, &c —283 packages offered and 67 sold at higher rates, good scrap Columbian character 3s 3d to 3s 4d, fair Nicaraguan scrap 3s 1½d, mixed scrap 2s 9¾d, pressed sheet, fair to good 2s 5d to 2s 7¾d per lb.

Mangabeira held high and mostly retired 154 packages offered and only 8 sold—Bahia, coarse sheet 1s 1¾d, very loaded inferior 1s 3d.

Madagascar.—20 packages retired above value.

Mozambique.—Limited by shippers, too high, and of 602 bags offered about 100 bags sold—red ball and nigger mixed to fair 3s 2d to 3s 4¾d, more mixed and sandy 2s 10d, soft white ball fair to good hard 2s 8d to 2s 10¼d, good Lamu ball 3s 1d, mixed sandy root and ball 2s 3¼d per lb.

Assam —75 packages offered and 58 sold at full rates, washed fair to good clean sheet 3s 0½d to 3s 3d, dark and very sticky 2s 1½d to 2s 2½d per lb.

Penang, 116 packages, Rangoon, 63 packages, and Borneo, 180 packages, retired—held too high.

Pontianac dearer; 60 cases retired.

CINCHONA.

The exports from Ceylon from January 1 to August 29 were :—

	1899.	1898.	1897.	1896.
Lbs.	474,233	672,290	486,546	860,533

The total weight of the bark to be offered at the Amsterdam auctions next week is 639,424 kilos. (against 688,464 kilos. in August). containing the equivalent of 29.395 kilos. (1,029,210 ozs.) quinine sulphate. Of this amount 26,017 kilos. is in the manufacturing bark, and the remaining 3,378 kilos. in the pharmaceutical bark. The former contains an average yield of 5·25 per cent. of quinine sulphate, against 5·60 per cent. in August, and 5·21 per cen the ten auctions of 1898. The shipments of bark from Ja the first fortnight of September were 740,000 Amsterdam lbs.

QUININE.

Continued depression prevailed in this market until Wedne and a further decline of about 1d. per oz. has taken place o week in consequence of the heavy bark shipments from Java d the first half of September. The market closed last week at per oz., spot, October 11¼d., and December, 11½d., with a mod business in the latter position, and since then the lowest touched was on Tuesday, when there were sellers at 10½d. Wednesday, however, the market recovered, and this figure withdrawn, 10¾d being the spot price, and for December deli (for which position most business has been done), there were s at 10¾d., with buyers at 10⅝d. per oz. To-day the market is q with sellers at 10½d. spot.

(Average for all India 8·77d.) September 22nd.

Garden.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, D and Variou	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Pr
Neilgherry	308	7·47												
Kodanaad ...	278 p	7¼	20½c	9½	148½c	6¾ 9½	..	...	83	6¼ 6½	...	...	27½c	6
Pykara Falls ...	30	9	...	..	18	8 9	11	9 10	1	8	...	...	...	
Travancore	1518	6·93												
Arienkow ...	41	6	...	...	32	6¼	..	...	7	5¾	..	...	2	
Atchencoil	89 p	6½	...	...	32½c	6½	28	7¼	24	6	...	...	5 p	5½
BA ...	15	6¼	...	...	...	...	...	...	...	...	15	6¼	...	
Balamore ...	120½c	7¼	...	...	9½c	6	106½c	7¼ 7½	...	...	3½c	5¾	2½c	
Bon Accord ...	118 p	7¼	...	...	45	7	37	8	22	6½	...	...	14¼c	5¾
BM ...	9	6	...	...	...	...	...	..	...	...	9	6 6¼	...	
Braemore ...	142 p	6¾	...	...	62	6½	44	7¼		...	23	6¼	13½c	5¼
CMR ...	72	6¼	...	...	40	6	28	6½	...	...	3	5½	1	
Corrimony ...	120½c	7¼	...	...	80½c	6¾	36½c	8½	...	...	2½c	5¾	2½c	
Glenfruin ...	7	9¼	6	8 10	...	...	1	10¾	..	...	...	...	...	
Glenmore	105½c	6½	...	...	66½c	6¼	34½c	7	...	...	2½c	5¾	3½c	
Isfield T C Isfield ...	45 p	6½	...	...	33	6¼	10	7¼	...		...	...	2½c	
Kanan Dev Hil M	31½c	9¾	...	...	...	..	...	...	...	...	...	...	31½c	
P ...	6	5¾	...	...	...	...	..		..		6	5¾	..	
Poonmudi ...	199 p	7	21	7¼	83	6¾	55	7¾	16	6¼	10¼c	6¼	14½c	5¾
Seafield ...	112½c	7½	...	...	72½c	7	38½c	8¾	...		1½c	5¾	1½c	
Stagbrook ...	122	7	36	7¼ 7¾	37	6¾	...		30	6¼	19	6¼ 6¾	...	
South Trav C Vn ...	127	7	...	...	43	6¾	54	7¼ 8	22	6¼	...		8	
Vembenard ...	31	7	...	...	13	6¾	14	7¼	2	6¼		...	2	
W ...	7½	7	...	...	7¼c	7	..	..	..	..	..	...	..	
Wynaad														
Richmond ...	10	6½	...	...	4	7	...	..	6	6¼	..	..	..	

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[w. 1-10-98—t.f o.]

PLANTING OPINION,

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

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N.B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," 16/17, Armenian Street, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 27th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, 17*th October.*—*Weather.*—Since the 11th instant there has been rain every evening, with the exception of yesterday. It has clouded up in the mornings and become overcast towards the evenings. On two occasions there was a steady drip all night. *Crop diseases.*—*Hemileia vastatrix* is still in evidence. The leaves, all along the new wood, are catching it in succession; but the appearance of the Coffee generally is healthy. *Crop.*—Ripening in the eastern district. They will all be mostly short. *Interesting item.*—Rifle Meeting commences 23rd: ends 26th instant. Last day, ladies' competitions.

SIR GEORGE KING ON INDIAN BOTANY.

Botany, in the abstract, is probably a subject with which planters in India concern themselves but little. Their aim is to study one or two species of plants, and to cultivate them with a view to profit-making. Yet some there are who realise that it is worth their while to have at least a general acquaintance with Botany, and to study the principles upon which Nature works out the many problems of plant-life. To these a review of recent utterances of Sir George King, K.C.I.E., LL.D., M.B., F.R.S., President of the Botanical Section of the British Association, should not be without interest. Those of his remarks that relate specially to the cultivation of Tea and Cinchona in India should appeal to a large number

of planting readers ; but, before coming to this portion of his address, we will mention a few "points" bearing more directly upon its immediate subject : "The History of Indian Botany." These may be regarded as so many indicators to the student who wishes to learn quickly, to acquire useful information without too closely analysing the conclusions and deductions of the botanists from whose books he would learn. To them it matters little that there are references to Indian plants in the Sanskrit classics. They may note, with gestures of indifference, the fact that the Portuguese "did practically nothing in the way of describing the plants of their Eastern possessions." Perhaps it will interest them but little more to read that the first contribution to the knowledge of the botany of what is now British India was made by the Dutch in the shape of the "Hortus Malabaricus" undertaken at the instance of Van Rheede, Governor of the territory of Malabar. Yet the value of this work to modern students may be gauged by Sir George King's remark that the plates are the best part of it : that "in fact, some of them are so good that there is no difficulty in identifying them with the species which they are intended to represent."

Omitting reference to various other works alluded to by Sir George, we come to his remarks anent "The United Brothers," whose union had for its chief object the promotion of botanical study. Starting at Tranquebar, in the latter half of the eighteenth century, the brotherhood gradually extended the sphere of its influence, and, before the century closed, the enthusiasm for botanic research had spread to Bengal. More or less desultory work gave place to something more scientific in character, and, in 1789, by the establishment of the Botanic Garden at Calcutta, a recognised centre of botanical activity was established in India. In 1795, the Madras Presidency contributed, through the medium of Dr. Roxburgh, the first part of "The Plants of the Coast of Coromandel,"—the first botanist who attempted to draw-up a systematic account of the plants of India. This and his later works cause Sir George King to exclaim : "Seldom have twenty years yielded so rich a botanical harvest !" Until the publication of Sir Joseph Hooker's monumental "Flora of British India," Roxburgh's "Flora Indica" remained the only single book through which a knowledge of Indian plants could be acquired. At a later period of history, allusion is made to the absence of liberal support of botanical research on the part of the Madras Government. About 1820, a second centre of botanical enterprise was established at Saharunpore, in the North-West Provinces. In 1848, Sir Joseph (then Dr.) Hooker arrived in India, and from this Sir George King dates the second period of the history to which we here so briefly refer. Of his "Himalayan Journal" we are told that it "remains until this day the richest repertory of information concerning the botany, geography, and anthropology of the Eastern Himalaya." Many other names are honorably mentioned ; but, before passing on to remarks dealing with Tea and Cinchona, we need only quote the assertion that "as regards cryptogamic botany there is little to relate," while "Economic Botany has, on the other hand, by no means been neglected."

This brings us to the statement that Tea cultivation is one of the enterprises, in the introduction and development of which botanists took a very leading part. Sir George King states that the advisability of introducing the industry was first pressed on the attention of the East India Company by Dr. Govan (of Saharunpore), and in this he was seconde Sir Joseph Banks, as President of the Royal So Royle in 1827, and Falconer slightly later, again urged regards the North-West Himalaya. In 1826, David demonstrated the fact that real Tea grows wild in A In 1835, Wallich, Griffith, and McClelland were dep by Government to visit Assam, to report on the indige Tea. In the year 1838, the first consignment of Indian-gr tea was offered for sale in London. The consignment sisted of twelve chests containing 20 lbs. each. This sample of 240 lbs. was favourably reported upon. Last the exports of tea from India to all countries reached millions of pounds, besides 120 millions of pounds expo from Ceylon ! As regards Cinchona, its introduction India originated with the Government botanists, with a to use in cases of malarious fever. The sources of sup of the Cinchona barks in their native countries in So America were known to be gradually failing, and the price quinine had for long been increasing. The advisability growing Cinchona in the mountains of British India therefore pressed upon Government by Dr. Royle in 18 and he repeated his suggestions in 1847, 1853, and 18 Dr. Falconer, in his capacity of Superintendent of Botanic Garden, Calcutta, made a similar suggestion 1852 ; and his successors at Calcutta, Dr. T. Thomson a Dr. T. Anderson, in turn, advocated the proposal. 1858, Government at last took action, and, as a result of t labours of Sir Clements Markham and Sir W. J. Hook of Kew, the medicinal Cinchonas were finally, in the peri between 1861 and 1865, successfully introduced into Briti India—on the Nilgiris under Mr. McIver, and on t Sikkim-Himalaya under Dr. T. Anderson. The manufa ture of quinine had hitherto been practically a trade secre and when the Indian Government had succeeded in pr viding the raw material, from which a cheap quinine mig be made for distribution amongst its fever-stricken subjec the knowledge of the means of extracting this quinine w wanting. Philanthropic platitudes were freely bandied abo as to the immensity of the boon which cheap quinine wou be to a fever-stricken population numbering so many million But, says Sir George King, there was a singular absence any practical help in the shape of proposals, or even hints to how quinine was to be extracted from the rapidly-increa ing stock of crown and yellow bark. The officers in charg of the Cinchona plantations in India had therefore to do the best to solve the problem for themselves. And it was ult mately solved by Mr. C. H. Wood, at one time Governmen Quinologist in Sikkim, who suggested, and Mr. J. A. Gammi Deputy Superintendent of the plantation there, who carrie into practice a method of extraction by the use, as solven of the Cinchona alkaloids, of a mixture of fusel-oil an petroleum.

BRAZILIAN COFFEE.

THE COST OF PRODUCTION.

A Brazilian contemporary, "O Estado de São Paulo, publishes an estimate of the cost of production and deliver of coffee, taking as basis a plantation of 200,000 shrubs young and formed, with a yield calculated at 12,000 arroba or 3,000 bags in the year 1900, a yield which the autho

considers above the average. The estimate should be a low one, for the writer admits, moreover, the existence of conditions not to be found on all estates, such as good and economical machinery, plentiful supply of firewood, and cheap labour and easy weeding, combined with the exercise of utmost economy. We give his figures in detail for the benefit of any of our readers who may care to see how he arrives at the result stated below :—

Cost of weeding and caring per annum at the rate of 80$ per 1,000 trees	16:000$000
Harvesting of 24,000 alqueires at 500 reis per alqueire ...	12:000$000
Cartage of 24,000 alqueires to the drying ground (400 cartloads of 60 alqueires each) at 5$000 per load ...	2:000$000
Four men employed for 4½ months at the drying floor at 75$000 per month with food	2:025$000
Overseer of harvesting at 120$ per month for 4 months ...	480$000
Driver and stoker for engine at 200$ for 4½ months ...	900$000
Firewood, 22 cartloads at 7$500 per load	165$000
Man to sack and weigh coffee, 4½ months at 75$ ...	337$500
Cartage of 3,000 bags to station, 100 cartloads at 20$ per load.	2:000$000
Cost of production and delivery at station of 12,000 arrobas or 3,000 bags of coffee	35:907$500

Cost per arroba (15 kilos) — 2$992 or 11$968 per bag.

This is regarded as a low estimate of bare cost, allowing nothing for planter's expenses, repairs or interest on capital. If to this be added 2$000 for railway freight, commission, etc., the very lowest estimate of the cost of coffee delivered at Santos is nearly 5$000 per *arroba* or 20$000 per bag. It causes a Rio paper to observe that "With prices already at 8$500 per *arroba* it is clear that the margin of profit must be small even under the most favoured circumstances, whilst many plantations, especially in Minas and Rio de Janeiro, must at present be worked at a positive loss." It is worthwhile, too, to compare the above estimate with that given by the Planters' Club of S. Paulo, quoted in another of our leading paragraphs.

SCIENTIFIC INVESTIGATION.

A very interesting question has been raised in connection with Mr. Kelway Bamber's investigations in Ceylon. Mr. North C. Davidson lately urged that *all* that gentleman's suggestions should be made public, "and that he give notice when he is about to visit a selected estate, so that the rest of the district may have an opportunity of questioning him. After each visit a full report on the visited estate should be published, and if his suggestions have been adopted, experiments can be watched." To us this appears reasonable, and as, hitherto, Mr. Bamber's reports and suggestions have been kept "as private as if he were an ordinary Visiting Agent." Mr. Davidson's remarks have a good foundation. We were inclined to think that our contemporary, the *Times of Ceylon*, shared this view when it wrote in an editorial foot-note to Mr. Davidson's letter :—"If there is any answer to the above contention, it had better be made public ; or, if the Chairman of the Thirty Committee can afford an explanation to show how this extensively-held objection is to be met, the time has come for making it known as widely as possible." We have not seen any official explanation on the subject ; but, curiously enough, our contemporary itself has remarked, in a later issue, that, so far as it understands, several District Associations are responsible in this matter, and not the Thirty Committee, which has dealt with each district through its Association as to selection of estates to be visited, &c. Furthermore, it remarks, even if the results of Mr. Bamber's researches on each estate were made public, they would be of comparatively little interest or importance, for it is chiefly by the *comparison of all his data* that the real results will be obtained, that is to say, the statistics and data with regard to the yield, average price, soil, the methods of pruning, and of manuring on each estate are by themselves of little value, except of course in these instances where the method of pruning may have been altered or manuring adopted or abandoned, as it has been on some places owing to the mistaken economy of Directors. The *Times* rightly says that "the chief, and by far the greatest, results can only be obtained when the data from the twenty-six estates in the different tea districts are all brought together and compared." The truth of this is self-evident ; but there is nothing in it to show why reports should not be forthcoming one by one in the first place. Were this done, planters would have an opportunity to study each one carefully, and then, when all were to hand, they could make for themselves general comparisons which they could compare with Mr. Bamber's conclusions. When the whole of the reports are out, it will, as our contemporary says, "be realised what influences are exercised by differences of soil, climate, of methods of pruning and adoption of manuring, throughout the different districts, on prices and yield." From the planters' standpoint, however, it is obviously desirable that progress should be reported from time to time. Were there no other reason for this, we should say that one would suffice, *viz.*, that Mr. Bamber should be afforded an opportunity of showing not merely that he is at work, but along what lines he is working. We feel convinced that, were this done, it would stimulate interest in his work, and probably convert many who are now non-subscribers into subscribers towards the expenses connected with the employment of a man of his stamp.

THE IMPROVEMENT OF COFFEE.

The *Madras Mail* has published some interesting articles on this subject by a planter. We do not reproduce them in full, as many of the remarks are mere recapitulations of portions of the Wynaad pamphlet on "The Colour of Coffee" recently reprinted in our coloums. There is, in fact, nothing new in the writer's remarks ; but they constitute an able review of certain conditions affecting the coffee industry of this country, and deserve to be studied by all planters. One point touched upon is a suggestion that coffee-planters should follow the example of their tea brethren and test the results of their experiments in the cup. The writer concludes thus :—"For, though the grocer buys largely by appearance and even values his coffee by the even appearance of the roasted bean, yet there are not wanting men who are pointing out that the surest way to promote their business is to buy entirely on the flavour of the roasted bean, and who are urging grocers to disregard appearance when the flavour of the roast is good. If this method of valuing coffee becomes universal—and it is said to be the coming revolution in the coffee trade—we shall hear less of the superior appearance and evenness of Central American coffee, and, provided our coffees hold their own for flavour, we need not fear a little unevenness or even lack of colour—such, for instance, as is common in Mocha coffee."

COFFEE IN DISTANT LANDS.

X.

British Central Africa.—The British Commissioner's report for 1898 states :—The coffee crop gathered in the year 1898 was a poor one, owing to the very long drought which occurred in 1897, but the past dry season was a very favourable one. Rains fell at intervals during the year, with the result that a very large crop is now on the trees. The coming season's crop has been estimated at from 600 to 800 tons, and it will probably reach at least the former figure. Planters continue to put in shade trees on their plantations, and are of opinion that by this means they will obtain more certain crops.

In the same report we read :—The total quantity of coffee exported was slightly less than it was in the previous year, this being due to the long drought which occurred in 1897. The crops at present on the trees for the coming year point to last year's export of coffee being doubled in 1899. Owing to a slight alteration in the official value put upon coffee exported during the past year, the total value of this article of export for 1898-99, £23,756 10*s*. 10*d*, is almost exactly the same as last year's.

In the Notes by Mr. John Mahon on the Vegetable Products exhibited at the Mlanje Agricultural Show, British Central Africa, held in September, 1898, we find the following remarks :—In an Exhibition where most of the awards were eagerly competed for, and some with considerable keenness, it was peculiar to find the present staple product of the country so meagrely represented. But this is explained by the prevalent feeling which existed that a great quantity of coffee would be shown. Similar mistakes are made in most Exhibitions. What coffee lacked in bulk, however, it made up in quality. In the forms known as "parchment" and "hulled" ready for roasting, the exhibits were first-rate. It says much for the proficiency which the native worker has attained under the planter's supervision, that the hand-hulled coffee took first prize, machine-dressed material being second, but the latter only suffered from a slight colour-defect. The Protectorate has established a reputation in the home market for producing a superior coffee, and the show bore this out in every way.

TEA FROM SEED TO CUP IN SOUTHERN INDIA.

(By Thomas Brown, Glendale, Coonoor.)

XVIII.

Plucking.—This operation is performed every seven to fourteen days throughout the year, the only periods of a little rest being after pruning. The most general way adopted is to take two leaves and a bud, the bud being considered a leaf only when *full open*. Single leaves, without a bud, known as banjy leaves, may also be picked when tender or, if hard, picked-off and cast-away, as this prevents the formation of blossom buds in a measure and stimulates the bush to fresh effort for the production of leaves. The operation is performed with both hands by the cooly. Little children are more expert at this work than women, but are apt to pluck everything that they can lay hands on. The average for a woman is 12 pounds, but as much as 50 pounds are brought in by many of the pluckers in the best months of the ... April and May.

Contract Plucking—is not advisable, except for a short ... with a rush of leaf on, when the rate paid should not ex... 2 pies per lb. It will be found that so little leaf is plu... in the cold months that a considerable margin is neede... work out to a cost of 3 pies per lb. (including maistries) ... the year.

For fine Teas—to run to an average on the London Ma... of a shilling and over, great care in plucking is nee... Where the third leaf is large, or the stalk long, one leaf ... bud only must be taken. The time between one flush ... another must never exceed seven days. The leaf must be sen... to the withering sheds *every hour*, where they must be ... mediately spread, in, if possible, a temperature not exceed... 70°. The bush must be allowed to make very full grow... Single leaves must be thrown away. The women should ... compelled to use baskets and not allowed to gather the lea... into their cloths, as the smell of these, and the heat of the bo... will damage the delicate aroma. The leaf must be snapp... off (plucked) and not pinched by the nail. Care must ... taken that no crushing in the hands takes place ; for, o... there is injury, oxidation starts, and spoils the make. ... much as regards the plucking for fine teas, the manufactu... will be dealt with under its proper heading. It may, howev... be here again remarked that it is impossible to make ve... fine teas of small, low, *hair-brush* China bushes. The grow... must be full, free and luxuriant, the produce taken bei... one-half of what is possible with ordinary treatment. ... the Nilgiris, about 200 pounds per acre is all that can ... depended on if quality be aimed at off pieces that would yie... double if quantity is worked for. It yet remains to ... proven that quantity and quality can be obtained. All t... efforts so far made within our knowledge having led ... similar results.

Level Surfaces—are obtained by continually breaking bac... leading shoots, and at times cutting out water shoots (*e.g.* ... gormandizers, the latter being done by the maistry in charg... of the party who should always carry a knife.

A new Style—of plucking has recently been adopted o... some estates with, it is stated, very good results, the produc... being very much increased. This is plucking only a leaf an... a bud for the first three months after pruning, leaving three ... four full leaves upon each stalk that is plucked. For the nex... three months, two leaves and a bud are taken, leaving mostl... two full leaves on plucked stalks ; and for the third thre... months plucking down to what is called the *fish leaf* (*i.e.*), th... pilule found on each stalk. The first three months are los... after a low prune usually. At the end of the season a ligh... prune follows.

Heating of Leaf—in baskets on the field must be most care... fully guarded against. The leaf should be frequently turned ... over and the baskets left under the shade of some tree. ... the leaf heats in the baskets, it changes its color as in oxidiz... ing, and never makes good tea. It in fact gets finally over... oxidized. It must be borne in mind that injury of the lea... immediately starts fermentation, unless the leaf be quickly ... spread in a cool place. It seems desirable to have the lea... brought into the withering sheds as soon as plucked and ... spread at once on the racks to attain best results, but this ... plan is expensive and very troublesome.

Mode of Plucking—helps quality, but we doubt very much its adding to the produce per acre. Given good soil and ordinary care in plucking, and a large yield, whether the one or the other system be adopted, will be the result. The one essential point is not to deplete the bush of its leaves after a heavy prune. Attention to this point being given, you may pluck anyhow, (*i.e.* with patent shears if you like), and you will secure your quantity, and your bushes will look healthy and full at the end of the season. On poor soil, however, with all care, the bushes will get full of red spider and look miserable with all care in plucking.

During Droughts—great care must be exercised to pluck only a few leading shoots and to allow the bush to make growth. Any attempts to force the bush to flush, by hard plucking, will ruin its power of flushing when rain does come. The object should be simply to preserve an even plucking surface.

Root Suckers—make wretched tea. The roll never colors, however much it is coaxed. These are better left to grow-up to the level of the bush before being plucked. The strongest shoots thus have a chance, too, of destroying the weaker mass, and thickening out to form good wood for future seasons.

The famous Maziawattee—yield of 1,200 to 1,400 pounds of made tea per acre has certainly not been the result of any particular system of plucking, and, if good results have followed the new system now advocated, the yield would have gone up considerably. Different sytems of pruning in coffee do not produce wood : that result has to be attained by the application of certain kinds of manure and needs favourable weather as well. A few years back some estates plucked

Two to three coarse Leaves—below the two leaves and a bud ; but it was found that the yield in place of being increased was lessened thereby. See Dr. Watts' Work on Tea, paras. 254 to 258. This was the system followed here in 1881 to 1883, and we were the first to stop it, and to follow the more rational system of two leaves and a bud. The following extract from a letter, dated October 1893, will show how firmly planters adhered to their old ways :—"You have again and again said it does not pay to make Congou. I don't agree ; but I wish you to give it a fair trial for the next two weeks. I want you to pick coarse three leaves even as well as bud and after half an hour's rolling pass through roll sifter to take out the fine tea and thus manufacture a lot of Congou" In 1881 to 1883 the maistry always asked for orders as to "How many Congou leaves to take, 2, 3 or 4." With the stopping of this system, the yield immediately doubled and the quality improved, so that progress was by leaps and bounds ! We have here fields varying in yield from 200 to 500 pounds per acre, on all of which the same system of plucking is followed, *viz.*, two leaves and a bud, while, on adjacent estates, where great care in plucking is exercised, off fields that ought, in our opinion, to yield 500 pounds per acre, no more than 200 has been obtained for the last ten years. We have this year a field of 8 acres (on a flat, formerly heavily manured for coffee, and upon which there has hardly ever been wash), which promises to yield over 600 pounds per acre this season. This with the same system of plucking. The field is young and had its first low prune in August 1898 only. A small field of hybrids, manured with cattle dung, has given 750 pounds per acre. The careful watching and keeping of records confirms us in the opinion that not much is to be gained by elaborate, expensive and worrying styles of plucking. Some system, readily understood and followed by the women, is needed and nothing so far has beaten the two leaves and bud style. Even with this rough-and-ready system, the

Bushes choke up—with too many buds upon healthy pieces, and a good deal of leaf has to be broken back and thrown away to allow light and air (acting upon a limited number) to bring up healthy, full flush.

NOTES.

Rogivue & Co., Ld. Mr. Alfred Ames has now joined this Company and become Director for Switzerland.

Calcutta Tea Sales. The average of the last tea sales was 6 annas 2 pies. There will be no further sales until the 24th instant, owing to the holidays.

Depreciated ! Latest cable quotation from London for Mysore average (B) size Coffee is 45s. per cwt. Apparently India is drawing ever closer to Brazil.

Liptonia. Asked to favour an American audience with a song, Sir Thomas strives to remember the words of an old song, and murmurs, "Oh, give to me, oh, give to me, the Cup. . ." Here memory fails him.

Bandong Quinine-factory. There has been a rather serious fire at the Bandong Quinine-factory (Java), and it is not expected that the company will be able to produce the quantity of alkaloid that they had promised to have ready for public sale next January.

Packets for Paris. It is well suggested by a Ceylon planter that packets for the Paris Exhibition should not be all as large as 1-lb. but that ½-lb. and even ¼-lb. packets should be included. As he says, a quarter of a pound of tea is a great deal, in popular French estimation.

Tea for Natives. A good deal certainly has been done of late in popularizing the use of tea among the masses ; but, says a Calcutta contemporary, much remains unaccomplished, and, until Europeans interest themselves personally in the subject, natives are not likely to extend their patronage more than they do at present.

Coffee in North Borneo. In his report for August, Mr. H. Walker, Commissioner of Lands, North Borneo, says of the old Chinese settlement "the Happy Valley" and Agong Agong :—The area of coffee planted is greater than I was aware of, and, although coffee is very low in price, I understand the people are prospering.

The Cameron (Africa) Discovery. Up to 26th August the amount subscribed towards the Cameron Discovery with regard to the prevention of leaf disease was £74-12. The discovery has been published, but recipients of the pamphlet have been requested to keep its contents private until the full reports of Messrs. Mahon, Miller & Co. have been published in the local papers.

The Agricultural Ledger. No. 8 of 1899 treats of the measurement of cattle in Europe, and comprises a summarised translation from the French of M. Paul Cagny's treatise on the Improvement of Cattle in the centre of Europe, and more particularly in the Grand Duchy of Baden, by a system of measurement.

Tea for the Troops. Thus the *I. P. G.* :—A good opportunity presents itself for advertising our teas among the troops about to take the field in South Africa, and as our Generals are fully alive to the efficacy of cold tea and its superiority over beer or spirits to men called upon to undergo more than ordinary exertion, agents should not neglect to push Indian tea into notice.

The Sale of Tea. Mr. A. J. Giles observes in his weekly "Notes on Trade Topics" in the *Grocer* :—There seems to be as keen a competition to do good to grocers by selling them tea with presents as there is among the European nations for the possession of Africa. Whether there will be a ruinous war, as the result in both cases, we shall see ; but we hope not.

The London Tea Market. In their weekly cable of 12th instant to Colombo, Messrs. Gow, Wilson and Stanton reported that the market generally was weak, medium liquoring and broken pekoes showing a slight decline. Fair liquoring Ceylon pekoe souchong was quoted 6¾d., average for the week 8d. Of 29,000 packages Ceylon tea offered 28,000 were sold, and of 47,000 packages Indian 42,000 changed hands. The average price of Indian Tea was 8⅝d.

Colombo Tea Sales. At the public sales of tea at Colombo on 11th instant, about 9,881 packages = 777,316 lbs. were offered, of which about 7,721 packages = 594,612 lbs. were sold. Market was again very firm for all grades except very commonest which were not quite in such strong demand. The *Times of Ceylon* remarks that good invoices were offered from Mocha, Agra Ouvah, Iona, Maskeliya, High Forest, Nonpareil, and Abbotsleigh.

London Tea Quotations. Messrs. Gow, Wilson and Stanton explain to the *Times of Ceylon* that their weekly quotations by cable do not relate to the best grade of pekoe souchong, but to a medium grade, which they describe as "ordinary leaf, fair liquor," and that prices for this grade vary considerably, some being much above 6¼d. while others are considerably lower. They add :—"We think that the grade which we wire out is perhaps a better criterion than would be the average price of all the pekoe souchongs sold."

Coffee in South Sylhet. A South Sylhet correspondent remarks that the weather which suits the tea is equally as favourable to the coffee bush, and says that, as far as he has seen, the coffee in South Sylhet has responded to the favourable season as willingly as our great staple has done. It is ripening off its berries gradually, and, by the end of this month, he thinks, all will have ripened and plucked. No disease has as yet shown itself ; but, of course, that can hardly be expected till the first heavy crop has been gathered.

The Indian Tea Crop. The following telegram, with reference to the tea-crop in the various districts, has been despatched by the General Committee of the Indian Tea Association, Calcutta, to the Committee of the Association in London, *viz.* :—*Assam.*—Immediate prospects fair ; but too much rain in some portions. *Cachar.*—Prospects throughout the district favourable generally. *Sylhet.*—Outturn last month about normal. *Dooars and Terai.*—Immediate prospects fair ; but too much rain in some portions. *Darjiling.*—Estimates of crop not likely to be realised.

Shade for Tea. According to "*Finem respice*" a letter to the *Ceylon Observer* :—The advisability of planting shade amongst tea has become clear to many Ceylon planters, (*a*) to modify "wash," (*b*) open up and improve the soil, (*c*) to break the force of wind, (*d*) to counteract the effect of long droughts, (*e*) to mitigate the attacks of insect and fungoid pests to which unbroken expanses of any single product are always especially liable, and (*f*) to supply timber and fuel ; and (2) the growth of the Para rubber tree is not so dense as to necessitate the lopping of its branches for the sake of tea growing beneath.

Queensland Coffee. The prize for the best all-round exhibit of coffee at a recent show at Cairns, presented by Mr. R. A. Kingsford, has been divided between Mr. A. Street, of Kuranda, and Mr. D. R. Lewis, of Cairns, as the exhibits of both of these persons were held to have been of equal merit. The prize was a sum of £2. 2s. By the way, Cairns is said to head the list by a long way as a coffee-producer, yielding 40,670lbs. out of the total yield for the whole colony of 56,552lbs. In the average yield per acre it stands third on the list, Rockhampton and St. Lawrence occupying first and second places.

Darjiling Tea. The *Planter* does not appear to think that the recent cyclone at Darjiling will have caused any material reduction in the local crops of tea. Our contemporary's conclusion is to the effect that Darjiling gardens, as a rule, stop plucking early, and the bulk of the crop had been made before the storm. Estimating that perhaps 15 to 20 per cent. of the total outturn for the year was still to come, the couple of hundred acres of tea lost or "damaged" will not affect the amount still to be sent down to Calcutta to any really appreciable extent, and there will probably not be the boom in Darjiling prices, that some seemed to anticipate.

The Regulation of Tea Sales. The market for Indian and Ceylon teas is not turning out as a good many seemed to think it would a short time ago, observes the *Canadian Grocer*. It was expected that, when the dispute over the one-pound draft question was settled, teas would be offered at the London auctions in such quantities as to induce lower prices. The cause they were counting upon to produce these bearish results did not put in an appearance, for, as noted in our last issue, a committee of five brokers was appointed to regulate the quantity of tea to be put-up at the regular auctions. This had the desired effect. And now prices, instead of declining, are advancing.

Vanilla in India. *Indian Gardening* says :—A correspondent in Southern India writes to us : "It is the greatest pity Vanilla is so little planted

here in India. It ought to do well planted where coffee is grown and would be a boon to planters when the latter fails. I have been very successful in growing Vanilla in Mauritius." Mr. James Laurie, of the Lungacherra Coffee Estate, South Sylhet, has been experimenting with Vanilla, and has achieved some success. The Vanilla pods on the vines in the gardens of the Agri-Horticultural Society of India, to which reference was made in these columns a short time back, are getting on very nicely; but are not yet quite ripe. When they are, we trust expert opinion will be taken as to their commercial value.

The "Standard" of Planters.

Thus states a Colombo writer:—The standard of Ceylon and Indian planters may have been very considerably lowered by the deplorable expansion of the "creeper-farming" system by which young men with more money than brains, after payment of a handsome premium and being allowed to defray their host's household expenses (and something over) for one or two years in return for the honour of looking after work (to the ruin of the labour-force), have become, in name, at any rate, members of the planting community. But we have still a fair sprinkling of planters left who do not devote half their time to cricket, tennis and football, and who do not prune their cocoanuts and arecas when appointed to the charge of low country estates."

Bulking and Blending Tea on the Gardens.

The *I. P. G* writes forcibly about what it terms "this necessary consummation upon which the future well-being of Indian Tea depends." Our contemporary appreciates the difficulties in the way remarking, for instance, that the universal adoption of bulking will entail the expense of special buildings, for few of our tea-houses have the accommodation to afford space for the operation on the scale we suggest Great stress is laid, however, on the fact that "it is essential that uniformity in quality should be secured, if we are to obtain anything approaching a steady price for our teas—present fluctuations render it almost impossible to forecast prospects:—completely upsetting every calculation and making what should be a steady business one of the most precarious."

Wants.

"We want uniformity in quality, a blend to suit public taste, consignments forwarded commensurate with the stocks at home and, if people can be induced to exercise prudence, a reduction in outturn. There are, of course, numerous other particulars deserving attention, but such only to be discussed at a conference; matters, for instance, as the reduction of the bonus. Quite enough has been written upon the warehouse rates and rigging of markets, we want now prompt, decided combined action, and the sooner all bestir themselves the better for another season, opening as 1899 did would mean bankruptcy for many concerns; the pulls upon tea must be reduced or the whole business will be sponged up by some half dozen large companies to the extinction of the small fry." That is what the *Indian Planters' Gazette* says.

State-aid for Coffee Growers.

A Sub-Committee of the Cairns Coffee Growers' Association, Queensland, recently reported in favour of the establishment of a central drying kiln for coffee. The advantages claimed were (1) ability to dry coffee in all weathers, (2) uniformity in drying, (3) the coffee would dry faster, (4) an earlier market for the coffee, and (5) growers would be able to put all their hands on to picking when it was most necessary. The Association subsequently passed a resolution "That this Association communicate with the Minister for Agriculture, asking him on what terms the Department would advance money for the purpose of forming central drying works." We gather from the report of the proceedings that the Government is prepared to make the necessary advance. It will be interesting to watch the result.

Cocoa in the United States.

It is pretty clear that Cocoa is well in the running with Tea and Coffee for the future business of the United States. The imports of cocoa for the fiscal year ending June 30, 1899, were the largest on record, comparing with the five previous years as follows:—

	Quantity. Pounds.	Value. Dollars.
1899	35,512,364	5,064,703
1898	25,717,404	3,492,033
1897	31,406,612	2,997,866
1896	23,276,597	2,387,078
1895	29,307,048	3,195,811
1894	17,634,779	2,402,382

There was a gain in the quantity of prepared cocoa imported—from 636,564 pounds in 1898 to 926,219 pounds in 1899; but this quantity was only two-thirds as large as the imports were prior to the tariff of 1897. The imports of chocolate in 1899 were also heavier, being 1,124,446 pounds, against 868,905 pounds in 1898, but still nearly 350,000 pounds lighter than before the last and higher duty of 1897 was imposed.

Wynaad Hybrid Coffee.

Forester (who is apparently an Irishman) writes to the *Planter*:—"The new coffee hybrid seems to be a distinct advance upon anything we have; but I have strong doubts as to its being a hybrid at all, although, even if it were not so, it need not detract from its value in the least." However, he also says:—"The main point to be gained in a cross is a more robust and disease-resisting plant, giving better quality and greater quantity than the parent forms. This would appear to all accounts to have been accomplished in South India, and they are to be congratulated on their success. But it will be a mistake if they stopped here, because we have every reason to fear that the disease-resisting qualities of a hybrid are only temporary, and, after a few generations under cultivation, it very likely may lose its resisting power. But as a start has been made at hybridising, there is little fear of its being allowed to die out again, as it is a wonderfully fascinating employment. And by the time the new hybrid shows signs of going to the wall, there will be most likely something far superior ready to take its place"

The Perpetuity of Feebleness by Hybridisation.

Mr. Wm. Paul, of Pauls Nurseries, Waltham Cross, writes to the *Gardeners' Chronicle*:—One result of the recent congress on hybridisation will, I have no doubt, be a large addition to the number of those engaging in attempts to vary and improve the different forms of vegetable life. May I be permitted to suggest, with due deference, that, in all efforts of this kind, the parents chosen, on both sides, should possess, if not a strong, at the least a sound and wiry constitution. How many feeble varieties of florists' flowers, admittedly of great beauty, have been ushered

into the floral world—varieties which it requires the utmost watchfulness and skill to develop fully, and which no amount of watchfulness and skill could keep in health or life over a lengthened period? This production is, we believe, generally, though not always, due to the setting-up of a standard of ideal beauty, in form, colour, &c., and working for its attainment, overlooking the vital point of constitution. How disappointing and disheartening to the ordinary cultivator to have to deal with such puny things! Nature, we admit, free of man's interference, often gives us such, and disposes of them in her own way; but do not let us, by our interference, add to the number whose cultivation gives us more pain than pleasure, but rather strive to lesson it by judicious selection in parentage.

Agricultural Banks in Mysore.

We read in the address of the Dewan of Mysore to the Representative Assembly:—The progress of these institutions was retarded during the year by the plague and its attendant general depression in trade and business. Moreover, the popular belief that Vikari is to be a year of great calamities made the people unwilling to unite for their mutual benefit, and several applications for Government aid to new institutions were withdrawn and others had to be kept in abeyance. The total number of banks receiving Government aid at the close of 1898-99 was 63 against 62 in 1897-98, two new banks having been opened and one old bank (Haniym) having ceased to work during the year. Of the 63 banks, 2 barely did any business during the year. The dealings of the banks amounted to Rs.4,02,288 under Receipts and Rs.4,09,829 under Disbursements. The net amount due to the banks by their members, inclusive of previous years' dealings, but exclusive of interest, was Rs.1,368,617, while the net amount due by them to Government and to depositors was Rs.13,55,471. The Reserve Fund at the end of the year amounted to Rs.21,489 against Rs.14,529 at the close of 1897-98. Twenty-eight out of the 63 banks received deposits during the year, against 20 in 1897-98, and the net amount of deposits held by the banks was Rs.11,240 at the close of the past year as against Rs.5,820 at the close of 1897-98. The members of these Agricultural Banks, who have pledged their united credit, own immoveable property of the aggregate value of Rs.50,41,637.

Planters and the Clergy.

In a recent address the Bishop of Colombo made special reference to the responsibilities of Tea Companies and of individual planters. *Inter alia* he said:—To say nothing of the number, now very considerable, of Christian conductors, tea-makers, and clerks, who are obviously poor men, the European Superintendents, and "sinna durais" are by no means well off. They are not always—it is not surprising—prepared to make much sacrifice in order to contribute to the stipend fund. Perhaps they ought to be; but, if a young man is not as anxious as he ought to be about these things, there is the more reason—not less—why his elders and those who profit by his labours should make provision for him. As things are, the burden of the maintenance of the clergy in our tea districts falls very heavily on a few: generally a few of the senior and married men, whereas, if the proprietors at home and specially the companies would recognize the duty—or, let us say, the wisdom—of contributing a proportion, which would be almost imperceptible per acre, the difficulty would be overcome at once. . . . When I apply, I supposed to be begging—as it is called—either for m or for my colleagues, or my profession; the clergym it is supposed—wants aid; and it is not the busine it is replied—of a public company to support parti clergy. But if it can be made clear that the lea planters and agents regard it, from the point of vie the planter, as a reasonable claim,—if such men show they think that provision should be made by proprietor the spiritual needs of those who live and work upon t estates, as well as for their comfort, their health, their r in illness, their leave, then I cannot but think that the a cation would be successful. I would not ask for subscript to a society: it must be clear that the application comes f a different side, and is not made in the interests of the Soc or of the Clergy, but in that of the Superintendents and t staff. Nor would I suggest that the acreage contribu should be made to any one church in particular, but tha should be credited in the accounts of each estate to religi purposes, and that the agents should assign it to a partic stipend fund, or expend it in a particular way, in view the circumstances of each district and the wishes of e Superintendent. . . Not that I can admit that a Super tendent, whether his proprietors help or not, can justifia decline his own responsibility. He is bound, as a part Christian duty, to set forward, as far as in him lies, worship of Almighty God.

LETTERS TO THE EDITOR.

AN INQUIRY.

Sir,—Will Mr. Thomas Brown, of Glendale, whose inte esting notes on building I have read with much pleasu be kind enough to inform me whether pillars, a brick-and- half in thickness, built of chunam and well-fired bricks (9 4½" x 3"), will be strong enough, spaced 10' apart, to suppo a king-post roof, of 20' space, with a covering of reepers a country tiles? Also whether the outward pressure could sufficiently obviated by bolting the tie-beams to the pri cipals, and the minimum dimensions of the former consiste with safety? Hurst in his table gives 9½" x 4" per a span of 2

Novice.

GENERAL ARTICLES.

NITROGENOUS PLANTS: ACTION OF THE TUBERCLES.

There is an extremely interesting article in the *Rural New York* by Mr. B. D. Halsted, of the New Jersey Experimental Statio showing the action of root tubercles upon leguminous plants th extract nitrogen from the atmopshere. The article is accompani by two illustrations which explain how these tubercles are form but which, we regret, we are unable to reproduce. Mr. Halsted, the course of his article, says:—The whole subject of root tub cles is a comparatively new one, and there is much to be found about it. It, however, seems settled that a close relationship exi between the taking up of the free nitrogen by plants and t presence of galls upon their roots. The majority of plants do n have such root tubercles, as, for example, the cereals, potatoes a the like, while clovers and clover-like plants are generally bearing, when the circumstances are favourable for their [illegible] When a soil is rich in combined nitrogen, the tubercles are mu less liable to from than when the soil is poor in such substanc

The host plant needs to be "hungry" for nitrogen for the full development of the tubercles These galls are produced by micro-organisms closely related to the bacteria; they make their entrance from the soil through the tender cell walls of the younger portions of the roots, and induce a cell growth in the region of the invasion that results in a tubercle. In some unknown way, the tubercle germs are able to lay hold and adapt the free nitrogen for the use of the plant that is bearing the galls.

There is a marked difference between the galls upon the roots of leguminous plants; for example, those of the pea are quite unlike those of the bean. . . . . Those of the beans are nearly spherical and usually most abundant near the base of the stem, and but few are met upon the ultimate ramifications of the roots. The pea galls are irregular and somewhat fan-shaped in outline, and generally distributed along the main or tap root. From the great difference in size, shape and distribution, one might easily think that they were caused by distinct kinds of germ; but there is no marked distinction in the micro-organisms when studied with the microscope. It is true that a germ that has grown upon a certain crop plant is more at home upon that kind of host. In other words, soil extract from an old pea field will produce galls upon pea roots in new land better than upon clover or any other crop.

This leads to a word upon the subject of soil inoculation. The study of the tubercle germs has gone so far that now they are isolated and sold in the market under the trade name of "Nitragin." This is a "starter" in land when the germs are not present; very good results have come from the use of this germ fertiliser. A small bottle of it is enough to make a difference of tons of yield in certain crops, as shown by experiment at the Alabama Station with Crimson clover and Hairy vetch. Of course, soil that contains the germs may be used in the same way, and in some instances, a ton or less of old soil where clover or clover-like crop has been grown, may be spread upon land new to the same crop there to be grown with excellent results. During the past year, in one experiment at this station, I found that soil from old pea land made a striking difference upon new soil, in the larger growth and deeper green color of the pea plants. The yield of pods was also increased. There is a large field for study in these tubercles, and the service they render the foster plant in the securing of a supply of nitrogen. In the June, 1898, number of the *Industrialist* issued at the Kansas Agricultural College, D. H. Otis gives an account of some inoculation experiments. Soil in which Soy beans had grown in Massachusetts was brought to Kansas, and used to grow Soy beans there when mixed with Kansas soil. The tubercles were formed in this mixture, and this Kansas soil was afterward used to inoculate other soils. Mr. Otis says that this inoculation is entirely practicable.

THE DANGER OF OVER-FEEDING IN CULTIVATION.

Mr. Wm. Paul, Paul's Nurseries, Waltham Cross, writes in *the Gardeners' Chronicle*:—

After a pretty wide reading of garden literature during the last fifty or sixty years, I remain impressed with the idea that many of our writers on gardening are not sufficiently guarded in their recommendations of the use of manures. The practical man who knows his business and thinks before he acts is not likely to be led astray, but in these days when so many who have little knowledge of gardening are anxious to make it a hobby, they and their assistants are open to be unfavourably influenced by the too general or too emphatic recommendations of this or that manure. I met with an instance, not very long ago, of a man watering some Rose-bushes with liquid manure from a sewage-pond, which instead of increasing the size of the flowers, as was intended, caused both flowers and leaves to turn yellow and drop off. I have often seen spots of ground on which heaps of manure had lain during winter refuse to grow anything until ridged up and well exposed to the air for a season; if plants and trees were put on them without this intervention, they dwindled and died, poisoned by over-feeding. These, I admit, are extreme cases; but there is a gradual and almost imperceptible poisoning by over-feeding often going on from day to day, year to year, culminating in serious results at last, made manifest by an overdose, or by some peculiarity of the season. It would, perhaps, not be difficult to prove that many of our strains of florists' flowers have been brought into a delicate and tender state through over-feeding, with the view of getting large flowers. Cultivators of these should be wary in this practice; feed liberally [at sufficient intervals], but do not gorge your plants.

It is the same in the vegetable as in the animal kingdom, nutrition does not depend on what is taken into the system, but upon what is digested. I remember the Potato on a neighbouring farm prior to the appearance of the Potato-disease being an easily cultivated esculent free from disease and serious insect attacks, until it was deluged with fresh manure, and its functions of flowering and seeding also arrested with the view of adding to the number and size of the tubers. Then came disease with all its sad consequences This I attributed principally to over-feeding, and I did not come to this conclusion without ascertaining the antecedents of cultivation of the particular crop under observation, and studying the individuals with the aid of one of Ross's best single microscopes.

If a second case in point were needed, one might quote the Hollyhock. Originally, one of the hardiest of biennials; it almost died out a few years ago, after previous years of high cultivation with the view of getting giant spikes and flowers. But numberless are the instances of debility met with during a long life, and which rise to my mind while I write, which it seems most reasonable to attribute to what is called high cultivation, brought about principally by over-feeding.

TEA, ETC., COMPANIES.

The Consolidated Estates Co. (Ceylon):—Pays on the Preference shares a balance dividend of 4 per cent. making 8 per cent.. for the year. On the ordinary shares it pays 5 per cent.; and, besides redeeming Debentures to the extent of £2,266, carries forward £671.

The Duckwari (Ceylon) Tea Plantation Co., Ld.—The balance of profit and loss account, after writing off 10 per cent. depreciation on value of machinery and buildings, is £2,914 8s 4d., which the Directors propose should be applied as follows:—(1) In payment of 7 per cent. dividend on Preference shares, £840; (2) In payment of 7 per cent. dividend on Ordinary shares, £560; leaving £1,514 8s. 4d. to be carried forward next year. The returns of crop have been 277,408 lbs. tea and 10,012 lbs. cardamoms, against 229,670 lbs. tea and 12,655 lbs. cardamoms last season. The large increase in tea is to be attributed to the free use of artificial and bulk manures.

The Alliance Tea Co., of Ceylon Ld.—has declared an Interim Dividend of 3 per cent. on the working to 30th June last.

Scottish Ceylon Tea Co., Ld.—has declared Interim Dividends at the rate of 10 per cent. per annum on the Ordinary, and 7 per cent. per annum on the Preference shares for the half-year ending 30th June last.

Poonagalla Valley Ceylon Co., Ld.—has declared an Interim Dividend at the rate of 5 per cent. per annum (free of Income Tax) for the half-year ending 30th June last.

Burnside Tea Co., of Ceylon, Ld.—has declared an Interim Dividend at the rate of 5 per cent. per annum (free of Income Tax) for the half-year ending 30th June last.

Highland Tea Co., of Ceylon, Ld.—has declared an Interim Dividend at the rate of 6 per cent. per annum (free of Income Tax) for the half-year ending 30th June last.

Bandarapola Ceylon Co., Ld.—has declared an Interim Dividend at the rate of 7 per cent. per annum (free of Income Tax) for the half-year ending 30th June last.

Ederapolla Tea Co., of Ceylon, Ld.—has declared an Interim Dividend at the rate of 6 per cent. per annum (free of Income Tax) for the half-year ending 30th June last.

Kelani Valley Tea Association Ld.—has declared an Interim Dividend at the rate of 6 per cent. per annum (free of Income Tax) for the half-year ending 30th June last.

The Diaygama (New Dimbula) Co., Ld.—has declared a Final dividend of 15 per cent. (making 20 per cent. for the year, against 16 per cent. for 1897-98).

The Nuwara Eliya Tea Estates Co., Ld.—has declared an ad-Interim Dividend of 3 per cent. (same as last year).

Portmore Tea Company of Ceylon.—The Directors of the Tea Company of Ceylon, Ltd., have declared an *interim* dividend of 5 per cent., being at the rate of 10 per cent. per annum, tax free, for half-year ended 30th June.

The Doomoo Tea Company of Ceylon.—The ordinary general meeting of the Company was held on 16th instant at Colombo. The chair was taken by Mr. F. W. Bois.

The Report stated that the quantity of tea received from the two estates was 196,585 lbs. out of an estimated crop of 220,000 lbs., against 205,902 lbs., last year, and the price realised was 42·83 cents per lb. against 43·13 cents last year.

After writing off R2,500 to depreciation account and R2,500 to reserve account, there remains available a sum of R24,787·52. A dividend of 6 per cent. for the year was declared

The Korale Estates Company (Ceylon)—The Korale Tea Estates Company, Ltd., has paid 5 per cent. on account of the Preference shares; and nothing on the Ordinary shares.

PLANTING IN CENTRAL AFRICA.

There are worse places for planters in some respects than British Central Africa, says *The Home & Colonial Mail*:—

Of course capital is wanted, but the labour market is the cheapest in the world, the rate being about three shillings a month—paid in calico. Land is cheap, and will grow anything, and give enormous crops. On the other hand, it cannot be said to be a healthy country. There is a heavy, continuous rainfall for six months, the climate is malarious, and as black-water fever is prevalent, the death-rate is high. Whites fare well; Indian cooks, veritable chefs, are employed. There is no variety in the food, the staple is "chicken," but the game is excellent. Order is kept by a standing army of 300 Sikhs, with white officers. The Duputy Commissioner commands the British Central Afraican Rifles, which consist of two battalions of natives, one of which is at the depôt in Mauritius. The best coffee in the world comes from Nyasaland; it fetches the highest prices, and so does the tobacco. The planters are mostly Scotch. A good deal of rubber is also finding its way through the Protectorate from the Chartered Company's territory north of the Protectorate.

ADVERSITIES IN THE LIFE OF PLANTS.

In the course of a lecture before the Pharmaceutical Society, Professor J. Reynolds Green stated that the phrases "struggle for existence," "survival of the fittest," and others of a like nature, are not easily understood by those who take a casual glance at the book of Nature.

As examples of plants growing under adverse climatic conditions, certain moorland types were described. Moorland is so plentiful in this country that it has been said that it is possible to walk from Ilkley in Yorkshire to Glasgow without stepping off the heather. In such bleak situations, devoid of shelter and of trees, only those plants grow that can withstand extremes of cold and heat, of dryness and damp. The water is so pure, so free from mineral salts, that the nutrition of plants suffers accordingly.

The Ling is particularly successful in coping with these difficulties by developing a marked individuality. It puts forth low, wiry, straggling stems, and possesses deep-seated roots. The special character about its leaves is that they are dry, hard, and evergreen, last for two or three years, and then crumble, but do not fall. Large intercellular spaces are formed; the stomata are deep-seated, and protected by hairs. By these means the Ling secures many advantages: the deep roots cover a lot of ground, while the hard, tough leaves serve to guard the plant from drought, being helped by the protected stomata, which prevent excessive transpiration. Furthermore, the leaves being evergreen, the power of feeding is held in reserve, so that the plant can take advantage of the short snatches of fine weather that occur even in the winter months. Moreover, the chlorophyll-containing cells being arranged all round the central respiratory cavity, or air-space, the plant is provided with every conceivable adaptation for availing itself even of transient gleams of sunshine all the year round. Erica, another moorland plant, possess rolled leaves, thus exposing a small leaf-surface, with hairs on the under surface and protected stomata. Plants so exposed to biting winds economise shelter and re leaf-surface and the above-ground part to a minimum.

Another kind of difficulty with which plants have to contend the

CROWDING OF LEAVES,

which makes it hard to obtain an equal illumination. Since a siderable amount of energy and much food material are used in producing leaves the plant requires to limit their numb whilst, on the other hand, it is advantageous for the plant to rece a maximum of illumination, which entails a corresponding mu plication of leaf-surface. To avoid overlapping a modification ta place in the length of the leaf stalks. For example, Gerani pyrenaicum, a plant growing on waysides and in meadows, ha small axis, and lies almost flat on the ground. The enorm number of its leaves renders the problem of packing no easy ta but it is performed by a co-ordination of the lea stalks, the old being the longest, forming loose rosettes Thus no shading resul while all the leaves are well-illuminated, and in one plane. Ca panula pusilla, growing on the steep slopes of sub-alpine regions, h a similar mechanism. The flower-stalk, rising vertically, be small narrow leaves, which point upwards at a sharp angle, and do not shade the rosettes below, while they obtain an equal illum nation for themselves. By a co-ordination of leaf-stalk and blad the stalk alone is in shadow, and that does not matter. This c ordination of the length of the stalks, the lower being six or eig times the length of the higher, is well seen in Amarantus. Datu and Impatiens. The stems of these plants are elongated, and wh viewed from above the whole plant looks like a rosette. In Datu the small leaves are developed between the larger ones, there effecting an economy of space.

Passing to trees, it was shown how a similar mode of behaviou obtains. The terminal erect branch of Acer platanoides, the No way Maple, shows decussating leaves, *i.e.*, pairs of leaves succe sively placed at right angles, that do not shade each other. Th lower stalks having the advantage in length, form a sort of pyramic while the stalks of each pair are equal in length. On the latera (horizontal) branch it is seen that the stalks of each pair are u equal in length, one being sometimes three times as long as th other; thus the branch exhibits an almost perfect adaptation to vertical source of light. Other mechanisms than co-ordination ma give a similar result, *e.g.*, by a twisting of the internodes, as ma be noticed in Helianthemum, Diervilla, the Hazels and Beeches and other plants. In Helianthemum, the Rock-Rose, the sten being low and flat, some of the leaves twist through ninety degrees so that two rows are produced instead of four. In certain case the petiole twists, in order to bring about a similar result. A further method of gaining a maximum amount of illumination i found, *e.g.*, in Broyonia and Ficus, mosaics being formed by th economical arrangement of unsymmetrical leaves, which appear t be packed into each other. An economy of space is thus effected by utilisation of the irregular shapes of leaves. Atropa Belladonna furnishes a good example of plants whose adjoining leaves are unequal in size The larger leaves are in two rows, and the gaps left between them are filled by small leaves, which twist themselves until they come to lie in the gaps, forming a mosaic pattern. Ulmus is an example of trees that show the same beha viour, in taking advantage of the unsymmetrical form of the leaves.

Besides difficulties arising from adverse climatic conditions, and those connected with the attainment of a maximum degree of illumination with a minimum expenditure of leaf-surface,

PLANTS OFTEN HAVE TROUBLE IN OBTAINING WATER.

The absorption of water is a serious problem in the case of epiphytes, *e.g.*, certain Orchids. The flattened, strap-shape roots which anchor the plant to the surface of a tree, do not derive enough water from the crannies in the bark to supply the needs of the plant. The air in tropical forests—the home of epiphytes—being humid, long roots hang down to absorb moisture by means of a glistening, spongy coating of cells known as a velamen. These plants in this way may obtain from 8 to 13 per cent. of their weight of water, and once obtained it is not readily parted with.

Terrestrial plants sometimes have peculiar ways of dealing with the problem of water supply. The normal course is for the root-hairs to come into intimate contact with the soil, and absorb from it a film of water. When this source is inadequate, abnormal means are adopted. Thus Stellaria media, the common Chickweed, has a ridge of fine, delicate hairs running from node to node. These hairs catch and absorb water when a shower falls by means of an

appropriate mechanism. The common Ash has a grooved rachis, strengthened at the sides, the groove being curved at the edges, forming a channel which gapes open when leaves are exposed on the rachis. Absorbing hairs and glands are found along the groove, and these act as a subservient mechanism for utilising showers by the collection and retention of rain. The leaves of the Aspen (Populus tremula) possess cups with an absorbing surface; the fibro-vascular bundles almost reach the absorbing surface, and so in a shower the plant is well supplied with water. A kind of varnish is then secreted, which swells, and so retains the water.

One of the most ingenious mechanisms for procuring water is possessed by certain species of Saxifraga. A depression in the thick and succulent leaf absorbs and holds water; there are prominences (plugs), and water glands in the hollow, besides openings (water-stomata). Water charged with lime is poured out, and forms a calcareous cake over the depression. In this way water is absorbed, and passed to the gland beneath; this method is common in plants growing in deserts. The Teasel has leaves with sheathing bases, which act as funnels; delicate protoplasmic filaments are said to absorb water from these cups into the plant-body; but this is open to doubt. Insects are sometimes accidentally caught in these cups, and their capture serves as an additional advantage to the plant.

PLANTING TROUBLES IN BRAZIL.

Financial trouble in Brazil is having a serious effect on the coffee industry. The rise in the value of the milreis and the uncertainty of the power of the Government to maintain it paralyses trading in every direction. To achieve the rise, taxation has been augmented wherever the authorities found an opportunity to re-classify goods, so that many importers refuse orders to travellers from pure uncertainty as to what duties might be exacted when the goods arrive. Already diminished Customs returns have to be faced, and as in Argentina the popular opinion favoured a high gold premium, that in the Brazils supported a low milreis value, the producer getting more for his produce sold on a gold basis. The coffee crop is the main dependence of the Brazils, rubber, sugar, and cotton following, but these have of late suffered from diminshed production, while coffee, on the other hand, from the heavier crops of the past three years, has suffered in value until at the present time it is claimed by competent traders that there is no margin whatever for living expenses, and in consequence it is reported that interior banks have an increasing number of mortgages on coffee plantations on their hands, one recently having to liquidate, handing over fully one thousand such mortgages to a Rio bank as security. The crop recently completed proved a million and three-quarter bags smaller than the preceding, and with the dislocation of prices causing poorer returns the outlook for the future of this industry is so involved that competent houses in Santos and Rio have refrained this year from issuing any estimates of the present crop, partly from the uncertainty of the extent of new bearing lands, but more from the expectation of an unknown quantity that may be abandoned compulsorily.—*Home & Colonial Mail.*

HEIGHT-GROWTH IN PLANTATIONS.

Mr. J. Simpson writes in the *Gardeners' Chronicle*:—

The term "height-growth" in forestry is derived from the German. Neither the words nor their meaning have ever had any significance in British forestry practice, and the importance of height-growth as a factor in the production of timber does not appear to have ever been so much as thought of On the continent, on the other hand, height-growth is the first thing the forester concerns himself about after he has planted his trees. Get height-growth, he says, and the rest will come. Height-growth has the same significance as "drawn up," an expression well known to gardeners, who seldom want height-growth in their productions, as that, as a rule, would be against the object they have in view, which is lateral development in trees and bushes and in fruiting plants, crops. The editor may perhaps remember me writing to him a year or two back on this subject, and asking for explanations of a puzzle that physiologists have not yet solved, viz., how trees in crowded woods, dells, and ravines, get pulled up at such an extraordinarily rapid rate compared to isolated trees in the open; and how more timber is produced to a given area in that way than when the trees are grown wide enough apart to develop to their utmost extent? Let me give an example or two. For over thirty years I have watched the gradual filling up of a precipitous narrow gulley with trees, and marked the comparative progress of the trees on the steep sides of the gulley.

At first, when the ravine was planted, a section of it would have appeared like the letter V with the plants (all then about the same size) on each side. But gradually, as the trees grew, the acuteness of the angle of the V grow less and less, owing to the trees lower down growing faster than the trees higher up, until now the tops of the trees are nearly level across the ravine. At the top edge of the cliff the trees are short, and in the bottom tall and cylindrical, and by far the more valuable. We have frequently wanted very long larch-poles for sinking purposes, for minerals, and all the poles have been got from this wood. This will show that the timber is tough and of good quality. The poles are laid over tressels with the long point projecting considerably beyond the last support, and the "spring" of the pole is worked to drive the sinking apparatus up and down, a man working the pole.

Some time ago your well-known correspondent, Mr. Burbidge, sent me a pen-and-ink sketch of a section of a ravine planted with Scotch Firs, near Newry in Ireland, that would have illustrated my meaning well, but a type-writing company lost it, to their cost and mine too. This sketch showed the Firs as tall as masts in the bottom of the gulley, and those at the top, in the exposed field on each side, rough-branching specimens, unfit for anything but firewood, and about half the height of the others. That is height-growth! The Douglas Fire pole at Kew is another fine example of height-growth. It is about 160 feet high, and only just a little less in girth at the top than at the bottom. How a timber merchant's mouth would water over that pole! He could enter his saw at one end and cut one continuous plank out of it 55 yards long, with very few knots. I have twice measured the Douglas Fir specimen at Dunkeld, planted about 1845, and now containing well on for 100 cubic feet, and compared it with the Kew pole, much to the disadvantage of the former, for whereas the first represents a perfect timber tree, the other, from the same point of view, is an abortion of the candle-extinguisher pattern, having every fault that a trunk of timber can have—viz., too much taper, and a multitude of coarse knots over its entire surface. The opinions of the saw-mill man and the forester—as distinguished from the tree-lover—are sadly at variance on such subjects. When the Royal Scottish Arboricultural Society visited a certain estate in Ireland, the proprietor took pride in showing the visitors two favourite trees of the umbrageous type, more limbs than trunk; and was shocked by hearing a timber-merchant, member of the Society, whisper to another, "Two brutes!"

If only the importance of height-growth in forest-trees was better understood, there would be more glens and ravines planted than mountain-tops, and our woods would be dense everywhere. The common Alder grows about 40 feet high in the open, and is a rough tree, but attains to 60 feet and 70 feet in a plantation of the taller-growing Oak and Ash, that pull it up. The Elm is said to double its height or more under the same conditions, and the Birch does the same. The common Hawthorn, as everybody knows, does not greatly exceed the dimensions of a bush in the open field, but I have seen it 40 feet high, with a perfectly straight stem, in an old Oak wood. I left it standing, but it blew over soon after its neighbours were felled. The height-growth of all plants as well as trees is influenced by the same conditions. About twelve years ago I planted a long plantation of Firs and other species on very rough ground, where Brambles, Nettles, rag-weeds, Thistles, &c., abounded, and it has been interesting to watch the struggle for existence among the weeds and trees The trees were planted 3 feet apart, and have not yet been thinned. The first few years the weeds and rank grass had to be beaten down to give the trees a start, otherwise they would have been smothered. After they got the lead, however, it was the turn of the weeds to fight for their existence. In many places these have quite succumbed, the ground being now bare under the trees; but the weeds named struggled on for years, and many that I measured lately were from 6 to 8 feet high—a

height far exceeding their usual growth in the open. They were, of course, very attenuated, and could not have held their heads up but for the shelter the trees afforded them. The Bramble, which previously seldom rose above 2 or 3 feet from the soil, I found last year overtopping some of the trees about 14 feet high, struggling to reach the light, just like the Potato mentioned by Dr. Lindley, which, lying in a dark cellar, pushed a shoot some 12 feet long, till it reached a hole in the wall, where the light came through. The common Bracken, however, beats all other plants for asserting itself in a crowd. I have seen it on the bleak hills of the Isle of Man, not exceeding 6 or 9 inches in height; but hereabouts it keeps pace with young plantations for years, if it can get the end of a frond out to the light. Fronds 7 and 8 feet long are common in the woods, and we once found one 12 feet long in a thicket of underwood. It was tied to a rail and taken care of as a curiosity.

A belief exists among some foresters that girth is sacrificed to height-growth when the latter is prolonged, and it is that notion that has led to such severe thinnings in this country. No doubt the drawing-up process may go on too long, but it is surprising to see how tall all species of trees are allowed to grow in German forests with exceedingly slender stems, and yet become good, thick trees before the end of the rotation period. We do not look close enough into the question of increment in our forestry practice, or we should not be so nervous and generalise so much. So long as a tree lives and has a healthy top, however small, a ring of new wood, however narrow, will be added to the trunk annually; and it is a very narrow annual ring indeed that does not produce a measurable quantity of timber over a tree of fair size. One-sixteenth of an inch to the girth is not much, apparently, but the layer goes round the tree, and over the whole surface of the trunk it means a large addition to the bulk. The telegraph-poles on the highway, and the scaffold-poles we see set up in the streets might read the forester a lesson. Mark their proportions: the 30 or 40 feet telegraph-pole, about 9 inches in diameter, is nearly as thick at the top as the bottom; some are so nearly cylindrical in shape, that the untrained eye can hardly tell the thick from the small end, yet these poles are only part of one tall tree, nearly the same girth throughout, not very old, that never had more than a small tuft of branches at the top to carry on elaboration and growth; and a close examination of a section of such a pole will show that the annual rings are of fair measurable width, and very regular.

The extent to which height-growth is influenced by situation is most frequently noticed by those who have to practise in an undulating country of hill and dale. The difference in the height of the trees and length of bole in different situations, not as regards height above the sea, but only so far as relates to the configuration of the ground, is very remarkable. Even a mere depression in the ground makes a difference, and a marked one.

Not long since I had to value and sell nearly 20 acres of Larch, growing at an altitude of about 1300 feet. The ground was very poor, and consisted of a series of hillocks or mounds, so artificial-looking in shape as to suggest that they had been raised by the hand of man. Both the heights and the hollows were planted at the same time—about seventy years ago; and when I valued them standing, the average dimensions of the trees were about 6 cubic feet, yet the trees ran from 1 foot up to 23 feet, according to the position An average of the two extremes would have given 12 feet as the general average, but what pulled the average down was the number of stunted short trees that grew on the high and exposed knolls, these seldom exceeding 1 ft. or 1½ ft., and a careful average had to be taken in every part of the wood. The winding narrow gullies everywhere held the best and tallest trees, some reaching a height of 50 feet where they were drawn up. The total quantity of measurable timber estimated in the lot was 36,000 feet, or a little under 2,000 feet to the acre all over, and it fell just a little over the estimate, the most of it going to one consumer for pit work—for about 1s. per foot delivered, the road being bad and long. Roughly speaking, the trees in the gullies would average about 9 cubic feet, and the poor ones on the high ground about 3 feet, a difference due not to soil, but to the comparative shelter afforded in the different positions, and the pulling-up process—the height-growth. The wood had never been thinned, and the tall trees varied greatly in girth. All were about the same height, but while some did not quarter-girth more than 3 inches in the middle, others would girth double that and more, showing that the height-growth was not due to shelter alone, but to their being drawn up in the struggle to reach the light.

OIL OF CARDAMOMS.

Mr. E. J. Parry, B.Sc., F.I.C., writes to the *Chem... Druggist* :—

The chemistry of oil of cardamoms is in a very hazy cond... owing to the fact that those who have reported on the su... rarely state what they mean by "cardamoms." The most r... figures for the oil are those given by Schimmel in the Repo... April, 1897, where it is stated that oil of cardamoms (Ceylon) ... sp. gr. 0·895 to 0·910, and an optical rotation of − 12° to + 13°... of Malabar cardamoms is described in the Report for October, ... as being much higher in price, and therefore unable to com... with the commercial oil. The seeds are described as being dif... to obtain, and the oil as having a sp. gr. 0·943 and an optica... tation of + 34°52′. Haensel in his 1896 report, in commenting ... a cardamom cultivated in the Cameroon country, contrasts ... physical properties of the oil from it with that of Malabar ca... moms, thus :—

	Malabar	Cameroon.
Sp. gr. at 15° C.	0·9338	0·9071
Opt. rot. in 100mm.	+26·0	−23·5
Refract. no. at 25° C.	54·1	62·5
Index ref. at 25°C.	1·4612	1·4675
Iodine no.	123·7	152·1

"One volume of Malabar cardamom oil," he adds, "is not q... soluble in 45 volumes of 60-per-cent. alcohol, and one volum... Cameroon cardamom oil is not quite clearly soluble in 250 volu... of 60-per-cent. alcohol."

These expressions of opinion serve to show that distillers take ... oil of Malabar cardamoms as their standard, but it is not uncha... able to suppose that the more abundant and, on the whole, chea... Mysore variety is used for distillation-purposes. Anyway, ... experience with the commercial oil did not fit in with either ... these records, and I wish to satisfy myself as to the relative diff... ences, if any, between oil distilled from Malabar cardamoms a... that from Mysores. I, of course, refer to these varieties as cu... vated in Ceylon, which almost exclusively come to Europe, the or... direct imports from India being a portion of Malabar and a f... amount of Mangalore cardamoms, which are used, I am informe... as a spice for special purposes.

Ceylon-Malabar cardamoms and Ceylon-Mysore cardamoms co... into the market as the whole fruit, but large quantities of the se... freed from the pericarps are also imported and sold. Whether t... latter are bought by distillers or not is a question which did n... come within the present inquiry, which had solely for its obje... determination of the properties of the two oils, and identity w... best ensured by purchasing the entire fruit. These were obtain... from London drug-brokers who were able to positively guarant... the same. The seeds were distilled for me by Messrs. Evan... Sons & Co., of Liverpool, whose courtesy I have to acknowledge.

The Ceylon-Malabar seeds yielded 1·3 per cent of oil, and th... Ceylon-Mysores 2·6 per cent. Both were bright yellow liquid... whose odours were scarcely distinguishable. The sp. grs. an... optical rotations were as follows :—

—	Sp. Gr. at 15·5°	Optical Rotation at 16° (100-mm. Tube)
Oil of Malabar cardamoms ...	0·9418	+40° 41′
Oil of Mysore cardamoms	0·9418	+46° 39′

These figures are in fair agreement with those given for Malaba... oil, but in no way resemble those quoted by Schimmel for Ceylo... oil, which I do not at all understand.

The oils were soluble with a slight opacity in 40 to 45 volumes o... 60-per-cent. alcohol, agreeeing with Haensel's oil, which, however ... has a much lower rotation.

I find little difference between the two oils. On distillation a... ordinary pressure the oil, which is very rich in esters, in both case... decomposes partially, and a considerable quantity of free acid distil... over. According to Weber (*Annalen*, 238, 89), formic and aceti... acids are found in the distillate. Acetic acid is undoubtedly th...

hief acid constituent of the esters, but I am unable to confirm the resence of formic acid. If it is present, it is only in faint traces. On distillation under reduced pressure the earlier fractions (the oiling-point rises gradually until 50 per cent. has distilled over) ontain cineol, but only to the extent of 5 to 10 per cent. of the oil. This figure is the result of an approximate estimation by means of hosphoric acid. The earlier fractions also contained one or more erpenes, amongst which I identified limonene. Weber states that erpinine is also present, but I was unable to identify this hydrocarbon, nor could Schimmel find it in Malabar oil; and as it easily forms a vell-defined nitrite when present, it cannot exist in an appreciable quantity. A small quantity of terpineol is present in both oils, and s easily identified by its phenyl urethane. Schimmel states that t is an optically active modification, but I had not enough oil to examine this. The terpineol comes over with the fraction obtainep t 160°-170° C. at 18mm. The nature of the alcoholic constituent f the greater part of the esters requires further elucidation.

From the economic point of view it will be seen that Ceylon-Mysore cardamoms are preferable to the Ceylon-Malabars for distillation purposes, as they give the larger yield.

THE COST OF MANURING TEA.

A proprietary planter sends the *Times of Ceylon* a practical statement on this question, as follows :—

I consider the statement that the cost of manuring has been reduced by half is substantially correct, at any rate as regards this district—which, however, you need not name. Manuring used to cost, say, R60 per acre, and most men are now spending R34 to R35. My expenditure is even less than 50 per cent. Mr. Pett recently asked whether the saving was in the cost of the manure, or in the application. As application, generally speaking, costs R7·50, the saving is in the material. Mr. Pett says there is little difference in cost whether you fork or apply otherwise. Now if you cut holes and bury prunings, etc., the cost will be close on R15 per acre (mine cost me R13·45), but if you fork manure in it can be done for R3 per acre Generally manure is applied in half circles round the tree, holes cut 6 inches deep, and the cost is the figure I have named above (R7·50). If the tea is planted 3 feet by 4 feet, an acre should have 3,630 plants, but roads, drains, &c., will take off a good deal, and 3,000 plants is about it, without vacancies. Thus if the manure recommended is 6 cwt, per acre or 3 oz. per tree, this quantity which on paper is equal to $3\frac{1}{3}$ acres, in reality is enough for 4 acres as nearly as possible. Take R34 against R60, and you save 44 per cent. practically speaking $\frac{1}{2}$. I have altered application to suit different parts of the estate, but the majority is forked in at 250 trees per coolie. Say R4 per acre. I send you my figures from my books as proof :—

(*August Consignment.*)

	R.	C.
Mixture in Colombo	330	00
Less 5 per cent.	16	50
	313	50
Mixing Manure	2	00
Transport to Station and rail	44	52
	360	02
Transport from Station to Estate	19	24
	379	26

4 tons cost R379·26; 1 ton cost R94·81; 1 ton equals 4 acres.

1 acre costs	23	70
1 acre application	4	00
Total cost per acre	27	70

The next lot of manure cost somewhat more, but the percentage contained is more, therefore it will take less manure to do an acre, and works out at very little more. I increased the basic slag for gray blight :—

(*September Consignment.*)

	R.	C.
6 tons manure cost...	540	00
Less 5 per cent	27	00
	513	00
Mixing, etc.	4	00
Carting and rail	66	78
	583	78
Transport to estate	28	86
	612	64
6 tons cost R612·64; 1 ton cost R102·10. 1 acre cost ...	25	52
Application	4	00
Total cost per acre	29	52

One lot cost R27·70; one lot cost R29·52—Average cost R28·61.

LONDON CHARGES OF TEA COMPANIES.

Under this head, the *Investors' Review* is publishing a series of articles. We give the first of these, taken from the issue of September 16 :—

There is little doubt that the tea-grower is feeling the pinch of hard times rather severely. Under ordinary circumstances such a development as the rise in the Indian exchange from 1s. $0\frac{1}{2}$d to 1s. 4d. per rupee, with its concurrent advance in the cost of production in India and Ceylon, would have been accompanied by some improvement in the European price for tea that would have served as a mild offset to the increased expenditure of the planter. The mania, however, for extensions some years back has quite put this natural remedy out of the question, for the knowledge of the enormous area of tea-plants coming to maturity, combined with the larger quantity of tea sent to market, has the effect of preventing any recovery. Consequently the average price of $8\frac{3}{4}$d. per lb. for last season was no higher than the average price obtained when the rupee was at its lowest, although last season was favoured by a little "boom" in the spring as a result of the accidental circumstance that for two seasons in succession the Indian crop as a whole had been poor in quantity. Anyone acquainted with the real position of the industry feels that if only the average yield per acre returns to its normal figure, a further decline in the price of tea must be faced.

This may be taken as an axiom, admitted but not talked about, by tea-growers, and profits having been seriously eaten into already by the course of events, there has been a great searching to find economies that would in some respects guard producers against a further decline in price. Expression of this quest was visible in the campaign against the "draft" which ended so disastrously to the producers, and, the wiseacres of that body having had their turn, some of the practical members amongst the tea-growing community are now beginning to raise their voices. As things stand, where the chief evil is over-production, economies must be looked for rather from within than from without, for the buyer knows he is in the stronger position, and he should therefore be cosseted and soothed rather than talked to with a club. But economies from within, in the shape of stopping leakages in profits, reducing extravagant charges, and rendering unnecessary too much manipulation of the article produced, are just those reforms that lie open to every tea-grower, and the closer he studies the minutiæ of his business the more he will fend off the reduction in his profits. Every decimal point per pound saved in cost of production and charges relating to tea is so much in his pocket, which he is more likely to save than if he attempted to put up market prices against the buyer.

Regarding the outlay on the estates, we cannot speak with knowledge, for that expenditure is of such a special character that experts alone can give an opinion worth having. As a matter of fact, however, we believe it is admitted that as, generally speaking, this expenditure has been steadily reduced, if allowance be made for exchange having risen, salaries have been cut down, more economical forms of working have been adopted, and in other ways

prime cost of production has been lowered. Whilst this has been done of late years, there has been a growing discontent with the burden of London charges, which range from a little over 1d. to 1¾d. per lb., and these charges upon an average price of 8¾d. for Indian tea and 8d. for Ceylon tea appear to constitute an excessive burden. They mean that the Indian planter has 7d. per lb. left with which to pay all working charges close down to the arrival of the tea at Calcutta and evolve a profit for himself, while the Ceylon producer has even less of a margin. Before we go further, we ought to say that in many cases the burden of the London charges is rendered unnecessarily heavy by the management at the estates. If the tea is not properly bulked before leaving the estate so that a break of chests of one grade differs materially in quality, "bulking" has to be conducted in the warehouses in London, and although this charge is said to be unreasonably high, the process necessarily must be costly, for all the chests have to be opened, their contents spread out, and mixed one with the other, in order to produce a tea of equal quality throughout the break. And the warehouse responsible for this work, if it does not do it properly, and it is often not done well, takes care that the samples taken shall not be from the best part of the tea, for in that case the buyer has a remedy against the warehouse, and this bulking in London, therefore, tends to hinder the tea-grower from getting quite full credit for the quality of the tea he sends. Then, again, tea loses in value by being handled, and the weight suffers from the same cause.

Another fruitful source of loss arises to the planter if he does not make the weight of his tares equal, the bare weight, that is, of the packages in which the tea is sent. If this precaution be neglected, the tea has to be "tared" in the warehouse, which means that the chests, or a certain proportion of them, are taken, the tea turned out, and the empty packages then weighed. The charge for doing this is also high, and, again, the loss in weight and damage to the tea in considerable. A saving can also be effected by so packing the tea that it takes less space in the ship, and thus reduces the cost of freight.

To give a concrete example of what attention to these details means, and also in elucidation of remarks to be yet offered about warehouse charges, we give the following examples of two shipments of tea by small Ceylon concerns, and the London charges upon them. The first example is one where the cost was low, amounting as it did to under ·96d. per lb. The names of the estate and of the ship are quite fictitious, although every other detail is copied with strict accuracy:—

ROTALE ESTATE CROP, 1899.

Report on Outturn of 113 Packages Tea ex *Oceana*.

Averages:—

		d.	
10,524 lbs. sold, grossing £319 11s. 1d.	=	7·29	per lb. gross.
10,640 lbs. shipped, netting £280 9s. 9d.	=	6·33	per lb. net.
116 Loss in weight and charges	=	·96	per lb.

	Equal to per lb. on Shipping weight.
	d.
Loss in Weight—	
Draft at 1 lb. per package accounts for 113 lbs. and the actual shortage is therefore 3 lbs.	
Draft and actual shortage equal 1·09 per cent. on shipping weight	07
Freight—	
Rate, 25s. Meast. 565. Amount, £14 2s. 6d. Equal to 941 lbs. per 50 cubic ft. on shipping weight	32
Dock and scale charges—	
Amount, £15 7s. 1d.	·35
Brokerage 1 p.c., and commission 2 p.c—	
Amount, £9 11s 9d.	22
Remarks—	
All grades passed on an average tare.	
Total charges and loss in weight per lb.	·96

In the above example all grades were passed on an average "tare," so that the tea did not have to be handled before it was sold. The result was that, allowing the 1 lb. per package for tare, the loss shown upon 10,524 lb. in the shipment was only 3 lbs., or nothing.

Turning to another shipment, which passed through the hands of the same agent, but from another estate, we find the result very different:—

BINGOLE ESTATE CROP, 1899.

Report on Outturn of 44 Packages Tea ex *Wakera*.

Averages:—

2,620 lbs. sold, grossing £'03 14s. 2d.	=	9·50	per lb. gross.
2,728 lbs. shipped, netting £91 13s. 2d.	=	8·06	per lb. net.
108 Loss in weight and charges	=	1·44	per lb.

	Equal per lb. on Shipping weight.
	d.
Loss in Weight—	
Draft at 1 lb. per package accounts for 44 lbs, and the actual shortage is therefore 64 lbs.	
Draft and actual shortage equal 3·96 per cent. on shipping weight	38
Freight—	
Rate, 25s. Meast., 124·8 Amount, £3 2s. 4d. Equal to 1,091 lbs. per 50 cubic ft. on shipping weight ..	27
Dock and sale charges—	
Amount, £6 6s. 7d...	·56
Brokerage and commission—	
Amount, £2 12s. 1d.	·23
Remarks—	
Each package tared involving heavy dock charges (tares 14– 18 lbs). Loss in weight is probably due to the same causes.	
Total charges and loss in weight per lbs....	1·44

In this shipment there were only forty-four packages, and so loss in weight from the draft was only 44 lbs, but, as a matte fact, 108 lbs. was lost out of the total amount of 2,728 lbs. ship Some little proportion of this was due to general causes, suc drying on journey and weeping, but the main reason was the that every package had to be tared at the warehouse. The sh age of tea on the shipment thus came to ·38d. per lb., instead of per lb., as in the first example. Taring also added to the w house charge materially, this representing ·56d. per lb, as aga ·35d. per lb. in the first example. The only respect in which Bingole shipment compared favourably with that from Rotale in that it was so packed as to allow 1,091 lbs. of tea to be got 50 cubic feet on boardship, as against only 941 lbs. per cubic of the Rotale tea, the difference representing 05d. per lb in freight charge. The net result was that the London charges the tea from the Bingole estate totalled 1.44d. per lb. as comp with only ·96d. per lb. upon the tea from the Rotale estate. probably the tea from Bingole was not in such good condition selling at the end as that from Rotale.

Whilst, therefore, we are not blind to the faults on the sid the planter and his assistants which contribute to keep the Lo charges heavy, we must confess to a strong opinion that he i some respects unjustly treated. Let us analyse these London penses as set forth in the examples given above. The los weight, after deducting the "draft," is a matter, as we shown, very much in the planter's own hands. Then comes o freight, which is a charge very much outside his control. Frei vary at times from about 20s. to 40s. per ton, and their rise and are governed by many conditions quite outside the tea trade, that trade cannot be expected to receive special consideration f the shipping firms. The examples we give show a freight ra

25s. per ton, and we believe the present charge is 30s. per ton. Next comes dock and sale charges. These are the warehouse charges about which there is so much complaint just now, and finally we have brokerage and commission. These latter embrace the usual 1 per cent to the broker who sells the tea and 2 per cent. to the agents, the latter covering office expenses and secretary's salary, if the concern is a company. The warehouse charge of 35d. per lb. does not look heavy to an outsider, and in the example we have given it is rather low, the average being nearer 40d. per lb. when no special services have to be rendered. When, however, millions of pounds of tea have to be handled in a year, this apparently infinitesimal charge mounts up to a considerable total, and we have good grounds for stating that it is unduly high. Space will not now permit us to enter upon our reasons for this opinion but they shall be set forth in another article.

STATISTICS RELATIVE TO TEA.

The *I. P. G.* gives "A Review of Some Recent Figures," Article No. 1 being as follows:—

Statistics as a rule are not appreciated by the general reader, yet to the student, banker, merchant or trader, they are not only of the greatest interest, but absolutely indispensable. To all connected with tea, the statistics now being regularly pubished are of the utmost value, enabling the producer, importer, dealer and buyer to gauge each the requirements of his own special branch of the business, and thus so to conduct his operations as will best tend to assure their success. In the earlier years of the industry it was greatly handicapped by the want of such statistics as are now regularly supplied—it was more or less a case of working in the dark and by rule of thumb or intuition, rather than on the solid basis of statistical facts. Order has, however, now been evolved out of what was before chaos, and all connected with, or interested in, the industry are plentifully furnished with accurate figures on which to base their calculations without fear of going in any way astray. What those beautiful, musical compositions, "songs without words" are to the musician, so statistics—which may be defined to be "facts without words"—are to the producer of, and trader in, tea. The great advantage of statistics when skilfully arranged either in properly tabulated statements or other appropriate forms is that they show "at a glance" facts which otherwise could only be gathered at the expense of great trouble and labour. Tabulated statistics of any produce are in fact to the producer and trader what a map of any country is to a traveller or student of geography. To all business men—merchants, directors, agents and planters alike—statistics are now a *sine quâ non*, without which it would be simply impossible to carry on the enterprise successfully. All matters connected with tea tend to a system of codification, as witness the amalgamation of a number of small estates into one big concern. It may be thought that we have a plethora of statistics, but such is unfortunately not the case. Although the movements of tea in London, Calcutta and Ceylon are fully given, we are still in the dark (comparatively speaking) as to actual statistics relating to warehouse and dock charges, etc. Although by this week's mail we have received the Custom House rules as to teas bulked in London, and the warehouse charges on tea, we require to be more fully enlightened as to the figures relating to the system in vogue at these centres, and it was owing to the ignorance of figures relating to weighments in the Customs that our Indian Tea Association in London so signally failed in the battle of the 1-lb. draft. The more the statistics we are fully furnished with on all points relating to the tea industry, the more power there will be to our elbow. Statistics are especially and pre-eminently the guiding star of producers, and without them they connot be advantageously placed in a position to fight the battles which are yet before them, and which have yet to be fought and won if the industry, so far as they are concerned, is to be placed on a better footing than its present precarious position. There is certainly a deficiency of figures in the majority of tea companies' published accounts, and it is owing to their paucity that the cash and other statements given are in most instances unintelligible. There is yet a vast field open and ample space for a larger array of figures than we are at present favored with. To cite a single instance, we have no means of finding out what the present season's average is to date for all the teas sold in Calcutta, in spite of the numerous brokers' reports. This may appear incredible, but it is a fact.

Before proceeding to consider the most recent statistics, we would make a note of the following, which are worthy of record for future reference:—

HOME CONSUMPTION OF ALL TEAS IN GREAT BRITAIN.

	Lbs.
1860	76,900,000
1870	117,625,577
1880	158,321,000
1890	194,009,000
1898	235,414,105

HOME CONSUMPTION OF ALL TEAS IN GREAT BRITAIN PER CAPITA.

	Lbs.
1868	3·52
1878	4·64
1888	4·95
1898	5·85
1899	6·00

The above figures are instructive and enable us to form a correct idea as to the progress made in the consumption of tea in the United Kingdom. The great expansion will be more clearly indicated as we proceed.

CONSUMPTION OF ALL TEAS DURING YEARS 1897-98.

	1898. Lbs.	Per cent.	1897. Lbs.	Per cent.	Difference. Lbs.
India	133,430,351	57	124,534,194	54	+ 8,896,157
Ceylon	82,471,745	35	85,493,552	37	− 3,021,807
China, &c.	19,512,009	8	21,372,030	9	− 1,860,021
Total	235,414,105	100	231,399,776	100	+ 4,014,329

Such was the statistical position of tea on the 1st January 1899. The total world's consumption of tea, excluding that in China and some other Asiatic countries, as to which there is no reliable information, may be taken for 1898, according to one of the highest London authorities, at from 600 to 650 million pounds. Of this quantity about three-eighths, 235½ millions—taking the population at 40 millions at 5·85 lbs. per head—were consumed in the United Kingdom, about five-eighths in other countries. In the United Kingdom 92 per cent. of the tea consumed was British grown tea, 57 per cent. being Indian tea. In other countries about 15 per cent. of the consumption was British grown, the balance coming from China, Japan, etc. The manner in which Ceylon vacated ground may appear strange, but there is nothing to be surprised at when we bear in mind her direct over-sea communication between Colombo on the one hand and Russia and North America on the other. The experiment thus made has been a surprising success, and Colombo with constant direct steamers to all the Australian ports also, now holds the key of *all* the chief tea markets of the world. Ceylon has lost no prestige, for although she sent three million pounds of tea less to the United Kingdom in 1898, the account is more than balanced by the seven million pounds increase in direct shipments to other ports. With regard to the great expansion in consumption of our Indian teas, this has been attributed to the great advantages Indian tea gardens have had of being worked with capital from London, the owners of the capital being of course under an inducement to stimulate the use of their tea, while the tea was produced in a British dependency by men whose domestic, financial and commercial relations were cast exclusively in the United Kingdom, where their tea was to be consumed. Things are very different in the other countries which Indian tea is seeking to enter. The consumers of tea there have no relations either of blood or finance with the growers of Indian tea, and have, therefore, no special inducement to spread its use. Entering strange markets without any support but its own merits, it naturally cannot but be expected that the contest for supremacy must be longer in those countries than it was in the United Kingdom, for there the old vested interests in China tea were met by the new vested interests in Indian tea, while in the foreign markets there is no such collision. In some of those markets China tea is supreme; in others Japan tea competes with it extensively; in others again Java tea holds the field. There are still others where tea from any country is not a popular beverage and coffee is in universal consumption. This is the case all over the European continent, with the exception of Russia, and perhaps to a small

extent in Holland, where Java tea is consumed. It has taken over twenty years for Indian tea to achieve the success it has and from this year only a door has suddenly opened for direct shipments to, and direct dealings with, outside ports and markets This has been the most significant feature of this season's operations in Calcutta. With regard to the falling off in the consumption of China tea, whether the importations of China tea into the United Kingdom will be much further reduced can only be treated as an open question. There are qualities of China tea which cannot be rivalled by the tea of India or Ceylon, and it is possible that those qualities will continue to be consumed by those who can afford to pay for them. A certain quantity is also still used for blending with stronger Indian and Ceylon teas. Whether the irreducible minimum has been reached cannot be predicted. Whether it will be found in from 20 to 25 million pounds, or in a much smaller quantity, it is impossibe to say.

Messrs. W. Jas. and Hy. Thomson, in their Annual Indian and Ceylon Tea Report, issued in June last, stated that, according to the Board of Trade Returns, we used at home, or sent abroad during the year 1898—

	Lbs.	Lbs.
Indian	141,000,000	235,000,000
Ceylon	94,000,000	
China, &c.	36,000,000	36,000,000
	271,000,000	271,000,000

and the firm estimated that the amount of tea that should be able to be handled in London during our present season 1899-1900, *i.e.*, up to the 31st May 1900, in London, would be as follows:—

	Lbs.	Lbs.
Indian	145,000,000	240,000,000
Ceylon	95,000,000	
China, &c.	35,000,000	35,000,000
	275,000,000	275,000,000

The population of the United Kingdom being some 40 millions, the estimate for Indian and Ceylon teas has evidently been based on the cansumption being 6 lbs. per head. As stated in a previous article, the actual amount available for export to London this season will probably be 127 million pounds of our Indian tea. There will thus be a shortage of 18 million pounds in the amount that could be absorbed by the home market. In the face of this more than probable fact, now that it has been fairly ascertained that we shall have a short crop of some 8 million pounds, prices should boom. The statement should certainly have a tendency to reduce stock, and such appears to be the case, for according to the latest wire stock on the 1st instant was only 35,574,000 lbs. against 36,059,332 lbs. in 1898. The drop in prices at the last auction sale, held on the 6th instant, can only be considered in the light of a temporary fall, due to a 5 per cent. bank rate at home exercising a blighting influence on business. On the opening sale after the holidays on the 24th instant, there is bound to be a reaction, and there will probably be a very appreciable rise in prices all round.

DISTRICT ASSOCIATIONS.

NELLIAMPATHY.

PROCEEDINGS OF A MEETING held at the Victoria Bungalow, 16th October 1899. Present:—Messrs. J. C. Abbott (*Chairman*), R. de C. Denny, C. Hall, P. W. E. Watts, G. H. Welchman, W. L. Ranking, A. R. Jones, and W. R. M. McKenzie (*Honorary Secretary*).

Roads and Bridges.—Read correspondance with Chief Engineer of Cochin and supervisor's replies.

Resolved—that the Association notes, with great regret, that the Chief Engineer has failed to fulfil his promise to place definite proposals for the repairs of roads before this meeting.

It was further resolved—that the attention of the Dewan be drawn to the deplorable state of the roads and bridges in this District on the eve of the despatch of crop, and that he be asked to request the Chief Engineer to put them into a passable condition.

Visiting Magistrate.—Read Secretary's letter to Dewan asking for the opening of a local court two days monthly.

Postal Improvements.—The Secretary was instructed to write to the Superintendent of Post Offices on the above subject.

Coffee-curing.—Read and recorded opinions of Coast firms.

Medical.—Read letter to Chief Engineer on the subject payment of funds expended by this Association in erecting a cary's bungalow.

Resolved—that the Chief Engineer be again requested to ar for payment of this account, and that copy of letter be s Dewan.

Resolved—that the Sircar be requested to allow the iron-r building in Nelliampathy bazaar to be utilized as a hospital for which there is urgent need, pending the erection of a perm hospital.

Paris Exhibition.—Read Vice-Chairman's letter.

Resolved—that this Association approves of his suggestion an effort should be made to obtain a grant from Governme behalf of the growers of coffee as well as for tea-planters.

Alteration of Rules.—Resolved—that in future five membe form a quorum.

Permanent Chairman.—This question was deferred to the meeting.

(Signed) J. C. ABBOTT,
Chairman.
(„) W. R. M. McKENZIE,
Honorary Secre

TRAVANCORE.

MINUTES OF PROCEEDINGS of a Meeting held at Poonmudi Bul low, 26th September 1899. Present:—Messrs. Cameron, Valent Ewart, Knight, Ross and Stewart. Mr. Cameron was called to Chair.

Office-Bearers.—The following office-bearers were elected for year. Chairman, Mr. D. G. Cameron; Secretary, Mr. R. Ross.

Chairman's Speech.—GENTLEMEN,—As you are aware, the Associa has been more or less dormant during the last two years and li work has been done, still essential matters have not been lost sig of by your Secretary, as the correspondence, files, and letter bo show. No doubt more might have been done by all of us; but absence of any very pressing need did, as it has a way of doi lead to a policy of inaction. It is now felt that this state of m ters should end. A difficulty of our Association, and one th neighbouring Associations are not always ready to recognize, is th of finding a convenient meeting place. We are so scattered, t length of the district being something like 100 miles, that atten ance at a meeting must involve to most men, a considerab expenditure of time and money. Trivandrum has been tried as meeting place, but by no means with unvarying success, and it w a happy inspiration asking Mr. Valentine for Poonmudi, and o thanks are due to him for placing his bungalow at the disposal the Association for to-day's meeting. Poonmudi is the most ce trally situated estate in the district, and, had it not been for illnes all but two or three members would have been here to-day. One the first questions requiring attention is our connection with th United Planters' Association. It is matter for regret that ou subscription is in arrears, and we all feel that the earliest opport nity should be taken to discharge this obligation. The able wor done by the United Association and the value of this work to th whole planting community of Southern India is too well known t you all to need enlarging on. In connection with the subject o bye-products, one of the most important of these appears to b Cardamoms. Being indigenous to the country, it naturally occu to one as less risky than any of those imported from abroa That it has not been taken up before is, of course, due to fisc conditions which, so far, render cultivation with us practically pro hibitive. I am not quite clear whether the revised cardamom rule of 13th July 1899 refer to this district or not, and it will be necessar to ascertain this. In any case, I feel sure that an understandin with Government is possible when this is found to be mutuall profitable, and that both interests are identical. There appears t me no difficulty in reconciling the two interests, and that this ha only to be clearly placed before H. H. Government, to ensure t us fair and equitable treatment. After your Secretary has had a opportunity of consulting with the other Associations in Travancore I hope to see a scheme prepared for your approval and the con sideration of Government. Another bye-product, which I should lik to see taken up, is Pepper, and I hope some one will set a good example with this.

Foreign Markets Fund.—The importance of this has so frequently and so fully been placed before you in planting literature, and i

) universally recognised, that I hope this Association may, in the ıture, as in the past, bear its share in the inevitable expenses. In ıis connection, I would like to refer to the greater interest taken y the Press generally in planting nowadays and to the benefits hich come from a free discussion and ventilation of subjects, pecially of moment to planters. In the old days, planting or plant-ıg-subjects were rarely alluded to in the Southern India press. low, not only have we an organ specially devoted to us, but the aily and weekly press give much of their space to the subjects hat are likely to interest or benefit us.

Roads.—Our wants in this respect are small, as compared with ormer years, but they are none the less important, and I trust H. H. Government will continue to treat these in the liberal and enerous spirit which have always characterized them.

Statement of Accounts.—The accounts having been placed on the able and examined show a deficit of Rs.166-13-0 due by the Asso-iation, exclusive of subscription to U. P. A. for 1898-99 overdue.

Arrears of Subscription.—Proposed by Mr. Valentine, and second-d by Mr. Stewart, that a list of arrears of subscription due by nembers be circulated and called in at date—that the money be laced at the credit of the Association to meet past liabilities and urrent expenditure.

Subscription to U. P. A. for years 1897-98.—Proposed by Mr. Ewart, nd seconded by the Chairman, that the subscription due to the J. P. A. for the year 1897-98 be paid; also that the subscription for 898-99 be paid at rate of second-class associations, and that this ate of subscription be continued.

Secretary's Expenses.—Proposed by the Chairman, and seconded y Mr. Knight, that for the year 1899 the allowances for stationery, ostages, and office expenses be fixed at Rs.120.

Foreign Markets Tea Fund.—Proposed by Mr. Valentine, and econded by the Chairman, that the Secretary be asked to circu-ate a subscription list on behalf of the Foreign Markets Tea Fund, nd amounts collected be sent to the Secretary of the Tea Fund ssociation, Calcutta, as per rates levied by Committee of above und.

Roads.—Proposed by the Secretary, and seconded by Mr. Stewart, hat the Secretary be asked to write and remind the Dewan that the rants applied for have not yet been sanctioned, that these roads re very important to the planting community, and the Association rust His Highness' Government will favourably consider the pplication. The roads are as follows:—

Poonmudi-Rockwood bridle path 7 miles.
Bon-accord-Augusteer District upkeep.
Augusteer-Kotour Tap road upkeep.

Cardamoms.—Proposed by Mr. Ewart, and seconded by the Chair-nan, that the Secretary of the Association put himself in communica-ion with the Secretary of the Peermad and T. D. H. Associations, vith the view to jointly approaching Government to remove the resent restriction on the cultivation of cardamoms on private roperties.

Vote of thanks to Secretary.—Proposed by Mr. Stewart, and econded by the Chairman, that a vote of thanks be given to Mr. Ross for having carried on the business of the Association for the ast two years without any support whatever from those interest-d, and, as the Association has been revived by this meeting, it is oped that the support of the members, so long withheld, will now e given.

(Signed) R. ROSS,
Honorary Secretary, T. P. A.

MARKET REPORT.

By Mail Advices of 29th September 1899.

COFFEE.

The London Commercial Record says:—There is no material hange to report. Ceylon gave way in value somewhat. Supplies f East India were moderate, and although no improvement in rices can be quoted, except for a few colory lots, there has been nore disposition to buy at current rates, and the greater portion of he quantity offered was disposed of. A fair demand has prevailed or Central American, which chiefly sold at about previous prices, old colory lots eliciting good competition. "Futures" have shewn nore strength during the week, and a smart rise of 1s 3d took place n heavy buying, brought about by anticipated smaller receipts, and although there was a slight reaction yesterday prices still shew some advance, closing as under:—

London ...	... Santos ...	December delivery	...	26s. 3d.
New York	... No. 7 Rio...	„	„	... 4·60 cents.
Hamburg...	... Santos ...	„	„	27 pf.
Havre ...	... Santos ...	„	„	... 32¾ francs.
Holland ...	... Good ordinary Java ...	...	...	... 26 cents.

Imports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
Tons ..	24,014	19,415	40,550	38.880
	Home Consumption.		Export.	
	1899.	1898.	1899.	1898.
Tons ...	12,094	10,566	18,873	18,591

The preceding figures exhibit— Tons.

In the Imports an increase this year of		..	1,670
Home Consumption an increase of	...	..	1,528
Export an increase of...	...	...	282
Stock an increase of ...	...	...	4,599

Auctions this week have passed off as follows:—

CEYLON.—17 casks, 4 tierces, 7 barrels, 13 bags sold—*Plantation*, smalls 45s to 48s, low middling colory 78s 6d to 86s, bold 80s to 90s, pea-berry 70s to 86s; *Liberian*, medium brownish 25s 6d.

EAST INDIA.—1,854 bags partly sold as follows: *Naidoobatum*, smalls 30s 6d to 41s 6d, low middling 41s 6d to 43s, common to fair bold 45s to 66s, pea-berry 76s. *Mysore*, smalls 33s to 36s, low middling 33s to 40s 6d, common bold 42s to 52s, pea-berry 45s to 52s; *Coorg*, smalls 43s, low middling 35s, middling 51s, good bold 71s to 74s 6d, pea-berry 44s to 74s; *Neilgherry*, smalls 22s 6d to 32s 6d, low middling to middling 32s to 43s, bold 38s to 56s 6d, pea-berry 35s to 44s 6d.

MOCHA.—173 packages retired.

JAMAICA.—85 barrels 171 bags mostly sold—ordinary brownish to good ordinary greenish 28s 6d to 32s, fine to fine fine ordinary 33s to 38s, middling brownish 45s 6d to 47s, bold ditto 77s 6d, fine small blue 85s 6d, fine medium ditto 107s 6d, fine extra bold ditto 122s 6d, pea-berry 29s.

NYASALAND.—Of 288 bags offered 55 bags sold—smalls 25s to 31s.

COSTA RICA.—2,200 bags mostly sold—smalls 27s to 39s 6d, ordinary 28s 6d to 34s, fine ordinary 38s 6d to 39s, low middling greenish 41s 6d to 48s 6d, middling 57s 6d, good middling 63s 6d to 64s 6d, good bold 75s, pea-berry 34s to 73s 6d.

GUATEMALA.—Of 4,193 bags, about 3,270 bags sold—smalls 24s to 36s, ordinary brownish 27s to 28s 6d, good ordinary 35s 6d, fine ordinary to low middling 37s to 41s 6d, middling to good middling 42s 6d to 47s, bold 49s to 63s 6d, pea-berry 50s to 78s.

VERA PAZ.—Of 393 bags offered 280 bags sold—fine fine ordinary 38s to 39s 6d, low middling to good middling 41s to 48s 6d, bold 45s 6d to 68s 6d, pea-berry 46s to 70s.

NICARAGUA.—227 bags sold—smalls 23s 6d, good greenish colory 51s 6d to 53s 6d, pea-berry 59s.

COLOMBIAN.—2,669 bags mostly sold—smalls 23s to 32s, fine ordinary to low middling 35s to 41s 6d, middling to good middling 42s to 47s 6d, good middling grayish 51s 6d to 53 6d, fine middling 57s to 67s, dull bold 52s 6d, to 66s 6d, fine blue 85s 6d, pea-berry 38s to 75s.

SALVADOR.—504 bags sold—fine fine ordinary to low middling 38s to 39s, bold 45s 6d to 46s, pea-berry 46s.

BRAZIL.—960 bags washed Santos sold—smalls 27s 6d to 28s, medium 30s 6d to 31s 6d, bold 33s 6d to 35s, pea-berry 38s to 42s.

Auctions to-day consisted of 16 casks 4 tierces 8 barrels 2 bags Plantation Ceylon, 390 bags East India, 130 packages Jamaica. 972 bags New Granada, 159 bags Guatemala, 1,466 bags Vera Paz, 1,169 bags Colombian, 24 bags Mexican, 2,081 bags Guatemala, 521 bags Costa Rica, and 960 bags washed Santos. The auctions went off steadily without alteration in quotations.

Receipts in Rio and Santos.

Since July 1	1899-1900. Bags.	1898-99. Bags.	1897-98. Bags.	1896-97. Bags.
Rio	1,205,000	1,013,000	1,444,000	1,091,000
Santos ...	2,751,000	2,116.000	2,543,000	1,830,000
Total... ...	3,956,000	3,129,000	3,987,000	2,912,000
Crop	—	8,772,000	10,461,000	8,680,000

Rio Exchange 7⅛d, previous day 7⅛d.

Havre, Sept. 28.—Santos good average September opened steady at 32f and closed irregular at 32f., December opened at 32¾f. and closed at 32¼f.

Hamburg, Sept. 28.– Good average Santos September opened steady at 26¾pf. and closed steady at 26½pf., December opened at 27¼pf. and closed at 27pf.

New York, Sept. 20.—Closing prices of No. 7 Rio were as follow:—

	Sept.	Oct.	Nov.	Dec.	Jan.
Sept. 27 ...	4·25	4·30	4·35	4·60	4·65
Sept. 26 ...	4·15	4·20	4·25	4·50	4·55

Prices realized at auctions for some of the principal marks of East India:—

MYSORE.

	A	B	C	PB	T
HMB Hoshully Mysore	50-0 bid	40-0 bid	32-6	62-0	29-6
HCS Mysore	47-0 bid	37 0 bid	30-0	47-0	27-0
Mysore ✠ Q	48-0 bid	39-6	36-0	48-0 bid	26-0
RK Mysore	51-6 bid	40-6	33-0	52-0	27-0

	0	1	2	3	PB	T
Totlikhan Mysore ..	48-6	38-6	33-6	—	46-0	25-6
Chaukakhan Mysore ...	41-6 41-0	36-0	33-6	—	—	28-0
Bynabeddal Mysore ...	45-6	37-6	33-6	—	40-0	27 0
Doobla Mysore ...	39-0 38-6	34-0	26-0	—	39-0	—

NEILGHERRY.

	A	B	C	PB	T
Terramiah	53-0	41-0	34-6	42-0	30-6
CA Mootenaad Nilgiris	61-0	38-6	34-6	46 0	30-0
Patycumbay	61-0	40-0	34-6	38-6	30-0
Kotergherry KC	54-0	37-0	36-0	40-0	27-6
W B Nella Kota Nilgiris ..		36-0	32-0	39-0	—

COORG.

	A	B	C	PB	T
Treasure Estate Coorg	50-0 bid	40-0	—	49-6	24-6

NAIDOOBATUM.

	A	AA	B	C	PB
Guynd WPC	66-0	50-0 bid	37-0 bid	32-6	43-6 bid
Barham do.		45-0	35-0 bid	30-6	43-0
Do. do. (cherry)	38-6	38-6	37-0	33-6	37-6
Helen do.	63-0	47-0 bid	34-6 bid	29-0	48-6
Do. do. (cherry)		34-0	30-0	27-0	36-6
Suffolk 2	70-0	62-6	41-6	32-0	48-0
Do do. (cherry)		37-6	35-6 35-0	30-6	36-0
Naiduvatum T		--	28-6	—	—
Do. do. (cherry)		—	24-0	—	—

TEA.

Indian.—Rather less was offered at public auction, viz.:—44,600 packages, against 48,900 packages in the preceding week and 45,900 packages a year ago.

A firm tone prevailed particularly for good liquoring teas of all descriptions, which in many cases again ruled in favour of sellers. Common to medium leaf kinds with poor cup did not show much change, but brokens under 8d per lb. were freely taken up, fractionally higher rates being occasionally paid. Fine Pekoes and Broken Pekoes were in request, and together with finest tippy lines mostly fetched very full quotations. Among the best results were Assam:—Digaltarung Estate, 108 packages, 1s 1½d; Doom Dooma Co., 923 packages, and Makum Co., 113 packages 1s 0¾d; Borjulie Estate, Emp. I.&C.T.Co., 187 packages, Sonajulie Estate, Emp. I&C.T.Co., 118 packages, and Subansiri Estate, J. (A.) T.Co., 246 packages, 1s 0½d; Kuttalgoorie Estate, 118 packages, Lattakoojan Estate, A.T.E.Co., 299 packages, Mijica Jan Estate Maj.T.Co., 271 packages and Sealkotee Estate, 150 packages 1s per lb. Darjeeling:—Poo long Estate, 95 packages 1s 1¼d; Chong Tong Estate, A.T.E.Co., 85 packages 1s 1½d; Balasun Estate, D.C.T.Co., 155 packages 1s 0¾d; Moondakotee Estate, A.T.E.Co., 71 packages 1s 3¾d; Lebong Co., 898 packages 1s 1d per lb.

For 34,500 packages on Garden Account 8¾d per lb. was obtained, compared with 8¾d per lb. for 36,400 packages, and 9½d per lb. for 34,300 packages in the two former seasons.

The quantity submitted on Importers' account in September is:—

1899.	1898.	1897.
175,300 pkgs.	169,800 pkgs.	195,800 pkgs.

Ceylon.—Catalogues comprised 27,300 packages, contrasted with 26,900 packages on the 19th instant, and 23,100 packages at this period of 1898. There was a brisk demand and spirited bidding for nearly all grades at fully previous to slightly improved prices, the market being assisted by the desirable quality of a large portion of the shipments recently to hand. Ordinary Pekoe Souchongs and Pekoes were here and there ¼d per lb. dearer. Broken Pekoes with attractive flavour often brought ½d per lb. more on the lower to 1s per lb. on the finer parcels. Choicest Broken Orange Pekoe commanded enhanced figures, notably—Talawakelle, 1s 7¾d; Ingestre, 1s 6½d bid; Henfold, 1s 6d; Cannavarella and West Holyrood, 1s 4¾d; Hauteville and Lippakelle, 1s 4½d; Concordia and North Cove, 1s 4¼d per lb.

The average is 8¾d per lb. On the 21st instant, it stood at 8½d per lb., and 8⅛d per lb. in 1898.

Totals printed for the month are:—

1899.	1898.	1897.
114,300 pkgs.	86,500 pkgs.	89,600 pkgs.
(Avge. 7⅞d per lb.)	(Avge. 8¼d per lb.)	(Avge. 8d per lb.)

Java.—Only 418 packages of direct import passed the hammer prior values being well maintained. Slightly over 1,200 packages are advertised for the 5th proximo.

September sales included:—

1899.	1898.	1897
3,700 pkgs.	5.700 pkgs.	2,700 pkgs.
(Avge. 7d per lb.)	(Avge. 6¾d per lb.)	(Avge. 7½d per lb.)

Deliveries—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns continue to be satisfactory, viz.:—

	Lbs.
From 1st to 26th Sept., 1899	16,021,75
Do. do. 1898	14,496,65

During the week the following have been printed for sale by public auction:—

	Sold.	Withdrawn.	Total offered
	Pkgs.	Pkgs.	Pkgs.
India	41,114	3.512	44.626
Ceylon ...	25,105	2,165	27,270
Java	418	—	418
Total ...	66,637	5.677	72,314

Also 562 packages from second hands.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report dated September 29th, 1899, says:—

Quantity brought to Auction in London from 1st June to Date.

	Indian.	Ceylon.	Java
	Pkgs.	Pkgs.	Pkgs
1899-1900	413,580	380,512	20,23
1898-1899	380,914	429,875	15,64

45,089 *pkgs.* Indian
27,680 ,, Ceylon
418 ,, Java
} Total 73,187 packages were offered in public auction this week.

The high prices ruling for the lower grades of all Tea during the early part of this year had the natural effect of checking the export of Indian and Ceylon Tea to many of the foreign and Colonial markets. The inducement was rather for these markets to dispose of their stock at the profitable rates then obtainable, and to wait the opportunity of replenishing supplies which was pretty sure to come in the future.

Consequently figures showing the quantity of Indian and Ceylon Tea imported into markets outside the United Kingdom during the first six months of the present year are quite useless as an indication of the progress which is being made in these markets. In a circular issued a fortnight ago we printed these figures for purposes of general information, and in the following table the corresponding figures for the market of North America are shown.

Indian and Ceylon Tea taken in North America from 1st January to 30th June.

INDIAN TEA.

	1899.	1898.	1897.	1896.	1895.
Re-exports from U.K ...	1,112,573	1,106,886	1,175,979	623,317	819,560
Transhipments *viâ* U.K.	180,356	677,917	1,890,940	1,115,981	338,275
Direct expts. *viâ* China.	96,183	54,282	71,023	*not stated.*	
Direct do. from Calcutta	309,262	116,854	*nil*	*nil*	*nil*
Total lbs. ...	1,698,374	1,955,039	3,137,942	1,739,298	1,157,835

CEYLON TEA.

	1899.	1898.	1897.	1896.	1895.
Re-exports from U.K.	1,437,994	1,965,295	2,199,930	1,460,044	1,307,406
Transhipments *viâ* U.K.	161,294	876,124	982,759	564,790	383,127
Direct expts. *viâ* China	469,638	453,021	259,705	86,603	124,207
Direct do. from Colombo	1,367,614	995,964	*nil*	*nil*	*nil*
Total lbs. ...	3,436,540	4,290,404	3,442,394	2,111,437	1,814,740

These figures appear somewhat disappointing at first sight, but are not really so when the above facts are taken into consideration. It is a very encouraging feature that a large amount of buying took place in outside markets as soon as prices receded from the higher rates current last spring, and that a considerable business has since been transacted for several of these outlets, a strong demand from many quarters still continuing.

INDIAN.—Prices continue to harden and quotations for all grades are again slightly dearer, Teas for price being in special request. A glance at the following table giving the average prices of the different districts from 1st June to date, shows Assam to be nearly ¾d. per lb. behind last year, while owing to the dearness of Teas of the lower grade Cachar and Sylhet are more than 1d. ahead.

Some damage is reported to Tea property in Darjeeling through floods and earthquake, but full details are not yet to hand. The following averages are worthy of note:—"Poobong," 1/10¾; "Darjeeling Con. T Co. Balasum," 1/4¾, and "Amal T Co. Chong Tong," 1/4.

Week's av. of Tea sold on Garden Account 1899, 34,844 pkgs., av. 8·72d. 1898, 36,459 pkgs, av. 8·69d.

Total Tea sold on Garden Account 1st June to date 1899, 277,385 pkgs., av. 8·50d. 1898, 264,847 pkgs., av. 9d.

CEYLON.—Quotations are again higher, partly owing to the improvement noticeable in the quality of recent arrivals, and partly to the strong competition amongst buyers for all grades. The lower kinds are slightly dearer, while Teas of exceptional quality have been eagerly taken at better prices. The following averages may be mentioned.—"Drayton Est. Co D." 1/1, and "Henfold." 1/0½.

Average for week 8·..7d., against 8·15d. same period 1898.

Ceylon Tea sold on Garden Account 1st Jan. to date 1899, 784,924 pkgs., av. 7·95d. 1898, 872,772 pkgs., av. 7·65d.

JAVA.—The few Javas met with good competition and sold with a very firm tone, attention being attracted by some Djattinangor grown from Assam seed.

Bank Rate 3½ per cent. Exchange on London three months, sight:—Calcutta 1/4 11/32. Colombo 1/4 11/32.

PEPPER.

BLACK.—The market has been dull in tone this week, with business almost at a standstill. On the spot small sales of fair Singapore have been made at 5 9/16d; October-December shipment is quoted 5 13/16d sellers.

At auction on Wednesday 254 bags Singapore were bought in at 5⅝d to 5¾d, also 327 bags Penang at 5⅜d to 5½d. 1 bag Ceylon brought 5¼d per lb.

WHITE.—Is very quiet, and the only transaction reported is a sale of 10 tons Singapore near at hand at 8 13/16d.

At public sale on the 27th instant 20 cases fine Singapore sold at 10½d. 125 bags Penang retired at 8½d. 18 bags Ceylon realised 8¾d for good and 8¼d per lb. for mixed brown and blacks.

GINGER.

COCHIN.—Last week's private business included medium and bold Native cut at 50s to 55s, small cut 30s to 34s, medium and small washed rough 23s to 24s, and Calicut rough at 25s per cwt. Since then there has been a considerable falling away in demand, and sellers are much more in evidence than buyers. 422 cases 2,450 bags were catalogued on Wednesday which huge supply quite destroyed any thought of operating freely which might have existed in buyers' minds. The result was miserably poor, only 74 cases 265 bags selling in the room at easier prices, viz:—plump cut tips heavily limed 25s, small and leaner ditto 24s, good cuttings 17s, mouldy ditto 15s 6d; small to bold bright Calicut rough, in cases, 29s, smaller and leaner ditto, in bags, 26s, medium and small dull ditto 21s to 22s; small and ends washed rough rather dark 21s per cwt.

BENGAL: has been dealt in privately at 21s at which price 87 bags were bought in at auction.

JAMAICA.—22 barrels offered and 7 barrels sold—good boldish washed, part dull 70s, leaner ditto 63s, good medium 62s per cwt.

COCOA.

Auctions on Tuesday were uninteresting, barely 770 bags selling out of 3,600 bags catalogued; what enquiry there was emanated from all quarters, but the demand was soon satisfied without change in prices. Of 528 bags Trinidad offered 355 bags sold at recent values—71s to 73s for good to fine red. 208 bags Grenada found buyers at firm rates—fair red 64s. Of 83 bags Jamaica about 30 bags sold at 62s 6d to 63s for good and 58s for common, or about valuations. 128 bags Puerto Cabello, 35 bags Surinam, 20 bags Colombian, 665 bags African and 10 bags Seychelles all passed the hammer unsold. Of 1,510 bags Guayaquil brought forward barely 100 bags sold at 67s for Machala and 66s 6d for Caraquez, which showed an easier tendency. Of 85 bags Java only one lot of wormy sold at 51s 6d. 315 bags Ceylon offered but only 100 bags sold without change in value—fair to good bold and medium bright red 76s to 82s 6d, small 57s. Privately 200 bags Trinidad sold at 71s to 73s, 100 bags Grenada at 64s, and 500 bags Guayaquil-Caraquez at 64s to 66s 6d, Machala 67s and Arriba 68s to 72s per cwt.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

	1899.	1898.	1897.	1896.
	Bags.	Bags.	Bags.	Bags.
Imports, B P. ...	112,942	112,192	103,360	113,752
Foreign ...	63,944	91,957	65,981	56,142
Home Con., B.P. ...	64,170	80,392	65,466	56,662
Foreign ...	38,158	44,947	44,072	41,335
Exports, B.P. ...	36,339	28,911	37,204	32,011
Foreign ...	20,917	23,908	33,670	22,130
Stock, B P. ...	58,016	62,928	88,565	90,933
Foreign ...	57,443	56,602	48,458	70,218

INDIA RUBBER.

The market for fine Para closes rather quieter, but prices are steady. Further sales of hard cure, old import at 4s 4½d, and new at 4s 4d; soft cure, near at hand at 4s 2½d per lb. At auction to-day only small supplies were brought forward; there was a fair demand, and prices shew little change.

Colombian—9 bags sold, soft white scrap 2s 10d to 3s 1d.

Central American, &c.—49 packages offered and 43 sold, fair to good scrap 3s 0½d to 3s 1¼d, Guatemala tarry slab 2s 3½d, pressed slab and strip slightly mixed 2s 2d to 2s 2¼d.

Mangabeira.—30 packages offered and 9 sold—Santos, soft spongy sheet slightly mixed at 2s 4d per lb.

Mozambique.—327 bags offered and 102 sold—good to fine red ball 3s 5½d to 3s 6d, ordinary to fair red ball 3s 1d to 3s 3½d, unripe ball part soft 2s 2¾d to 2s 7d, sandy pickings 1s 6½d to 1s 7d; fine stickles sausage pressed clean 3s 6d, good ditto slightly sandy 3s 4d per lb. Lamu Ball, fair to fine 3s 1d to 3s 1½d, ditto rather soft 3s per lb.

Assam.—49 packages Penang and 48 packages and 1 case Para retired.

CARDAMOMS.

In better demand to-day at full-up prices. The following rates were paid:—Ceylon-Mysores, medium to bold fine pale, 3s. 2d. to 3s. 6d.; good medium pale, 2s. 9d. to 3s 1d.; small to medium ditto, 2s. 4d. to 2s. 6d.; small pale, 2s. 1d. to 2s. 2d.; small brownish, 1s. 8d.; good splits, 1s. 11d.; splits and pickings, 1s. 5d. to 1s. 6d. Ceylon-Malabar, lean brown, 1s. 9d. to 2s.; and pickings, 1s. 6d. per lb. Seed, according to quality, from 2s to 2s. 6d. per lb.

CINCHONA.

Amsterdam, September 28, 4-49 p.m.:—At the auctions held here to-day, 7,510 packages were offered (against 7,840 in August), of which 7,104 were sold at an average unit of 535c. per ½ kilo., as compared with 625c. in August. The following were the approximate quantities purchased by the principal buyers:—American and English factories purchased the equivalent of 10,204 kilos; Brunswick, 3,992 kilos; the Mannheim and Amsterdam factories, 4,341

kilos.; the Frankforton-Maine and Stuttgart, 4,770 kilos.; and various buyers, 4,479 kilos. The prices paid for the manufacturing bark ranged from 6c. to 61c. per ½ kilo., and for druggists', from 7½c to 64½c. per ½ kilo The tone of the market was steady at the decline.

The Vriesseveen cinchona-bark department at Amsterdam report the shipments from Java from August 22 to September 25 at 1,630,000 Amst. lbs.; and from January 1 to September 25 at 7,772,403 Amst. lbs. In the drug-auctions good thin Loxa quill sold at from 9d. to 10d. per lb., and Huanaco quill at from 6d. to 7¼d; 15 bales of flat Calisaya brought 6d. to 7¼d. per lb., according to damages; 13 bags of Cartagena sold at 2½d. for first-class damages and 3d. for sound.

QUININE.

Lower. The English and German manufacturers on September 23, reduced their quotation by 1d. per oz to 1s. 1d. for 100-oz lots. Howard's list prices are now 1s. 3d. in 100-oz. tins, and 1s. 4d. in vials in 1,000-oz. lots. Whiffen's prices are 1s. 1½d. in 100-oz. tins. Howard's quotations for the more important salts in 1-oz. vials are now as follows:—Hydrochloride 1s. 9½d.; hydrobromide, 1s. 9½d.; hypophosphite, 2s. 6d.; phosphate, 1s. 11½d.; salicylate, 1s. 9½d.; tannate, 1s. 2d.; and valerianate, 2s. 0½d. per oz. 100-oz. lots, in one tin, are charged 4d. per oz. less. The second-hand market has been quiet, and prices have again dropped. The business done this week being mostly for December delivery, at 10½d. to 11d. per oz., and on Wednesday there were sellers at the lower figure. To-day 15,000 oz. reported sold at 10½d. spot It is stated that makers will again reduce their quotation immediately after the Amsterdam bark auctions. Pelletier's brand is quoted 1s. 4½d.

VANILLA.

The bulk of the offerings to-day consisted of Seychelles, new crop, and practically everything was sold at full to dearer rates, the following being some of the prices paid:—Seychelles: good brown chocolate, 7½ to 8 inch, 28s.; 7 to 8 inch 27s; 7 to 7½ inch, 26s., 26s. 6d, 27s; 6 to 7½ inch. 25s. 25s 6d; 5½ to 6½ inch, 24s. 6d.; 4½ to 5 inch, 24s. 6d.; 5 to 5½ inch, 25s. 6d.

(AVERAGE FOR ALL INDIA 8·72d.) September 29th.

GARDEN.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust, and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price.
Travancore	275	6·85												
Ellangy ...	158	6½	...	..	73	6½6¾	39	6¾	42	6¼	...	...	4	5¾
Isfield T C Isfield ...	35	6½	11	†7¼	...	.	....	..	24	6¼	...	...	...	...
Kanan Dev Hil A ...	82½c	8½	...	..	22½c	8	35½c	9¾	14½c	7¼	...	...	11½c	6¼8¼
Wynaad														
Kanambyle & Cher	118 p	7¾	...	...	72 p	7¾	29	8¼	17	7	...	..	..	...

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[w. 1-12-98—t.f.o.]

PLANTING OPINION,

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

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DOMESTIC OCCURRENCE.—The fee for inserting a domestic occurrence will be *One Rupee* for each insertion, payable in advance.

N.B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," Agra Bank Buildings, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 3rd Proximo. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, *25th October.*—*Weather.*—More or less cloudy throughout week, but very little rain; some last Sunday; heavy rain in parts yesterday. *Crops.*—Gradually ripening-up. Preparations for picking in full swing. *Plant-diseases.*—The weather seems to be favouring the spread of leaf-disease. Some little borer is receiving attention. *Labour.*—Plentiful. *General Health.*—Good. *Interesting Item.*—Rifle meeting now on. Volunteer dinner at Club to-night.

TEA AND COFFEE STATISTICS.

In our last issue we reprinted an article from the *Indian Planters' Gazette* on "Statistics relative to Tea." As this was marked "A Review of Some Recent Figures" and numbered "I," we hoped to see in our contemporary's columns further remarks on this very important subject some references to a branch that it has so far neglected. Even in the second paper, however—published in our present issue—there is the same hiatus visible. With all that it has said, so far, we fully agree; but there has been in the two articles under reference a certain one-sidedness of view that might well be remedied. What we mean is that the Calcutta planting organ has dwelt entirely upon statistics of *consumption*, figures such as are put together in England rather than in India. Where we think there is most room for, and need of, improvement is in respect to the statistics of *production*, for which we must always be largely dependent upon planters themselves. Certain general remarks of the *I. P. G.* require but little alteration to make them applicable to both classes of statistics. "To all connected with tea" we read, "the statistics now being regularly published are of the utmost value, enabling the producer, importer, dealer and buyer to gauge each the requirements of his own special branch of the business, and thus so to conduct his operations as will best tend to assure their success." How much more valuable

would they be if they embraced really reliable statements of area under cultivation, estimates of crops, &c. "The great advantage of statistics, when skilfully arranged either in properly tabulated statements or other appropriate forms, is that they show 'at a glance' facts which otherwise could only be gathered at the expense of great trouble and labour. Tabulated statistics of any produce are in fact to the producer and trader what a map of any country is to a traveller or student of Geography." Yet a map that gives the elevation of mountains and omits rivers is, though useful for the specialist's purpose, not so useful for the ordinary student. Our tea statistics at present might almost be compared to maps of this kind: they give the figures of consumption with approximate accuracy, but not those of production.

As our contemporary observes, "to all business-men—merchants, directors, agents and planters alike—statistics are now a *sine quâ non*, without which it would be simply impossible to carry on the enterprise successfully." The full force of this statement is, however, only felt when the figures regarding both production and consumption are taken into account. The Director-General of Statistics in this country has tried to impress upon tea-planters the need for more accurate returns than are at present available. When statistics officially published are accompanied by an official warning that they are unreliable, they can scarcely be thought to be a *sine quâ non* to either merchant or planter. What is needed is that planters should lend a willing hand in a very useful work. At present there seems to be, in many quarters, a disposition to resent official requests for statistical information as inquisitorial. But, although the inquisitor who undertakes the compilation of statistics, must of necessity acquire a great deal of information that is rightly regarded as of a private character, statistics, in the form in which they eventually appear before the world, cannot be regarded as giving undue access to a knowledge of a man's private affairs. The objection referred to hinges upon a sentiment, or a fancy. As a matter of fact, every planter might contribute his full quota towards the statistics that are needed without in any way bringing his private affairs to the notice of the public. That the industry he is concerned in would benefit by the compilation of accurate statistics is, we think, beyond a doubt. At times it might seem as if revelations regarding anticipated large crops might hasten a decline of prices; but, if so, the contrary effect would be produced by statements showing a probable failure of crops, or by figures exhibiting a rapid increase of consumption.

The time is ripe for a full discussion of this subject. Such gentlemen as Mr. O'Conor, the Director-General of Statistics to the Government of India, and Mr. Stanton, the well-known London tea-broker, are manifesting an active interest in it. The Indian Tea Association has taken it up; the U.P.A.S.I. has been requested to do so. True, both these last two bodies have had the same subject under consideration before, and the planters of Southern India, in particular, have hitherto failed to respond to the call for statistics. There is still time for re-consideration, however. Perhaps, too, there is one view of the matter that has not yet received sufficient attention. We venture to assert that such statistics as are available are read with increasing interest year after year, even week after week, by planters themselves. If this be really the case, surely it is evident not only that accuracy of statistics should be encouraged and facilitated by planters themselves, but that they should realise that, if accurate statistics of consumption have a special interest for them, and accurate returns of production for tea-dealers and other non-planters, it is but fair that there should be reciprocity. At the present time, great care is taken in the compilation of statistics relating to the chief consuming markets of the world. Knowing this, appreciating and making full use of the result, planters ought certainly to reciprocate by endeavouring to provide the most reliable figures as regards production. Apart from the question of self-interest, this appears to us to be a duty that falls upon them. We trust that District Associations will take this matter in hand, that individual planters will come forward as volunteers, and that in a short time there may be no further ground for the reproach that the planter now incurs: that, though eager to profit by the statistics of others, he will do nothing in the way of reciprocity.

DR. GEORGE WATT'S TOUR.

After visiting Madras, Dr. George Watt, Economic Reporter to the Government of India, has travelled southwards. In a short time, however, he will arrive at Coonoor, and there begin, so to speak, the portion of his tour that relates to the planting districts. Travancore, the Lower Pulneys and the Nelliampathies are, we believe, outside the scope of his present visit; but he is to visit the Nilgiris, the Shevaroys, Coorg, and, if possible, the Wynaad. Mysore he will merely travel through. We append his revised programme:—

Arrivals.	*Haltings.*	*Departures.*
OCTOBER.		
Madras (Egmore)		Th. 26th, Oct., 7-25 a.m.
Villupuram, Th. 26th, 1-0 p.m.		Th. 26th, 1-20 p.m.
Pondicherry, Th. 26th, 2-50 p.m.	(Fri. 27th)	Sa. 28th, 9-40 a.m.
Villupuram, Sa. 28th, 11-45 a.m.		Sa. 28th, 1-17 p.m.
Cuddalore (N. T.), Sa. 28th, 2-37 p.m.		Su. 29th, 3-0 p.m. (O. T.)
Tanjore, Su. 29th, 7-56 p.m.		Mo. 30th, 9-35 p.m.
Negapatam, Tu. 31st, 12-30 a.m.		We. 1st, Nov., 4-35 p.m.
NOVEMBER.		
Tanjore, We. 1st, 7-45 p.m.		We. 1st, 8-20 p.m.
Trichinopoly, We. 1st 9-46 p.m.	(Th. 2nd)	Fr. 3rd, 6-0 a.m.
Dindigul, Fr. 3rd, 9-7 a.m.		Su. 4th, 4-15 a.m.
Madura, Su. 4th, 10-51 a.m.	(Su. 5th)	Mo. 6th, 11-16 a.m.
Tuticorin, Mo. 6th, 4-5 p.m.	(Tu. 7th)	We. 8th, 9-50 a.m.
Tinnevelly, We. 8th. 11-55 a.m.		Th. 9th, 9-25 a.m.
Trichinopoly, Th. 9th, 7-58 p.m.		Th. 9th, 10-10 p.m.
Erode, Fr. 10th, 2-55 a.m.		Fr. 10th, 5-8 a.m.
Podanur, Fr. 10th 7-38 a.m.		Fr. 10th, 8-0 a.m.
Mettapoliem, Fr. 10th, 9-24 a.m.		Fr. 10th, 10-0 a.m.
Coonoor, Fr. 10th 1-20 p.m.	(Sa. 11th)	Su. 12th,
(*If Train not available, by Tonga.*)		
Ootocamund, Su. 12th	(Mo. 13th, Tu. 14th & We. 15th)	Th. 16th,
Coonoor, Th. 16th		Th. 16th 12-15 p.m.
Coimbatore, Th. 16th, 4-16 p.m.		Fr. 17th 4-16 p.m.
Salem, Fr. 17th, 9-46 p.m.		Sa. 18th 6-0 a.m.
Shevaroys, Sa. 18th	(Su. 19th & Mo. 20th)	Tu. 21st 7-0 a.m.
Salem, Tu. 21st		Tu. 21st 9-14 p.m.
Jalarpet, We. 22nd, 12-21 a.m.		We. 22nd 1-15 a.m.
Bangalore, We. 22nd, 6-46 a.m.	(Th. 23rd) Gold Mines.	Fr. 24th 10-0 a.m.
Mysore, Fr. 24th, 4-51 p.m	(Sa. 25th)	Su. 26thby tonga.
Mercara, Su. 26th, or Mo. 27th		

From Monday, 27th November, to Friday, 8th December, Examination of Coffee Plantations, &c., in Coorg and Wynaad.

Madras, Sa. Dec. 9th. Visit Seven Pagodas Su. 10th, Mo. 11th & Tu. 12th. Depart by Steamer for Rangoon on Thursday, 14th December.

In the interval between arrival at Coorg and arrival at Madras, a visit to Wynaad will probably be arranged: but details of this part of the programme are for the present left open.

We may remark that Dr. Watt is most anxious for the success of the Commercial Museum at Calcutta. A branch has been opened in London, and time may yet see the opening of similar branches in Bombay and Madras. But this will depend upon the action of the merchants and agriculturists concerned. Several firms and others in Madras intend to avail themselves of the excellent opportunity Dr. Watt affords them to advertise their wares, as well as the products of the Madras Presidency; and it is hoped that the U. P. A. S. I., like the Indian Tea Association (Calcutta), will arrange for numerous exhibits of local products, and annual replacement of old samples by new.

COFFEE IN JAVA.

Mr. Frank Adam, of "Glen Nevis," Banjoevangie, Java, has sent the *Ceylon Observer* an interesting table giving prices of Java Government Coffee since 1827, as sold at Amsterdam, as well as those of Santos coffee as sold in Havre since 1885. It will be seen that the range of rates in both cases is very wide, but that Javas have maintained a considerable lead. The figures for 1899 show something like 59s. 3d. to 46s. 4d. per cwt. for Javas, against 31s. 4d. to 27s. 8d. for Santos. Still, the former prices do not appear very brilliant for a usually favorite "mild" coffee. As for a comparison of the courses of prices during the last twenty years—why, the fluctuations of Exchange practically render such a comparison impossible. The following is the table referred to, shewing *Highest and Lowest Prices*, respectively, in each year, from 1827 to 1899 (to date) for "good ordinary" Java Government Coffee (ordinary "East India" or dry preparation), at the Government auctions, held at Amsterdam. Prices quoted are in guilder cents per half, kilo.

Years.	Prices. Highest.	Prices. Lowest.	Years.	Prices. Highest.	Prices. Lowest.	Years.	Prices. Highest.	Prices. Lowest.
1827	34	26½	1852	27½	24	1877	58½	50
1828	26½	21½	1853	33	26½	1878	54	40
1829	27½	23	1854	33½	28½	1879	50½	40
1830	23½	21	1855	34	29	1880	48	37
1831	34	23½	1856	33½	31½	1881	38½	33½
1832	41	32½	1857	43½	33	1882	36	25½
1833	40	34½	1858	34	27½	1883	35½	27½
1834	38½	26½	1859	38½	29½	1884	36	26½
1835	39	30	1860	40	38½	1885	28	24
1836	36	29½	1861	45	37½	1886	41½	26
1837	31	24	1862	46	44	1887	59	39½
1838	31½	26½	1863	46½	44	1888	51	35
1839	34	30½	1864	46½	40½	1889	54½	44
1840	32	25½	1865	45½	43½	1890	59½	52¾
1841	28	25½	1866	45	38	1891	61½	48
1842	25½	23	1867	42	38½	1892	56	51
1843	23	20	1868	38	30	1893	56½	50
1844	22½	20	1869	43	32½	1894	53½	51
1845	23½	21½	1870	35½	31½	1895	56½	51
1846	22	19½	1871	43	32½	1896	54	50
1847	21½	20	1872	50	40½	1897	51	36
1848	20	17	1873	65½	50	1898	38	33
1849	34	18	1874	72½	50	1899	33	25¾
1850	37½	24½	1875	61	52			
1851	30½	23½	1876	57	50			

[A guilder is equivalent to 1s. 9d.; and a kilo is equal to 2·2046 lbs. avoir., half of which is 1·1023 lbs.].

Table of Prices, &c., during 1880 to 1899 (to date) inclusive.

Years.	Prices in francs, per 50 kilos, of Santos Coffee, in Havre. Highest.	Prices in francs, per 50 kilos, of Santos Coffee, in Havre. Lowest.	Brazil Crop	Supplies in Europe and America	Deliveries in Europe and America
			in Bales.	in Tons.	in Tons.
1880			3,983,000	547,050	522,940
1881			5,750,000	599,420	563,890
1882			5,650,000	603,308	599,008
1883			6,700,000	683,083	638,057
1884			5,050,000	610,965	616,443
1885	54	45½	6,278,000	657,234	655,092
1886	76	46	5,531,000	593,469	672,783
1887	117	91½	6,129,000	535,692	540,332
1888	102	69	3,006,000	568,858	608,523
1889	105	87	6,733,000	604,000	598,558
1890	112½	103	4,198,000	570,661	595,745
1891	107	80½	5,308,000	610,950	621,786
1892	102	82	7,397,000	699,907	669,321
1893	106	86	6,316,000	646,349	650,337
1894	103½	87	4,325,000	644,650	649,872
1895	97	89½	6,704,000	701,707	661,201
1896	92	58½	5,489,000	703,540	703,512
1897	62	36	8,694,000	882,342	786,882
1898	41	35	10,461,000	897,044	842,694
1899	38½	34	8,772,000	...	...

AN EXPERIMENTAL COFFEE GARDEN.

Having repeatedly advocated experimental cultivation on the part of both Tea and Coffee planters, we are naturally pleased to find that the Mysore planters are urging upon the Government the establishment of an experimental coffee garden. For some reasons, we should have preferred to see more of the element of self-help in the project; but, on the other hand, the State can do much more than private individuals in regard to certain matters. Mysore, too, has an Agricultural Chemist at its disposal, and Dr. Lehmann's advice and assistance will no doubt be found of the greatest value at the outset of such an undertaking as has been suggested. We feel sure that the suggestion will bear fruit, for the Mysore Government is as keen as planters themselves are on the development of the resources of the land, and is far-sighted enough not to allow considerations of ownershid to deter it from essaying progressive measures. Details of the scheme are given on another page, and will no doubt be read with considerable interest. At a time when the deterioration of E. I. Coffee is being debated, it is but right that its improvement should be actively taken in hand, not merely discussed as an abstract problem. It is not very long since we strongly advocated the importation of carefully-selected coffee seed from foreign countries with a view to improvement of the Indian berry. Until the present time, we had feared that our advice was deemed worthless; but from the scheme under reference we learn that a somewhat similar course is recommended. To the countries mentioned by Mr. Pilkington as growers of good coffee, we would add British Honduras at least; there are other countries where, we believe, coffee grows to perfection, but where it achieves but little beyond local fame, because of difficulties of transport, or labour, or other disadvantages that preclude the development of an export trade.

LABOUR EMIGRATION TO ASSAM.

The *Fort St. George Gazette* this week gives the text of (1) a Bill to consolidate and amend the law in relation to emigration to labour districts in Assam; and (2) The Immigrants' Health Bill. It is a coincidence that important legislation with respect to planters should be on the "India" and "Madras" anvils simultaneously. The chief of the new "India" Bills bears, to some extent, upon the Madras Presidency; but scarcely on the Madras planter. A certain amount of labour is drafted from this Presidency to Assam; but not from districts whence planters in the South draw their supplies. The chief reason for the introduction of the new amending Bill is the collapse of genuine "free emigration," and the growth of an unhealthy excrescence that has appropriated unto itself this same name. Government has been careful to reiterate its old assertion that its desire is to dispense with all special legislation relating to recruitment of labour for Assam. All who appreciate the necessity for waging war in order to secure peace, will see how it is that the dispensation arrived at is only to be arrived at by increased and ever-increasing stringency of legislative control. What will perhaps be of most interest to our readers, however, is the fact that the amended Bill provides for *raising* the minimum monthly wage of estate labourers:

Men from Rs.5 to Rs.6.
Women „ „ 4 „ 5.

This, at a time when South Indian planters have been meditating a *reduction* of wages, will come as something of a surprise: for the Tea industry of Assam, though certainly better off than the Coffee industry of Southern India, cannot be generally regarded as in a position to warrant increased liberality in the matter of coolies' wages.

PACKET TEA AT THE PARIS EXHIBITION.

The Ceylon men have decided that, if they are not permitted to sell packet tea at the Paris Exhibition, they will have a depôt outside the Exhibition premises. No doubt Indian planters will make similar arrangements, if necessary, but it is to be hoped that the delegates who have gone to Paris to try to bring about a change of policy on the part of the Exhibition authorities, will meet with success. Mr. J. H. Renton is to have direct control over the Ceylon Tea House with five servants under him. He wants more, by the way. It is estimated that each servant will cost Rs.1,000 for the whole period he is there. Details of the Indian Tea Associations' plans are not yet forthcoming, but we are glad to know that the London Association has fallen in with the suggestion that there should be a joint Tea and Coffee Room, not separate rooms for the two beverages. Thus, visitors to the Indian section will have a choice of tea or coffee, and when parties of friends wander round, one may be served with tea, another with coffee, according to taste. This may help to popularise the Indian section. It is about time, however, that definite plans were drawn up. If the Government of Madras follow the example of the Government of Bengal, and, if planters and firms interested in tea and coffee subscribe fairly liberally, South India may yet be able to make a decent show at Paris. At the same time, it seems only too probable that South Indian Coffee will not be able to take up, and will not even try to assume, its proper position, as a rival of Indian Tea. If the industries were to be judged by the comparative importance of the probable exhibits of the two products, Coffee would probably appear quite insignificant. That it is not so, even in India, is known to all who watch trade statistics. At the same time, we must acknowledge that the coming of Indian Tea appears to be in full swing, and, though we are no believers in the passing of Indian Coffee, there has been at least a temporary shrinkage in the volume of trade.

GUTTA AND RUBBER IN BRITISH NORTH BORNEO.

We quote to-day a report of the North Borneo Commissioners of Lands on Gutta and Rubber in those parts. The details of the process of collecting gutta are very interesting, and the whole report appears to show that conditions for the cultivation of this product in North Borneo are exceptionally favourable. After studying Mr. Walker's remarks and accounts of gutta cultivation in other countries, we certainly cannot recommend planters in Southern India to choose gutta as a bye-product, or an auxiliary. Nor do we think that, speaking generally, rubber offers much more inducement. Experiments are being conducted with this article, however, and there is a possibility that some variety may be found to grow satisfactorily in some parts of the planting districts. Official experiments have led to somewhat gloomy official reports; private experiments have, so far, been carried on with very careful regard to secrecy; but it should not be very long before news becomes available as to whether rubber will or will not "pay" in Southern India.

NOTES.

Travancore Tea. Messrs. Finlay, Muir & Co. are advertising for contractors to build two large tea factories in Travancore.

Game Preservation in Mysore. Draft rules on this subject have been prepared and are now before the Durbar awaiting sanction.

Tea Machinery in Ceylon. The Ceylon Government has stated that it has no intention to charge import duty on tea machinery.

Lipton's Defeat. The flutter in the *American* dovecote has subsided, for the *Columbia* has won. We might have prophesied this, for all the world knows the America Cup is something very different from Tea-cup!

Planting in Queensland. From a report on the last Cairns A. P. and M. Show we take the following:—The exhibit of Mr. W. G. Thomson was one of the most instructive of any. It consisted of four distinct varieties of pepper creepers (with specimens of their products), a species of vanilla, and a sample of India rubber. So far none of these valuable plants have been *cultivated* in this district, where they grow wild, but Mr. Thomson intends taking in hand this important work, and there is scarcely any reason to doubt that large and important industries could be established from them.

The London Tea Market. Cable advices, dated 19th instant, from Messrs. Gow, Wilson and Stanton recorded "a dull tone generally among buyers," and a weak market. The average of Ceylon Tea for the week was 7⅞d. (⅛d. down). Indian, according to Reuter, averaged 8¾d. (⅛d) up. Of 25,000 packages Ceylon Tea offered, 23,000 were sold; and of 48,000 packages Indian, 42,000 found buyers.

Production of Tea in Japan. From official reports of the Japanese Government, we find that in 1897 there were 777,944 households engaged in the production of tea. The quantity produced was larger than in 1892 by over 10,400,000 pounds. During the three years, 1895, 1896, and 1897, the average annual production was 8,556,569 *kwan* (8·28 pounds), or 70,848,391 pounds. The wages of tea workers have increased from an average of 31 cents per day in 1892 to 42 cents in 1896.

Rejected Tea in the U. S. It appears that the first crop new Japans lately rejected by the U. S. customs authorities were condemned owing to excessive coloring matter, and it is said that many teas have been imported and passed which have attracted careful attention from the Tea Examiners, as the quality was just on the line of value with the Government standards. This close relation of quality on first crop requiring almost a rejection may cause many teas of second picking of same quality, but drawing darker liquor, to be rejected.

Cultivation of Cannabis Indica. The Mysore Government have decided to teach the local ryots the most improved method of cultivating *Cannabis indica* and the manufacture of bhang. The decision has been the outcome of an anxiety to augment the revenue of the State. The Excise Commissioner in Mysore has obtained the sanction of the Madras Government to obtain two experienced growers, and the best seed is also to be procured. There is likely to be difference of opinion, observes the *Chemist & Druggist*, as to whether it is wise to train the Mysore ryots in the cultivation and manufacture of such highly noxious drugs.

A Laboratory for the Agricultural Chemist Mysore. We had thought that Dr. Lehmann's Laboratory had been ordered already, but seemingly this is not the case, for, when at the meeting of the Mysore Representative Assembly, Mr. H. Pilkington, of the North Mysore European Planters' Association, thanked the Government for having appointed a Government Agricultural Chemist, and said that, to enable that officer to carry on his investigations of plant-diseases and analyses of soil, a well-equipped Laboratory should be fitted-up as soon as possible, the Government replied that it would do this on the application of the Agricultural Chemist.

Cheap Coffee. Now that Coffee is cheap, there are the customary insinuations as to the cheapest sorts. Whatever is cheap is necessarily nasty, in the opinion of some folk. On this principle, it is now alleged that cheap coffee is dangerous to health, and that it is the custom to use Paris green "in coating the cheaper grades of coffee. Pickers are employed to go over the coffee and pick out the Paris green, but they will occasionally miss a chunk about the size of a grain of coffee. This gets into somebody's coffee, and there is a poisoned family as a result." Perhaps the story will have one good effect at least: it may put people off so-called "coloury" coffee a bit.

Tea in Australia. The total quantity of tea imported into Australia from all ports up to the 27th ultimo was 14,689,967 lbs., as against 13,525,848 lbs. at the same time last year. Stocks in bond at Melbourne on the 16th ultimo were 2,259,480 lbs., and at Sydney on the 22nd idem about 2,000,000 lbs. The business done during the month of September was steady, the demand running almost entirely on teas for price. It is remarked, however, that the quality displayed by Indian and Ceylon teas, grading from medium to fine, has not been such as to attract keen competition; and, according to Messrs. Alfred Harvey and Co., Melbourne, buyers would be glad to see a sprinkling of really good teas in future shipments. We are glad to see that China tea also are referred to as of inferior quality this year.

An Appreciation of Planters. Mr. Cotton, the Chief Commissioner of Assam, says in the official report of his recent tour:—"It seemed to me that the tea plantations were, if I may use the expression, on a happier footing than they used to be in former years, as if the improvement in the financial prospects of tea cultivation had communicated itself to every part of the industry. The coolies looked happy, well and contented, and for the most part appeared on excellent terms with their masters; these, too, as if they had become more hopeful and more satisfied with their position, seemed to think more about making themselves comfortable. Their houses were better kept, pains had been taken to attach good vegetable gardens to them, and here and there pretty flower gardens were making their appearance. Tea-planting certainly never appeared to me in so inviting an aspect before."

Ceylon Tea at the Paris Exhibition. The local Committee of the Exhibition has consented to meet the cost of the tea kiosque, the royalty, and the five native servants who are to go to Paris, and another effort is being made to get the French authorities to concede the sale of packets of tea. The *Times of Ceylon* remarks:—Arrangements should be made, as many months beforehand as possible, on a large and general scale, with outside restaurants, to stock and sell our tea in cup and packet. Such arrangements should be perfected by assistance obtained on the spot, or sent over from London, at once, for this side of the matter has unfortunately been practically overlooked. The planters' representative was needed in Paris for the first half of this year, quite as much as he will be for the first half of next year; and, had he been there, it would have made a great difference to the results.

Tobacco. "Experimental Planter" writes to *Indian Gardening*:—"I am at a loss to understand why planters in Southern India do not take up tobacco culture as an "auxiliary" to coffee. It is an easy crop to grow, and the entire field could be sold, as it stands, to any of the large cigar manufacturing firms at Madras, or Trichinopoly, leaving them to do the harvesting, withering, and curing (I believe the withering *must* be done on the field). My experience with tobacco cultivation—only experimental, it is true—has been that a soil that will grow coffee

will grow tobacco. There is always a brisk demand for well-grown tobacco, even if the crop is sold to native vendors, of whom there are so many in Southern India. Some one the other day recommended Assam and Sylhet planters to go in for tobacco culture as a "bye-product" of tea—of course, he meant "auxiliary." But Assam and Sylhet planters have their hands pretty full just now with fibres, Vanilla, etc., etc."

South Indian Tea in Colombo.

Some South Indian Tea having been placed on the Colombo market, in bond, for sale, the *Times of Ceylon* has a little grumble, and remarks that any considerable extension of the movement is not calculated to benefit the Ceylon producer selling in the local market. It submits that the advantages which the Colombo market offers to others should be paid for, on the same scale that the Ceylon planter pays for them, and which the advertising of our staple throughout the world has mainly produced, and maintains. "As soon, therefore, as three or four others follow the example, which has been set, the time will certainly have arrived for enquiring whether means cannot be devised whereby the Indian product sent here may contribute its quota to strengthening the market which is benefiting it, and which it will otherwise weaken. It would be perfectly reasonable and just for the Thirty Committee to call upon the authorities to add to Ordinance No. 4 of 1894 a provision that teas brought to Colombo and deposited in bond for purposes of re-exportation should be required to pay the same cess of 20 cents per 100 lbs."

The Bandong Quinine-factory.

A correspondent of the *Batavia Niewsblad* states that Dr. Van Linge has left the Pandan-Aroem factory to join the staff of the Bandong-works. It is said that the working of the Bandong factory for the first half of the year has been very profitable, and that, if business continues as it now is, a good dividend is likely to be declared at the end of the year, in which the planters who have contracts for the supply of bark, will participate. As a proof that confidence in the factory is growing, it may be mentioned that the Tjimonteh plantations have promised to supply 25 tons of bark, and there are many other promises averaging 30, 40, 25, and 10 tons each. As to production, the Bandong factory have dealt with 506 tons of bark from January 1 to August 21, which has yielded over 21 tons (752,640 oz.) quinine-sulphate. Since January 1 the factory has "worked" about 2½ tons to 3 tons of bark per day, the present capacity being 4 tons per day, which, however, can readily be increased to 6 tons if required. The monthly output is, therefore, from 100 to 150 tons. With reference to the auction which is to be held in January, it is thought that the chance of success will be greater if, instead of one auction, a series be held; but nothing definite has yet been decided on.

Pepper in Assam.

A Sylhet correspondent of *Capital* writes:—The Dictionary of Economic Products does not mention black pepper being cultivated in Assam. the only reference made is to the effect that black pepper (*Piper nigrum*) is doubtfully indigenous to the province. But according to the *Agricultural Ledger*, 1898, No. 7, black pepper does not appear to occur in the wild state in any part in the Assam valley, but an allied species (*P. longum*) is so found. It is not cultivated extensively in any part of Assam, and not cultivated for the market, all the Assam supply coming from Calcutta. Black pepper is considered a valuable adjunct to the coffee gardens of South India, some of the planters even looking upon it as their staple product; and there is no apparent reason why Assam should not grow the whole of its own consumption as well as have a good deal to spare. By the way, the pepper grown in Assam, although much lighter to that grown in Bengal, is considered of better quality, and it is possible the Assam cultivators do not pay sufficient attention to collecting the crop as the fruit begins to ripen. If collected too young, or allowed to hang too long after being ripe, the pepper deteriorates in solidity, and consequently in value, as the quality is determined by the weight of the corns.

Coffee as a Beverage.

Some little time ago the *Medical Review* remarked:—The effects of the persistent use of strong coffee are very marked, the early symptoms being profound mental depression (!), sleeplessness and head-ache, muscular debility, trembling irritability of the heart's action and a form of dyspepsia. If that is not enough to frighten the coffee maniac there comes incessant dread, the countenance becomes *triste* and the legs and feet cold, whilst erysipelas and other acute inflammations are easily contracted. Sooner or later, too, he will give way to alcoholism, when he finds the stimulating effects of coffee fail him. "Neurasthenics are the most liable and give way most easily to the immoderate use of coffee, supervening, in consequence, melancholy, mental depression and suicide. The Moors are great coffee-drinkers and their sight begins to give way gradually when 45 years of age, whilst at 50 they are blind, all on account of coffee." Commenting on this, the *Brazilian Review* says:—Perhaps that accounts for so many blind beggars in our streets, too, but scarcely for the pox-marked faces. Anyhow, we doubt if coffee is anywhere more indulged in than in Rio de Janeiro, and, though we can scarcely be termed a robust community, the abuse of coffee cannot be half as dangerous as that, equally common, of alcoholic stimulants and, so far from any one being brought to indulge in alcohol from excessive drinking, the two are absolutely antagonistic; coffee, on the contrary, being always regarded here as a corrective of alcoholism.

New Rubber Plants.

The Collectors for l'Horticole Coloniale have sent home some new and interesting "Rubbers" from hot regions, and also some seeds, which have already germinated, of a valuable species coming from cold districts where Jean Linden discovered it sixty years ago, growing at an altitude of from 6,000 to 8,000 feet. This species yields caoutchouc the fifth year after planting, and it can readily be acclimatised in the South of Europe and North Africa. The *Semaine Horticole*, which mentions the above fact, speaks also of a tree to be shortly imported, which is alleged to be as powerful as Eucalyptus in rendering tropical swamps less noxious, and the seeds of which constitute a new febrifuge as efficacious as quinine, and infallible for snakebites. Mr. Thomas Christy makes an equally interesting statement saying:—"It has been known now for some time that there is, on the East Coast of Africa, a plant, the root of which cures blackwater fever, this quotation on the authority of an English Surgeon, who has well worked out the subject. He has sent home a hundred pounds of this root, which is evidently a plant of the acacia tribe, judging from the pod which arrived, in a rotten state, in the package. We have treated a certain quantity of this root in one or two

ways, so as to bring it as near to the fluid extract as possible, because the Surgeon stated that, when he first found this bark, it was to cure one of the native bearers on an expedition, and, thinking that the man would be dead in the morning, he spoke to the headman in charge of the coolies when, to his surprise, he said : " Oh, the man will be perfectly well in the morning ; I will give him a dose." He went with this man, dug up the roots, and watched the roots boiled down and the decoction given, and the result was as indicated, the man was well in the morning and able to carry his load. A supply of roots having been secured, they were tested on the East Coast, and, in every instance, found to be efficacious upon Europeans. We are sending out some of this fluid extract to be tested in cases of yellow fever in Brazil, and we are supplying different parties who have establishments on the East and West Coasts of Africa."

The American Market for Tea.

Mr. J. Brown, of the firm of Bronson, Brown & Co., in referring to the tea market, lately, remarked :— " Business seems to be good, though done at very close figures. Margins on teas never were so close, and are now reduced to mere commission, and any firm not willing to trade on this basis will have to stop. Competition from all sections is equally severe, and we expect but little as the result of our best efforts. The new crop teas, as a whole, so far as shown, are not better than last season's. Oolongs lack body, and the lower grades are weathery, and were they not new would surely be rejected. Messrs. James & John R. Montgomery & Co. report the statistical position of tea for United States and Canada as follows :—

	Pounds.
Total afloat to September 1, 1899	4,499,060
Receipts to September 1, 1899	19,706,752
Total shipment advised by mail	24,205,812
Leaving to be shipped	62,794,188
Estimated supply, seasons 1899-1900	87,000,000
Supply, seasons 1898-99	82,907,867
Supply, seasons 1897-98	87,711,780
Supply, seasons 1896-97	93,551,353
Afloat, September 1, 1898	4,525,882
Receipts to September 1, 1898	20,986,740
Total shipments advised by mail to Sept. 1, 1898 ...	25,512,622

The imports of tea into the United States during July, 1899, as reported by the Tea Association, were 6,796,110 pounds ; for the seven months ended July 31,36,125,095 pounds. Withdrawals during July, 7,097,299 pounds ; for the seven months ended July 31, 38,523,326 pounds. Stocks in warehouses in United States on July 31, 26,765,803 pounds ; stocks in bonded warehouses same date, 17,236,284 pounds.

South Travancore Tea Co.

The report that was to be presented at the third annual ordinary general meeting to be held at the offices of the Company, 16, Philpot Lane, on Monday, the 2nd October, says that the outturn of tea was 337,961 lbs., being 37,961 lbs. above the original estimate, against 242,046 lbs. last year. The average price realised was 6·03d. per lb., as against 5·55d. last year and 5·85d. the year before. The gross profit was £3,339 15s. 10d., against £1,304 15s. 3d. last year and £1,672 11s. 10d. the year before. After writing-off the whole of the preliminary expenses and cost of debenture issue, amounting to £521 8s. 4d., and after providing £250 for the debenture sinking fund, the net profit amounts to £1,794 10s. 10d., which, with a balance of £185 15s. 4d. carried forward from last year, leaves a sum of £1,980 6s. 2d. which the directors propose to dispose of as follows:—

	£.	s.	d.
Preference dividend for the year ... ... (Of this £412 10s. has already been paid.)	825	0	0
Dividend at the rate of 5 per cent. on the Ordinary Shares	687	10	0
Leaving a balance to be carried forward of ...	467	16	2
	1,980	6	2

During the past year the directors effected the re-sale of two outlying portions of land to the vendor, Mr. H. M. Knight, for the nett sum of £1,985 2s. 0d. The area under tea now amounts to 722 acres. In accordance with the resolution of the special meeting, held 4th January, 1899, an issue of £6,000 mortgage debentures was effected, and, with the money so realised, the directors paid-off the company's debt to the Bank and put the affairs of the company into a sound financial position. The reports on the condition of the company's properties from the manager and the visiting agent are of a most satisfactory nature, and point to a continuance of the prosperous course which the company appears to have now entered upon. Great credit is due to the company's Manager, Mr. Stewart, and the Assistant, Mr. MacDonald, for the satisfactory character of the past year's working. The estimate for the present season is 350,000 lbs. Mr. H. M. Knight, in consequence of prolonged absence abroad, resigned his seat on the Board early in the year. In accordance with the Articles of Association, Lieutenant-Colonel C. F. Colvile retires by rotation, and, being qualified, offers himself for re-election. The directors of the company are Mr. T. C. Owen, Lieutenant-Colonel C. F. Colvile and Mr. A. Y. Holland.

LETTERS TO THE EDITOR.

SPANS OF ROOFS.

Sir,—In reply to the letter of " Novice," in your issue of the 21st instant, I take it that it is required to cover a room 40 feet wide, as, if the room is only 20 feet, as appears probable from the letter, no pillars will be necessary. The pillars should be 18 inches square (two bricks) for safety, standing, as they do, alone—a brick-and-a-half = 13½ inches—will not be able to resist much lateral pressure. A double gable would be better than a single span. I am not able to say, definitely, whether the outward pressure would be too great for an ordinary king-post or not. I have here a room, 30 feet wide with 2 feet square pillars in the centre, under one span. The tie-beams are of vengay and 6½ × 4 inches only, without any clamps whatever. It has shown no signs of weakness after twenty-five years ; so that, with 9½ × 4 inches tie-beams clamped to the principals, evil results from outward pressure need hardly be feared. The water-shed, however, over so large a span, with reepers and estate-made tiles, may give rise to leaks ; and for this reason, if for no other, a double gable is advisable. A one-inch iron rod, passing from end-to-end of the tie-beam, with a bridge in the centre, is now frequently used to obviate lateral pressure.

Thomas Brown.

GENERAL ARTICLES.

PLANTERS AND GOVERNMENT IN MYSORE.

We are glad to see that the relations between Planters and Government in the Mysore State continue to be of the pleasantest. At the meeting of the Representative Assembly this month, Mr. E. Playfair, Honorary Secretary, South Mysore Planters' Association, said that the South Mysore Planters' Association, which he had the honour to represent, desired him to express its appreciation and thanks to the Mysore Government for the effective manner in which they have kept plague out of the district during the past year. Had it invaded the district, serious inconvenience would have been experienced in transporting produce. They noted, with pleasure, that a re-survey of the Arsikere-Mangalore Railway had been sanctioned, and they hoped that a connection with the natural outlet of this province might shortly be established. He had to thank the Mysore Government for its letter regarding the Paris Exhibition and distribution of Mysore produce there. A meeting of the Association had been called for the end of this month, when they would discusss and settle how they can best meet the wishes of the Mysore Government. He had only to express regret at the absence of Sir K. Seshadri Iyer, who, he hoped, very soon would be convalescent. In reply, Mr. Thumboo Chetty observed that the Government had always done all it could in the interests of planters, and would continue to do so.

Later, Mr. Pilkington, of the North Mysore Planters' Association, raised a very interesting question. He suggested that an experimental coffee nursery might be established, and said that for many years the Mysore Arabica Coffee flourished in this province and made the name of Mysore as a coffee-producing country famous throughout the world. This type of coffee spread, it is generally believed, from the historic plants growing on the Bababadungiri all over Mysore. For many years this strain held its own both for quality and vigour, but when in the 70's leaf disease came in, it showed signs of weakening, obeying apparently the law of plants that cultivated strains must wear out. Thus followed, as is well-known, the introduction of the Nalknad-Coorg strain to replace the worn out "Chick." At the present time, however, signs were not wanting that the hardy and prolific Nalknad strain was, in its turn, losing its vigour, and it behoved the industry to try, by every possible means, to forestall this by finding and introducing a new strain to take its place, just as the Nalknad replaced the old "Chick." Unfortunately, Nature had not, so far as was known, again come forward with a new robust and prolific strain of her own that may be substituted for the Nalknad ; but there were scattered about in various plantations young hybrid plants of "Liberia-Arabica." Chance plants like this, as was well-known, cannot be relied on to establish a new and distinct strain of hybrids. They require to be collected and watched and gradually assorted, and distinct strains established after three or four generations of seed. This, then, was one possible source from which a new strain may be obtained. In Central and South America coffee leaf disease has not, fortunately for those countries, occurred. And as coffee of fine quality is grown, particularly in Costa Rica, Guatemala and Jamaica, seed might be obtained from these countries and carefully tried and tested in this climate, and every endeavour made to ascertain if any of them would be able to resist leaf disease and be suitable for replacing the Nalknad. These coffees would if suitable, have an advantage over the hybrids, as they were established strains of high quality and well thought of in the European markets ; whereas, it remained to be seen how the hybrid bean would be received and what price would be obtained for it. Unfortunately, experiments of this kind cost money, and it is to aid them that Mr. Pilkington was appealing to the Government on behalf of the Mysore Coffee Industries which, owing to the fall in price, are in danger of extinction in many cases. He had been provided by his Association with a scheme for making these experiments, which he hoped he might be allowed to lay before the Durbar ; and knowing the deep interest taken by the Government in all the Mysore industries and the wise and fostering care bestowed on them, the Mysore Associations trusted that their appeal on behalf of this industry generally, which had made the name of Mysore famous long before its gold had rendered it so, and which might be said to have civilised the Western Districts of the State, would not be made in vain.

The following is the scheme referred to in the above speech :—(1) That Government provides free of tax, a suitable piece of land in the Coffee District—from 20 to 40 acres might be required—and near some well known planter who would undertake the care of the same. (2) That a list of the countries from which suitable seed may be obtained be prepared by the North Mysore Planters' Association in conjunction with Dr. Lehmann and Dr. Barber, of Madras (he being in direct communication with Kew), and half a bushel of each description of first-class seed from a reliable planter or through the Consul, be obtained. (3) That samples of the different hybrids not existing in South India be obtained that they may be scientifically assorted and strains, if possible, established. (4) That the Committee of the Association after consultation with Dr. Lehmann and Dr. Barber, appoint some well-known planter, in whose vicinity the land is, to superintend and arrange for the working of the same ; and that Dr. Lehmann visit the place as often as he conveniently can. (5) That nurseries be formed of the seed obtained in due course ; and one-acre plots of each variety be planted up. The balance of the nursery plants to be sold, if possible ; and it is probable, if they were healthy plants, that there would be a ready sale for them, it being already difficult to obtain strong young plants of the Nalknad. (6) In the event of any of the plots planted out from imported or hybrid seed turning out strong healthy coffee seemingly capable of resisting disease and of bearing good crops, a large return from sale of seed would result, and the experiment might eventually become self-supporting. (7) That Government allow a sum not exceeding Rs.200 per mensem to cover cost of seed and working the nurseries and experimental plots. The following is an approximate estimate of cost :—

	Rs.
(1) 5 bushels of different seeds at Rs. 40	200
(2) Purchase of hybrid plants, say	100
(3) Making and keeping up the nursery for one year (including Overseer)	800
(4) Clearing and planting 6 acres of jungle	600
Total ...	1.700

The Government replied that the subject would receive consideration in due course.

Mr. A. Shama Rao, of the North Mysore Native Planters' Association, and other planters, represented that the minimum extent of 15 acres prescribed for *darkhasts* for coffee cultivation might be reduced to 5 acres. They submitted that

some three years ago it had been usual to allow 5-acre plots of lands for coffee cultivation. But since then the Government made a rule that, when cultivators relinquished lands under coffee cultivation, their resignation should not be accepted unless they relinquished plots of 15 acres at a time, because the Government had, at great cost, provided facilities for the prevention of coffee-stealing. This rule in regard to relinquishment, led to the revision of the *darkhast* rules so as to raise the minimum from 5-acre plots to 15-acres. The representatives contended that accepting resignation was quite a different thing from giving facilities to poor coffee planters to make a living from cultivating small plots. In Malnad, people could only carry on paddy cultivation for their livelihood, and it was necessary that every one of the Malnad ryots should cultivate small plots of coffee lands as an additional source of livelihood, for, in the absence of coffee cultivation, the paddy cultivated could hardly enable them to make a living. The Government said that the matter would receive consideration.

Mr. Davood Saheb, of Mudigere Taluk, and Mr. C. Srinivasa Rao, of Chickmagalur, represented that the restriction against the grant of lands for cardamom cultivation in the Malnad within fifty yards of water-courses might be withdrawn. They submitted that, in most cases, it would be found, on careful enquiry, that, owing to abundance of water-supply in the Malnad, the cultivation of such lands with cardamom would not affect the supply of water to any irrigated lands and could not therefore be objectionable. As cardamoms wanted a plentiful supply of water, it was advantageous to cultivate them by the side of water-courses. One of the reasons adduced by Government in support of the restriction was that, if the cultivation of cardamoms were allowed within fifty yards of water-courses, people encroached on reserved lands and cut trees, undergrowth, &c., thus leading to denudation of forests and consequent diminution in rainfall. The representatives contended that the theory of Colonel Campbell Walker in this matter was not altogether agreed to by all, for the theory of denudation of forests alone contributing to short rainfall was disputed in a recent issue of the *Indian Forester*. Nor was the theory altogether supported by common-sense. The Government replied that it would instruct Deputy Commissioners to use their discretion in the matter, and remove restrictions wherever they saw no objection to this being done.

THE MALARIA-BEARING MOSQUITO.

The letter from Dr. Ronald Ross on the subject of the malaria-bearing mosquito, although it merely confirms the previously received report of his success in finding this insect at Sierra Leone, and does not carry the matter much further than was done by the first announcement, nevertheless affords a convenient opportunity for summarising the results of what promises to take rank among the most valuable scientific discoveries of the century. It is common knowledge that certain districts have for many years been rendered practically uninhabitable by Europeans on account of the prevalence of intermittent fever among those who attempted to settle in them; and that this statement, which applied even to some parts of Italy, applied still more forcibly to certain tropical countries, in which the fevers, essentially of the same character, were of a more malignant and fatal type. Such fevers were attributed in Italy to unknown but unwholesome conditions of the atmosphere, and hence came to be called "malarious," but as to the nature of "malaria" even conjecture itself was at fault. Minute and careful observation of the facts connected with the prevalence of fever led to certain conclusions with regard to its unknown cause; as, for example, that this cause was most active in marshy or recently-drained localities, after disturbances of earth which had long been suffered to remain quiescent, and in lower rather than in higher zones of elevation. It also became known that exposure to the night air of malarious districts was more dangerous than similar exposure in the day-time; and so practical rules were formulated by which settlers could secure, not immunity, but, at all events, some slight increase of protection from the disease. All the malarious fevers, as already said, were intermittent, that is to say, were of the type of "ague." They commenced with a stage of shivering, followed by one of dry heat, and that being succeeded by one of profuse sweating, at the end of which the symptoms became dormant for a time varying with the character of the fever. The most common form was the tertian, in which the successive stages recurred with perfect regularity every third day, but the quartan, in which there was an interval of two clear days, was also well recognised. About the year 1630, the Corregidor of Loxa was cured of an intermittent fever by taking the bark of a tree, presumably made known to him by the natives, and, eight years afterwards, he administered the same bark to the Countess of Chinchon, wife of the Governor of Peru. The tree yielding it hence came to be called cinchona, and the bark, in which its efficacy seemed chiefly to reside, having been introduced into Europe by the Jesuits, was commonly known as Jesuit's bark, and was soon found to be a remedy of the highest value against intermittent fevers of almost every type. In 1810 a Spaniard named Gomez separated from the bark certain active principles to which its efficacy appeared to be due; and in 1820 two French chemists, Pelletier and Caventon, discovered that these active principles consisted of two alkaloids, which they named quinine and cinchonine. Of these, the former was the more active in cases of fever, and soon superseded the bark itself, over which it had the advantages of lesser bulk and of greater activity. Experience showed that the best effects of quinine were obtained when it was administered at a particular period of the attack, and in doses of some magnitude; but it was not found to afford any protection against recurrences of the disease.

Matters remained in this condition until a few years ago. It had been known, from the dawn of microscopic history, that the red colour of blood was due to its holding in suspension an enormous number of minute particles or corpuscles, to which the name of red corpuscles was given; and which, as microscopes improved, were found to be slightly flattened cells containing a red material which is believed to be the chief agent in the carriage of oxygen to the tissues The cells were of circular outline, and of such a size that, laid in a row like coins, edge to edge, about three thousand two hundred of them would occupy a line an inch long. With continued improvement, not only in microscopes, but also in the methods of preparing specimens for examination, it was ascertained that these red corpuscles present differences in different conditions; and it became customary to study their appearances in different forms and at different stages of various diseases. Such examinations, in cases of malarious fever, were chiefly made in Italy, where the disease was more common than elsewhere in Europe; and it was announced by Dr. Laveran that he had discovered certain foreign matters within the red corpuscles of ague patients. The research was eagerly taken up by many investigators, with the general result of establishing a definite connection between the paroxysms and stages of ague and the life history of a parasite, regarded as animal, which attains its maturity within a corpuscle. The parasite is first seen as a small intracorpuscular amœboid body, which enlarges and gradually fills the entire cell, becoming pigmented at the same time, the pigment granules being formed from the contents of the corpuscle. After other changes not necessary to be described, the cell breaks up and perishes, giving exit to a swarm of young parasites, which enter into previously sound corpuscles, and renew the life history of their progenitors. The stages of this life history correspond with the successive stages of fever; the shivering, the heat, the sweating and the interval all occurring at precise periods of the growth and development of each successive brood. The efficacy of quinine has been shown to be due to its destructive action on the parasites, but this action is only strongly exerted when it is present with them in the blood in sufficient quantity, and at a particular stage of their development. The dosage and time of administration, which were originally learned by experiment, have now been made to rest upon definite biological knowledge.

The parasite having been recognised, the next question to be solved was the channel through which it finds access to the blood; and the part known to be played by mosquitoes in the communication of another form of tropical blood disease suggested that they might be the active agents in the matter. It was at once seen that this hypothesis would satisfy a great many known facts of which no adequate explanation had ever been afforded, such, for example, as the boundaries and limitations of the so-called malaria belts; while the nocturnal habits of the mosquito might account for the greater danger of nocturnal than of daylight exposure in the affected regions. The first experiments with mosquitoes, made in Italy, were inconclusive; but, after many dissections, the parasite was at last found in the body of a species known as *Anopheles*, and a man who consented to be made the subject of experiment was shut up in a room with four or five of these insects, was bitten by them, and developed ague in due time. Mosquitoes, entomologically, are only gnats, or *Culicidæ*, of which there are about 150 known species, *Anopheles* being one genus out of several; and the particular *Anopheles*, which has been proved guilty of fever-carrying, is a large variety, distinguished by having four spots on its wings. So far, at least, no conviction has been obtained against any other member of the gnat family, but it would be somewhat hazardous to extend to them the principles of English jurisprudence, and to regard them as innocent until they have been proved guilty. For the common English gnat, *Culex pipiens*, there is probably sufficient exculpatory evidence of a negative kind, but it is clear that, in malarious regions, all blood-sucking insects must be at least suspected. Nevertheless, it must be borne in mind that the enquiry, so far, has reached only an early stage, and that not only may there be tropical fevers, which are not due to the ague parasite, but there may be also harmless gnats in fever-infested districts. The only present certainty is that the distinct tracing of the tertian and quartan forms to mosquito bites will enormously simplify the general problem, even if it should not be found to furnish the entire solution; and perhaps the most encouraging part of Dr. Ross's letter is that in which he expresses his belief that the destruction of the peccant insects, in the puddles in which they spend their larval stage, can be effected without excessive difficulty, and, in large measure, by an agent so little dangerous as kerosine. If this expectation should be realised, the effect will be to open up immense regions of Africa and other countries to European colonisation, and to take away one of the great scourges of the world. It seems highly probable that the destructive effects of the tsetse fly on horses may be due to some similar parasite conveyed by bites, and that the infinitely little, as in so many other recent instances, will be found to play a most important part in relation to the history and destinies of mankind.—*Times*.

LONDON CHARGES OF TEA COMPANIES.

II.

In this article we propose to deal exclusively with the warehouse and dock charges upon tea, about which there is so much complaint, and to start with cannot do better than quote the schedule of rates supposed to apply to every package of tea that goes through the Tea Clearing House. This is as follow:—

CHARGES ON TEA.

To apply to all parcels by ships reporting on and after July 1, 1888.

	Per package, weighing gross.		
	130 lbs. to 159 lbs.	90 lbs. to 129 lbs.	80 lbs. to 89 lbs.
	s. d.	s. d.	s. d.
Landing and housing rate	1 10	1 6	1 4
Management rate	2 3	1 10	1 8
Bulking and taring	1 8	1 5	1 3
Bulking, taring, or weighing net separately	1 3	1 0	0 11
Rent per week	0 0¾	0 0½	0 0½

The above charges will be subject to a discount of 10 per cent. to importers only.

For determining the class under which the break is chargeable, the average gross weight must be ascertained. When the fraction of the average weight is half a pound or more, the dock companies or warehouse-keepers take the benefit. Thus, the average of a break being 79½ lbs. gross, the whole break will be rated at 80-89 lbs., but the average being less than 79½ lbs., the whole break will be rated at 60-79 lbs.

For the sake of bringing the table into manageable shape, we have deleted the rates upon certain exceptional sizes which are seldom used by importers. The general size of the packages is from 90 lbs. to 129 lbs., and in all calculations made in these articles we have taken the rates upon these weights as our basis, allowing the usual deduction of 23 lbs. for the weight of the tare. The charges of most importance to the importer are "management rate"—*i.e.*, the working of the tea—"bulking and taring," and "rent." The management rate includes the landing and housing rate, and a large importer has defined the services rendered for this charge in the following terms:—

"Landing, wharfage, conveyance to warehouse, housing, sampling for importer and broker, sorting to marks and descriptions, weighing, examining for damage, laying down for broker's inspection, and attendance on broker, laying out in showroom for public sale, attendance while on show and sampling, adjusting to weights after sale, coopering, nailing down, trucking and piling for delivery, re-weighing and delivering to land conveyance. The rate also includes furnishing warrants and landing accounts."

Although this sounds formidable, an examination will prove that the greater portion of it represents work which is quite superficial. For instance, in "sampling for importer and broker," only one chest in a break is sampled, and when it is considered that a break consists more often of fifty chests than less, it is apparent that this entails no great amount of work. "Sorting to marks and descriptions" is for the convenience of the wharf in delivering. "Weighing" is only weighing the chest gross as it arrives. "Examining for damage, laying down for broker's inspection, and attendance on broker, laying out in showroom for public sale, attendance while on show and sampling," are quite small items in dealing with a large number of chests. "Coopering and nailing down" applies to the sampled chests only, and although the rate includes furnishing the warrants, it does *not* include the warrant stamp (3*d*. per warrant).

"Bulking and taring" are rates that do not apply to every package. Teas are not infrequently bulked on the estate, and when this is done they are very rarely re-bulked. In regard to taring, according to the Customs regulations, a certain number of chests in every break must be tared from the gross weight of the packages, in order to ascertain the amount of duty to be collected. Should there be a variation of more than a couple of pounds in the weight of the chest, nails, and lead—*i.e.*, the tare each chest of the entire break must be tared, involving the heavy charge of 1s. per package throughout. In regard to "rent," all teas are sold on a "three months prompt," and rent is charged for these thirteen weeks, less five weeks, the rent for which is included in the management rate." In most cases buyers take delivery of the tea within two or three weeks of the auction; but, however soon they may do this, the eight weeks' rent charged upon the tea, to make up the three months, has to be paid by the importer.

We have been at pains to explain the actual charges complained of by producers, and will now proceed to point out why they are considered onerous, but before doing so must first draw attention to the fact that the whole of the bonded tea warehouses in London are in a "ring." Treating the London and India Docks Joint Committee as one body, there are nineteen tea warehousing firms in the Tea Clearing House, which Clearing House has a large number of subscribers, including all the principal buyers and brokers in the trade. According to the rules of the Clearing House, "No subscriber shall be entitled to warehouse or deposit tea with, or employ in connection with tea, any dock company or tea warehouse-keeper who is not a member of the Clearing House or to purchase or sample any tea from the warehouse of any non-member." The "ring," therefore, is most complete, for should a dissatisfied body of importers attempt to start a co-operative warehouse of their own, they find that they have the whole of the tea trade banded against them under the rules and regulations of this Clearing House. We shall have more to say about this matter later on.

Returning to the subject of the charges, it is clear, both from internal and external evidence, that they are excessively high as consideration for the services rendered. First we will deal with the internal reasons that lead us to this conclusion. There is a charge, not given in our table, but sometimes required, for "re-showing for public sale" of 1s. 4d. per package, and it this is added to the

'landing and housing rate" of 1s. 6d. per package, we get a combined rate of 2s. 10d. per package for performing exactly the same services as those covered by the "management rate," excepting that each package has to be handled a second time. For this second handling a charge of 1s. per package is thus demanded, which is absurd when the small amount of labour and time involved is taken into account. Then "bulking and taring," if done together, are charged at 1s. 5d. per package, but if done separately the two operations cost 2s. per package. Now the sole difference produced by dividing the operations into two is that each package of tea has to be opened and closed twice instead of once, and for this additional opening and closing of a chest of tea the charge of 7d. is made. Just imagine what wages workmen with all the skill produced by handling thousands of these chests in a year would earn if they were enabled to charge the warehouse-keepers anything like this price for their time and labour!

Secondly, we assume that the warehouse charges are exorbitant, from this external or public reason—there is the keenest competition amongst those engaged in the warehousing business to secure the handling of tea However much warehouse charges in other trades may be cut, it is admitted on all sides that the warehousing of tea is the most profitable. Hence it affords a fine broad margin, and in spite of the most stringent regulations against the "cutting" of rates, or the granting of special privileges to individuals or companies, we believe that a great deal is done by warehouse-keepers in both directions in order to obtain new business. We know for a fact that discounts greatly in excess of the official 10 per cent. have been allowed to certain companies, and this has sometimes been done in a fashion that verges on the dishonourable. However that may be, the questionable habit certainly flings the door open to fraud on the part of managing directors and other officials of tea companies One case in particular is in our recollection. We have carefully altered the figures; but the actual results were proportionately as we state. Let us assume that the company in question handled 20,000 chests of tea in the year, the dock charges would have been nominally £4,392, upon which the fixed 10 cent. discount would have come to £439. As a matter of fact, £1,098 in discount was allowed and the £661, or rather the proportionate actual figure, was *paid over in sovereigns* so as to avoid unpleasant documents in the nature of evidence that the bond of the "ring" had been ignored. The officials of the company that received this extra money were practically told "We don't care what you do with this money, but do not let the fact that this extra discount has been granted leak out." Subsequently, complaint was made that the company's officials, acting in perfect honesty, had put down the true amount paid by the company for dock and warehouse charges, and not the amount allowed by the rules, in its accounts. This led to awkward questions being put to the warehouse-keeper by his brethren as to why the rates worked out so low. What his answer was we do not profess to know.

It follows that abuses of the most serious kind are fostered by this combination to enforce high charges on tea, and an iron-bound "ring," and the practices known to be adopted to dodge its exactions are calculated to cast a slur upon the whole body of gentlemen connected with the trade. So grievous have the complaints become that many of the warehouse-keepers would welcome a reduction in rates, or rather an increase in the discount allowed. We believe that a motion to this effect was proposed to the members of the Tea Clearing House not long ago, but the suggestion was rejected mainly owing to the energetic opposition of the representative of an important warehouse-keeping firm. Yet we are informed on very good authority that this very firm has granted a discount considerably higher than the official 10 per cent. in order to obtain new business or retain some of its old. We, therefore, think that importers are fully justified in asking for a liberal revision of, or an increase in the discount upon, these charges to at least 25 per cent. The business would even then pay very well, and there would not be the sore and angry feeling prevalent that one tea company may be paying the official rate, while another is obtaining a secret and dishonest reduction, or, worse still, that some official may be personally benefiting by corrupt and corrupting discounts to the detriment of the company he represents Energetic action on the part of the tea trade as a whole in regard to this matter is rendered difficult by the very nature of the ownership of tea warehouse; but this is a large matter in itself, and we will deal with that branch of the subject next week.—*Investors' Review.*

BROWN BLIGHT OF TEA.

The *Kew Bulletin* for August contains the following :—

The "blights," which affect tea in Assam, were investigated and described in the *Kew Bulletin* for last year (pp. 105-112). Another and different one has made its appearance in Ceylon, and has been transmitted to Kew for investigation by Mr. J. C. Willis, M. A. F. L. S., Director of the Royal Botanic Gardens.

[CORRESPONDENCE.]

Director, Royal Botanic Gardens, Peradeniya, Ceylon, to Royal Gardens, Kew.

Royal Botanic Gardens, Peradeniya, Ceylon, April 10th, 1899.

Sir,—By parcel post this week I send you a tin containing some specimens of a fungus blight which is causing considerable injury to tea in many of the planting districts of Ceylon. It resembles the "grey blight" of Assam (which is also common here) in its action on the leaf, and I have recommended similar measures for its eradication to those used for that pest. The specimens enclosed show the conidial fructification of the fungus, and I am sending them in the hope that you may be able to give me the name of the fungus to enable me to round off my investigations into its ravages and life history. In the event of your publishing any account of this disease, I have to request that the name of the estate mentioned on the specimens be withheld from publication Notes upon the disease are given below.—I am, &c.,

(Signed) John C. Willis.

The Director, Royal Gardens, Kew.

(*Enclosure.*)

Specimens from Maskeliya district, 4,000 feet above sea level, sent to Kew. Fructifying specimens pinned. Collected 7th April, 1899.

Disease like grey blight in appearance and effect, but characterised by chocolate-brown colour of fully diseased spots on the leaves attacked. Common in the Central Province.

Shows first on upper side of leaf, and soon afterwards on lower also. Appears as yellowish-brown patches, which rapidly spread and darken to a chocolate, or almost black colour, and, as they extend, their central parts dry-up, die, and often fall out if the leaf is roughly shaken. When the leaf is held up to to the light, a yellowish band, 1-3 mim. wide is seen round the infected area, due to the spreading of the mycelium into the still unattacked area of the leaf, which loses its green colour.

Fructifications not often seen; on the accompanying specimens they show, in typical form, as pinkish spots, more or less concentrically grouped. The spores are oval-oblong, unicellular, hyaline. The blight spreads very rapidly, and does much damage. Measures of treatment recommended are the same as for grey blight.

J. C. W.

April 10th, 1899.

MR MASSEE'S REPORT.

The specimens were examined by Mr. Massee, the Principal Assistant for Crypotgrams in the Herbarium of the Royal Gardens. He furnished the following report :—

"The fungus proves to be undescribed, and may be known as *Colletotrichum camelliæ*.

"All the many known species of *Colletotrichum* are parasites, and many are destructive to important economic plants.

"Spraying with Bordeaux mixture, or with ammoniacal solution of carbonate of copper has proved effective in checking the spread of other species of *Colletotrichum*, and would probably prove beneficial in the present instance. In spraying plants like the tea, having glabrous leaves, success mainly depends on the fineness of the spray, which should hang like a fog. A coarse spray causes the solution to form drops which roll off the polished surface of the leaves.

"In addition to spraying, all diseased leaves should be collected and burned, as *Colletotrichum* is a form-genus (= the conidial condition of an ascigerous fungus), and if the leaves are allowed to fall and remain on the ground under the trees, the higher form of fruit would form on the decaying leaves and inoculate the new leaves the following season."

May 3rd. 1899. G. M.

MR. MASSEE'S DESCRIPTION.

The following description has now been prepared by Mr. Massee :—

"The fungus present on the leaves proves to be a species of *Colletotrichum*, a genus perhaps too closely allied to *Glæosporium*,

differing only in the presence of a variable number of coloured spines being intermixed with the conidiophores. Numerous species belonging to these genera are known as destructive parasites, attacking more especially leaves and fruit.

"The leaves of the tea plant are probably infected in the first instance by floating spores settling on their upper surface when damp. The discoloured portion of the leaf corresponds to the range of mycelium in the tissues Eventually the central portion of the blotch changes to a dull grey colour, and becomes studded with numerous very minute black spots, which are often arranged in irregular circles. These points correspond to the clusters of spores which rupture the epidermis of the leaf and become free on the surface, whence they are washed by rain or carried by wind to other leaves. After the spores are mature, those portions of the leaf on which they are produced become dry and brittle, and are blown about by wind, and as many spores still adhere to such floating fragments, it is not difficult to understand why the disease spreads so quickly when once established in a plantation."

PREVENTIVE MEASURES.

Ceylon. Central Province. On living leaves of *Camellia thea.*

Bordeaux mixture has been proved to arrest the spread of disease caused by other species of *Colletotrichum*, as *C. lindemuthianum* on scarlet-runners and French beans, *C. altheæ*, on hollyhocks, &c., and would probably prove effective in the present instance. Care should be taken to experiment at first with a very dilute solution until its action on the leaves is ascertained.

Diseased leaves should be picked before the spores are mature; that is, as soon as the first indications of the presence of the fungus are observed. If this practice was universally followed through the infected area, the disease could be readily exterminated.

NITROGENOUS MANURES.

Continuing his remarks in the *Gardeners' Chronicle*, Mr. J. J. Willis of Harpenden, says :—

NITROGEN FOR PARTICULAR CROPS.

The influence of the kind of crop in determining the possible profits from the use of the materials applied affects more particularly the constituent nitrogen. For example, the liberal application of materials containing nitrogen to crops which possess a low market value may result in a maximum production, that is, as large an increase in yield as it is possible to obtain; yet because the nitrogen is so expensive, the value of the inceased yield may not be equal to the cost of the nitrogen applied.

On the other hand, its application to crops of a high market value, though not causing so large a proportionate gain in crop, may result in a larger profit, because the cost of the nitrogen, though considerable, is relatively a small item when compared with the increased value of the crop obtained from its use.

The adjustment of the fertiliser to the kind of crop is not a matter of indifference. In the one class of crops, only a small application can be afforded, while in the other case even an excessive application may be profitably made, if by the excess a maximum crop is obtained

MOST SOLUBLE FORMS OF NITROGEN.

In the next place, the form of nitrogen used is very important, particularly in the culture of early market-garden crops, or such as are improved in quality, and thus increased in value by virtue of quickness of growth Market-garden crops, as turnips, beets, lettuce, tomatos and others, in order to be highly profitable must be grown and harvested early. At this season the natural soil agencies are not active in the change of soil-nitrogen into available forms; and the plants must therefore be supplied artificially with the active forms of nitrogen, if a rapid and continuous growth is to be maintained. Their edible quality is dependent to a marked degree upon this rapidity of development; hence a supply of plant-food in reasonable excess of ordinary demands is essential, in order that unfavourable conditions of season may in part at least, be overcome.

Nitrogen exists in commercial products in a form that is immediately available, namely, nitrates; yet the fact that a nitrate is extremely liable to loss, for the reasons already given, makes it desirable to determine—first, whether this most available form is in actual practice of greater or less service than those other forms which are rapidly changed into this active form, but which before their change are not liable to be lost from the soil. For example, the nitrogen in nitrate of soda is immediately available to the plant; if it is applied before or at the time of seeding in such quantity as to meet the entire demands of the crop, an opportunity is afforded for loss previous to the time that the plant has thrown out its roots and is able to gather it from the soil, and also during its early growth, when it is unable to gather it rapidly. Sulphate of ammonia or dried blood are forms which change very rapidly into the nitrate form, but which previous to that change are readily held by the soil.

In the use of any of these forms of nitrogen, therefore, the conditions which prevail between the time they are applied and the time that they can be used by the plants, would determine their relative usefulness.

LIPTON'S TEA PACKERS.

APPEAL FROM THEIR EMPLOYEES TO THE PUBLIC.

We have received from Mr. T. Chambers, General Secretary of the Workers' Union, 181, Queen Victoria-street, E.C., a statement relative to the conditions now prevailing at the tea-packing warehouse of Messrs. Lipton, Limited, London. The men are asking for better treatment, which has been refused, consequently they wish to place their case before the public before resorting to extreme action.

There are about 1,300 men, women, and girls employed at the warehouses in the City-road, who may be classed as unskilled workers. The average number of hours worked per week is fifty-five, the wages for the men employed in the tea department, coopers, porters, mixers, blenders, &c., varying from £1 to £1 2s. per week. The wages of the girls average about 7s per week. In the cacao and chocolate department the wages of the men vary from 15s. to 24s. per week. The general conditions are most harsh, a prepetual superveilance and petty tyranny prevailing.

When the men first began to organise there were a large number of them who were in receipt of the small sum of 18s. for fifty-five hours' work, and at the present time there are some six men, ages varying from twenty to forty years, employed in the cooper's department at marking, scraping, and carrying the tea chests downstairs and distributing them to the girls, to pack, for which they receive the varying amounts of 13s. to 18s. per week as wages.—*Daily Chronicle*, September 18th.

STRAY NOTES ON MANURES.

Grass Manures.—Sir John Bennett Lawes and Sir J. H. Gilbert's famous experiments at Rothamsted, demonstrate that while nitrogenous manures, such as ammonium salts and nitrate of soda, are most beneficial to grasses, potash and phosphoric acid produce the most profitable crops of leguminous plants. Further, if farm-yard manure can be liberally used for grasses it will not, as a rule, be necessary to apply potash artificially; but phosphates may advantageously be used as basic slag and nitrogenous manure in the form of nitrate of soda, which, however, should seldom be used at the rate of more than 1 cwt., or at the most, 1½ cwt. per acre. As a result of their experiments they state that one of the very best artificial manures which could be applied to pasture land is 1 cwt saltpetre mixed with 3 cwt. of basic slag per acre. At Rothamsted 500 lbs. potassium sulphates, 100 lbs. sodium and magnesium sulphates, 3½ cwt. superphosphates, 400 lbs. ammonia salts, and 2,000 lbs. cut wheat straw have been used yearly on meadow land, which has been laid down as pasture for over 100 years and on which no fresh seed has been sown for upwards of forty years. Under these conditions, this mixed manure produced 51¼ cwt. of hay per acre at the first cutting during the twenty-fifth year of using artificial manures, while pasture land that had during the same period remained unmanured gave a yield of only about 9½ cwt. per acre. It ought to be unnecessary to point out that a pasture cannot be expected to continue productive unless some return is made to it to compensate for the continual drain caused by the production of meat, milk, &c., but the truth of this obvious fact is not yet recognised as it should be by every farmer. Every 10 gallons of milk contains nearly ½ lb phosphate of lime, so that a cow giving 17 quarts per diem removes 1½ lb per week, or the equivalent of 1½ cwt. bone meal per annum, while every 100 lbs. of cheese contains 1½ lb. of phosphate of lime

which is equal to about 5 lbs. of bone meal. An impression prevails that the use of artificial manure on pasture land is exhausting both to the land and the plants; but this is so only when one fertiliser, such as nitrate of soda, is used to excess, without corresponding proportions of phosphates, potash and lime.

A simple Way to tell if Soil needs Lime.—The following methods have been taken from Bulletin No. 59 of the New Hampshire College Experiment Station by our trans-Atlantic contemporary *Gardening*, and are so simple and inexpensive that they can readily be used by every gardener in testing his compost heap and potting soil: "A tablespoonful or more of soil is placed in a tumbler or cup, and moistened with sufficient water to make the mass of about the consistency of a thick paste. It is best to allow it to stand for from fifteen to twenty minutes before making the test, though it may be made at once. With a knife-blade part the soil, and introduce one end of a slip of blue litmus paper (a few pence will buy enough to make many tests), which may conveniently be one-half to three-quarters of an inch wide and 2 inches long; press the soil about the paper, and after from two to five minutes remove the paper without tearing it; rinse off the adhering soil with water, and note whether it still retains a blue tint or has become positively red. If the paper has been strongly reddened, it may be concluded that lime will probably benefit many crops which may be grown upon the soil. If the soil has a marked reddish tint, as is sometimes the case, it may be better to bring out one side of the paper in contact with it; and if a red colour comes through to the other side it may be concluded that the soil is acid. In all cases care must be taken not to handle the end of the paper which is used for making the test, since the touch of the fingers may redden it, and thus one might be deceived. By another method a teaspoonful of soil is stirred into a glass of water to which a few drops of ammonia have been added, and the whole set aside for some hours; the liquid which remains at the top will be nearly colourless, but where lime and magnesia are lacking in a soil the liquid has usually a dark brown or black appearance, the intensity of colour depending upon the amount of soil taken, and of course upon its need of lime." Wood ashes contain a large amount of lime in a very available shape, as well as other valuable fertilizer ingredients. When they are not at hand air-slaked lime can be used. It must be remembered that lime mixed with manure, bone, or any substance containing ammonia will set the ammonia free to pass off in the air and be wasted. In using lime or wood ashes they should be mixed with the soil before the other fertilizers are added, and the soil allowed to stand for some time.

Manure for Indoor Plants.—(1) Sodium chloride, 10; potassium nitrate, 5; magnesium sulphate, 5; magnesia, 1; sodium phosphate, 2; mixed and bottled. Dissolve a teaspoonful daily in a litre of water, and water the plants with the solution. (2) Ammonium nitrate, 40; potassium nitrate, 90; ammonium phosphate, 50; 2 gm. is sufficient for a medium-sized flower-pot. (3) Ammonium sulphate, 10; sodium chloride, 10; potassium nitrate, 5; magnesium sulphate, 5; magnesium carbonate, 1; sodium phosphate, 20. A teaspoonful to a litre of water. (4) Ammonium nitrate, 40; ammonium phosphate, 20; potassium nitrate, 25; ammonium chloride, 5; calcium sulphate, 6; ferrous sulphate, 4. Dissolve 2 gm. in a litre of water, and water the plants with the solution. (5) Potassium nitrate, 20; potassium phosphate, 25; ammonium sulphate, 10; and ammonium nitrate, 35. This mixture produces a luxuriant foliage. If blooms are desired, dispense with the ammonium nitrate.

Fertilizers improve the Quality of the Crop.—Even in the fertile portions of the west (America), where soil enrichment is scarcely necessary, the quality of the crop can usually be improved by an application of fertilizer even if the yield of fodder or ear corn is not increased. Whether or not this is sufficient to warrant an application of the material, each farmer must determine for himself.

Home-made Fertilizers the Cheapest.—The Ohio experiment station concludes that, so far as a single season's work can show, there is no superiority of the factory mixed over the home mixed of equivalent composition and that the cost of the fertilizer is greatly reduced by home mixing.

Cheap Manuring.—An experienced planter writes to the *Times of Ceylon* as follows:—

"I am not very much taken with Mr Bamber's cheap manuring. Practical planters can't get much nitrogen at Rs.9 per unit, for Rs.28 per acre, and where, oh! where, is the potash and phosphoric acid? It takes a lot of careful forking to match a good hole 2 ft. × 1½ ft. × 9 inches well filled with well-mixed manure at Rs 120 per ton—5 cwt. per acre—a hole to each tree. But, who is going to do this under Rs.10—or for Rs.10—for holing and application—to which add Rs.30 cost of manure? And, think you that this 2½ ounces of manure per tree is going to replace the wastage due to a crop of 500 to 600 lbs. of tea per acre over four years? Go to! Of course, it is quite possible to reach each tree by forking every second line only, and, to do this for under Rs.5 per acre,—but even then you can't evade the cost of the manure—while, of all the works that a cooly can scamp, forking is the one most difficult to supervise. On badly-lined estates also it would be impossible to take the missed-out lines at the next manuring. Even on well-lined estates after three years with an intermediate change of superintendents, who is going to pick up the lines that were not forked at the previous application? No! on good flat land (of which few up-country estates have 25 per cent.) forking under supervision is all right—elsewhere holing is safest, except on very steep land, where it is best to dibble manure in with an *alavangu*—and very cheap work of all kinds is very nasty work, as a rule; and from all cheap manures—deliver us!"

TO INCREASE THE ADHERENCE OF FUNGICIDES.

Notes on investigations on means for increasing adherence of fungicides, by J. Perraud (in the Comptes Rendues of the Academi Scientifique of Paris, state that in order to ascertain the degree of adherence of a number of fungicides, the author conducted a series of experiments with a solution of 2 per cent. copper sulphate rendered slightly alkaline with fat lime, 2 per cent. copper sulphate and 2 per cent. fat lime, 2 per cent. copper sulphate rendered slightly alkaline with sodium carbonate and neutral copper acetate To these different solutions a number of substances were added to render them more adherent.. Among those used were dried blood, the white of egg, gum tragacanth, glue, soap, and resin. Eau celeste was also tested. After spraying these upon grape leaves and fruits and allowing them to dry for two hours in the sun both the fruit and leaves were subjected to an artificial rain amounting to 4 mm. and the percentage of copper adhering to them determined. The results show that all the modern fungicides are less adherent to the fruit of the grape than to the leaves. From the standpoint of their adherence the fungicides tested are reported in the following order: (1) The solution of copper sulphate made slightly alkaline with carbonate of soda; (2) the copper sulphate made slightly alkaline with fat lime; (3) the solution in which equal quantities of copper and lime were used; (4) neutral copper acetate; (5) eau celeste, and (6) copper sulphate and slaked lime.

Of the substances used to increase the adherence of the fungicides, resin was by far the best, followed by soap, potassium silicate, molasses, gum tragacanth, and glue. The other substances employed either were without apparent effect or seemed to diminish the adherence of the fungicides. It is ascertained that the nature of the lime which enters the preparation of Bordeaux mixture is of great importance. Quicklime only should be used, and it should be slaked at the time of using. On account of the remarkable adherence of resin mixtures, especially on the fruit, the author proposes continuing investigations with fungicides containing this substance.

THE KOLA NUT.

In an article in his book on Hausaland, Mr. C. H. Robinson states that kola nuts are in everyday use throughout the Hausa States, though the tree, *Sterculia acuminata*, is not indigenous. The habitat, he says, is in the country at the back of the Gold Coast Colony, and it is also found near the river Gambia. He describes the fruit as resembling large-sized chestnuts, encased in long pods, each containing four or six nuts. The pods grow in bunches of three or four together. The colour of the nuts is generally brick red, though it varies somewhat, especially in the Far West, where the colour ranges in all shades between red and white. Amongst the Bambara tribe, kola nuts are used as tokens, each colour having a special meaning; thus a white kola is a sign of friendship and goodwill, whilst declarations of war, proposals of marriage, &c., are conveyed by transmitting a number of nuts of certain colours. The best kola nuts come from Gandja, and they are of a uniformly red colour. These find their way

to Kavo, the capital of the Central Soudan. The merchant is obliged to exercise the greatest care and attention, so that the nuts may reach the market in a saleable condition. In order to do this, they have to be kept in a constantly damp condition, for, should they be exposed to the air and allowed to dry, they become as hard as wood and lose 90 per cent. of their value. The method of preservation adopted is packing the nuts in baskets, and covering them with fresh green leaves. Every four or five days they should be re-packed, and those which have become mildewed are removed The substantial profit, however, made on those which reach the market in good condition more than compensates the merchant for the amount of trouble taken. It is interesting to note that the natives, both rich and poor, have for generations sought after kola nuts, and are willing to spend their last piece of money in obtaining one. They say that a nut keeps off the pangs of hunger, and enables them to work for long periods without food. The whole of the trade is at present in the hands of the natives, and Mr. Robinson relates that on one occasion he met a caravan consisting of about 1,000 men, together with a large number of donkeys carrying kola nuts towards Kavo. The value of the nuts in the caravan, which was only one out of the several which annually proceed to Kavo, was little less than £100,000 sterling —*B. & C Druggist.*

TEA, ETC., COMPANIES.

Kyntyre Tea Estates.—The Kyntyre Tea Estates Company, Ld., has made a profit of £5,770; and the directors recommend an ordinary dividend of 8 per cent., besides placing £500 to depreciation account, and carrying £121 forward.

Scottish Trust and Loan Co.—The Scottish Trust and Loan Company of Ceylon, Ld., is paying 5 per cent. for the year, and 5 per cent. bonus, placing £1,000 to reserve, and carrying forward £1,565

The Ottery Tea Company of Ceylon, Ld.—The report of the Directors says:—The crop secured was 141,555 lbs., against an estimate of 160,000 lbs., the shortage being due, in great measure, to unfavourable weather. After deducting R1,000 from reserve account, as arranged last year, to pay for part of the amount spent on manure, viz., R2,827 60, the tea has cost, laid down in Colombo, cts. 27·31 per lb., or, without manure, cts. 26·02 as against cts. 25·05 last year. The net average price realised was cts. 46·91 as against cts. 42·40 last season, which may be considered very satisfactory. After making provision for the interest on mortgage, &c., the balance of profit available amounts to R24,466·52. Of this amount R8,940 was absorbed by the payment of an *interim* divided of 3 per cent. to 31st March last, and the directors now recommend that a final dividend of 5 per cent. be paid, absorbing R14,900, that a bonus of R500 be paid to the Superintendent, and that the balance of R126·56 be carried forward to the next account.

Hornsey Tea Estates Company (Ceylon).—The Hornsey Tea Estates Company, Ld, is to pay the usual 6 per cent. on its Preference shares, and 2 per cent. on its Ordinary shares, besides writing off £310 for preliminary expenses, and carrying forward £11.

The Carolina Tea Company.—The Carolina Tea Company of Ceylon, Ld., pays 7 per cent. on the Ordinary shares; places £1,200 to Reserve, and carries forward £1,199.

GUTTA AND RUBBER IN BRITISH NORTH BORNEO.

The following report by Mr. Henry Walker, Commissioner of Lands, is taken from the *British North Borneo Herald*:—

Borneo Guttas and Rubbers are quoted in the price currents of the world and are well known to trade. They have been collected and are still being collected by Dyaks in the vast jungles of British North Borneo. There are many qualities of gutta, the price of which varies from $30 to $380 a picul, say, 5½d. to 5s. 9d. a lb. Of rubbers there are several kinds, but the price is more constant, say, about $60 to $80 a picul or 10d. to 1s. 2d. a lb. The railway to the interior, now constructed as far as Beaufort on the Padas river, promises to increase the export of gutta from the West Coast of British North Borneo as parties of Dyaks are already making their way up to the interior by the route in larger numbers than hitherto. In 1896 one Dyak Chief Nakoda Ball came down the Penga Gorge road with some Muruts from the far interior of North Borneo and sold his collection of gutta for $3,600 (that was the first time that any of the interior tribesmen had seen the sea), but the collections likely to be made by Dyaks in the near future will probably beat that record. The Dyak collector only fells gutta trees over six inches in diameter, because, as he says, trees of a smaller size have too thin a bark to yield any gutta. Consequently the gutta collector does not exterminate—he merely collects a ripe crop and leaves nature to furnish a further supply in years to come. In this respect he differs from the gutta leaf collector who fells every tree, small or great: and, if leaf collecting is allowed, extermination must ensue—or so few trees will be overlooked that future collection will not pay. Another point against the leaf collection is the weight of the leaf, if not dry—the trouble of drying it—and when dry the small percentage of gutta extracted.

Having felled a gutta tree, the collector rings the trunk at intervals of about seventeen inches—cutting through the bark to the wood—and, if available, places a piece of bamboo below each cut to receive the juice and keep it clean. A great deal of the variation in price is due to bad treatment and to adulteration with leaves, twigs and soil. There are many trees in British North Borneo yielding gutta, but I am not yet able to give any but native names. At Tenom at the junction of the Pagalan and Padas rivers, which is to be the terminus of the present railway, a fair is now held every fifty days and is attended by traders who carry up salt, cloth, matches and luxuries, such as Rimmel's scents in superior bottles! and bring down gutta, rubber, dammar, rattans, bees-wax, skins, &c. At Tenom there are seven kinds of gutta with the following native names:—

Ilang, two kinds, red and white, price $100 a picul. At Kaningow, thirty miles higher up the Pagalan, this is better prepared and fetches $120.

Gutta Durian, red, $100.	Merrisa, $60.
Gutta Tagal, $80.	Menown, $30 to $40.
Bajoorye, $80.	

Of rubber two kinds are brought to the fair:—Kubal at $60 and Menungun or Gutta Lichak at $80.

The Menungun rubber creeper is cultivated by the natives dwelling on the Telicosan river, a very large stream—so large indeed that at times it causes a flood on the Padas. There are several large villages with long houses well raised above the ground containing sixty doors, *i.e.*, families. Some of the people have plots planted with the Menungun creeper which they tap after about the seventh year and only retap when the last wound has healed, which probably means once a year. I am told that this creeper attains a diameter of twenty inches. I have seen it fully six inches thick on the Segama River and it is known all through North Borneo by the same name. The fruit resembles a very large orange and is sweetly acid—a most delicious fruit to eat. So far as I know it ripens in October. It should be grown together with rotan, which assists the creeper in climbing upwards.

All the above guttas and rubbers grow in the Tenom district, where the Government is now opening an experimental garden under the charge of Mr. Chas. Keasberry. That gentleman informs me that he can get all the labour he requires and frequently has to refuse work to parties of natives from the Upper Padas. A large block of Tobacco land was marked out on the Upper Padas by the Borneo Tobacco Syndicate and since then the natives are constantly enquiring when the estate will be opened. From what I can gather I should say that several thousand coolies can be obtained from the Upper Padas when required for planting purposes. The women work as well as the men. Until the railway is opened to Tenom the bridle-path on the right bank of the Padas must be availed of. When I used the road in July it was in good order and I could have ridden a pony along it, except for one small landslip at Rayoh and one fallen tree. Mr Tower, the Railway Engineer, who was with me, remarked that it was as good a bridle path as the hill roads of Ceylon. The telegraph wire runs along this path which can be kept in order by the telegraph coolies at a small additional expenditure.

At present a party of Dyaks are seeking gutta on the Lower Padas district which contains gutta trees in large quantities—a very reassuring fact to the planter who may think of taking upland along the railway line. An application has just been made by the Eastern Extension Telegraph Co. for a huge block of land

between Bukow and Beaufort, along the railway line, for rubber and gutta planting.

At Kaningow on the Pagalan the great southern tributary of the Padas, a better class of gutta is brought called Kayan, a red gutta, which sells for $200 at Kimanis. It is of a superior quality, unbreakable when bent and comes from Menown on the south-east of Kaningow in the Dalit country. This wealth of natural indigenous gutta extends across the territory to Sandakan, but at Sandakan a more valuable class of gutta is obtainable. The local name is Klapeii, a large and a small leaf, red underneath, growing on low hills, the gutta from which sells for $140 to $380 a picul, say (at exchange 2/-), equal to 2/1 to 5/9 per lb.

I met parties of Dyaks on the Segama in 1885, who had been about 250 miles up that river gutta-collecting, but the Kinabatangan and its great tributaries, which extend beyond the centre of our territory up to the Eastern slopes of the West Coast hills, afford the largest gutta-collecting ground. The amounts collected must vary considerably, but, as far as I can learn, the gutta collectors earn about 9 or 10 dollars a month after paying their expenses. Their expenses are not great; a little rice, a little (a very little) clothing, matches, salt and tobacco, all of which they obtain on credit from a trader, who, of course, expects to buy the gutta on their return. He has to pay the current price and the Dyaks are quite able to take care of themselves in that respect. When in the jungle the Dyaks maintain themselves by fishing, snaring and hunting, in which they are assisted by their dogs. On the whole, the gutta collector's life is a hard one—small profit and much loss of life—but their traditions and customs lead them into the jungle, where they can indulge their taste for a wild, savage life to the fullest extent, except as regards head hunting which has been put down with so stern a hand by the European that the venturesome Dyak now only rarely takes a head

Large collections of gutta are made on the head waters of the Padas by the local natives, but these chiefly go to the independent territories and into Dutch Borneo and are sold to traders who supply repeating rifles and guns of sorts, the importation of which is not allowed in British North Borneo.

The exports of Gutta and Rubber from British North Borneo for the years 1897 and 1898 were as follows:—

	1897.	1898.
Gutta	$93,639	$125,280
India Rubber	$49,513	$ 79,600

STATISTICS RELATIVE TO TEA.

II.

We will now consider, in the first place, the figures for the first quarter of the present London market (new season), 1899-1900, *i.e.*, the figures from the 1st June to the 31st August 1899. The figures in all cases are those of the *Tea Brokers' Association*. We mention this because the figures furnished by the "Customs" and "Board of Trade" do not exactly correspond, differing, in fact, in some cases very considerably. So also, in a measure, with the figures contained in the different reports of the London tea brokers, who, with the exception of Messrs. Gow, Wilson and Stanton, generally give round numbers instead of the exact figures.

STATISTICS OF INDIAN AND CEYLON TEA.

(i).—1st June to 31st August 1899.

IMPORTS.

	1899. Lbs.	1898. Lbs.	Difference. Lbs
Indian	25,730,707	20,848,825	+4,881,882
Ceylon	29,143,330	28,503,886	+ 639,444
Total ...	54,874,037	49,352,711	+5,521,326

DELIVERIES.

	1899. Lbs.	1898. Lbs.	Difference. Lbs.
Indian	28,757,895	30,716,996	−1,959,101
Ceylon	24,560,576	23,965,282	+ 595,294
Total ...	53,318,471	54,682,278	−1,363,807

The increase in the imports of Indian tea over that of 1898 was thus 4,881,882 lbs., whilst there was concurrently a decrease in the deliveries of 1,959,101 lbs. The decrease is solely Indian, Ceylon deliveries showing a steady increase.

(ii).—1st to 31st August 1899.

IMPORTS

	1899. Lbs.	1898. Lbs.	Difference. Lbs.
Indian	13,472,938	13,350,924	+122,014
Ceylon	9,413,876	9,301,936	+111,940
Total ...	22,886,814	22,652,860	+233,954

DELIVERIES.

	1899. Lbs.	1898. Lbs.	Difference. Lbs.
Indian	10,015,542	10,377,965	− 362,423
Ceylon	8,633,180	8,385,722	+247,458
Total ...	18,648,722	18,763,687	−114,965

The increase in the imports of Indian tea over that of 1898 was thus 122,014 lbs., whilst there was concurrently a decrease in the deliveries of 362,423 lbs. The decrease is solely Indian, Ceylon showing a steady increase. Thus, for the first quarter of the present London season and the month of August last, the deliveries of Indian tea show a marked decrease when compared with the previous year We will now see how the stocks of all kinds of tea stood in London on the 31st August 1899:—

STOCKS OF ALL TEA ON 31ST AUGUST 1899.

	1899. Lbs	1898. Lbs.	Difference. Lbs.
Indian	28,474,353	28,205,617	+ 268,736
Ceylon	24,373,006	21,531,898	+2,841,108
China, &c.	18,093,689	16,077,958	+2,015,731
	* 70,941,048	† 65,815,473	+5,125,575

* Arrived to 31st August, but not yet included in above stock *Nil.*
† „ „ „ „ „ about 600,000 lbs. Ceylon.

Indian tea thus shows an increase in stock held of 268,736 lbs. only, over that held on the corresponding date last year, whilst the increase in stock of Ceylon tea is 2,841,108 lbs, and China (including Java, Japan, &c.) tea, 2,015,731 lbs.

The Tea Brokers' Association figures for September 1899 have not as yet come to hand, but the following approximate figures relative to Indian tea were wired out on the 2nd instant. We give the figures for 1898 also for the purpose of comparison.

	1899. Lbs.	1898. Lbs.	Difference. Lbs.
Imports	19,400,000	19,208 167	+191,833
Deliveries	12,300,000	11,354,452	+945,548
Stock ...	35,574,000	36,059,332	−485,332

These figures, although only approximate, are encouraging, showing that the tide for Indian tea has turned, and that taken at the ebb (as has been done), Indian tea will now lead on to fortune. The month of September has proved the turning-point for good, as the following figures will show:—

STOCK—INDIAN TEA.

	1899. Lbs.	1898. Lbs.	Difference. Lbs.
April	40,767,884	49,457,815	−8,689,931
May	31,501,541	38,213,368	−6,711,827
June ...	25,886,498	29,133,669	−3,247.171
July	25,016 957	25,232.658	− 215,701
August	28,474,353	28.205,617	+ 268,736
September	35,574,000	36,059,332	− 485,332

These figures show that at the commencement the of season the stock of Indian tea was depleted to the extent of over 8½ million pounds compared with 1898. Owing to heavy exports from Calcutta, however, the stock increased, month by month, until, in August last, the stock held exceeded that held during the corresponding period in 1898 by 268,736 lbs. September figures, however, show again a depletion in stock, and present conditions all point to a continuation of such. We think it probable that there will now be, month by month, a greater depletion of stock, thus placing the industry in this country once again on its legs.

DELIVERIES OF ALL TEA
1st January to 31st August 1899.

HOME CONSUMPTION.

	1899. Lbs.	1898. Lbs.	Difference. Lbs.
Indian .. .	85,299,773	83,597,000	+1,702,773
Ceylon	51,778,479	54,431,022	−2,652,543
China, &c.	14,239,203	12,177,282	+2,061,921
Total ...	151,317,455	150,205,304	+1,112,151

The average delivery per month this year (January to August, of tea for home consumption has thus been for Indian, 10,662,472 lbs; for Ceylon, 6,472,310 lbs.; for China, 1,779,900 lbs.; for all tea (total). 18,914,682 lbs.

EXPORTED.

	1899. Lbs.	1898. Lbs.	Difference. Lbs.
Indian	4,213,753	4,319,045	− 105,292
Ceylon	7,553,903	7,644,380	− 90,477
China, &c.	7,974,032	11,458,497	−3,484,465
Total ..	19,741,688	23,421,022	−3,680,234

TOTAL DELIVERIES.

	1899. Lbs.	1898. Lbs.	Difference. Lbs.
Indian	89,513,526	87,916,045	+1,597,481
Ceylon	59,332,382	62,075,402	−2,743,020
China, &c. ...	22,213,235	23,635,779	−1,422,544
Total ...	171,059,143	173,627,226	−2,568,083

Strange to say that, whilst the home consumption of Indian tea has increased by 1,702,773 lbs., as against the corresponding period in 1898, China tea has concurrently increased by 2,061,921 lbs., and Ceylon tea decreased by no less an amount than 2,652,543 lbs. It is evident that the consumption of China tea at home is not quite so moribund as is popularly believed. The exports of China tea from London have, however, fallen off to the tune of 3,484,465 lbs.—a very considerable amount—whilst the total deliveries of Indian tea have increased by 1,597,481 lbs. over the corresponding period during 1898. Ceylon tea has concurrently fallen-off by no less an amount than 2,743,020 lbs. and China tea by 1,422,544 lbs. Ceylon's great aim is evidently to supply foreign markets more and more, shipping to them direct from Colombo. The experts of Indian tea from London are also visibly growing less, whilst the home consumption is increasing. All things point to India following in the wake of Ceylon and shipping direct to foreign ports. If the demand for outside markets continues to increase in the ratio that it is doing at present, in a few years' time we may, like Ceylon, find it more advantageous to pay greater attention to foreign markets rather than the home market. In such case the "rings' at home will feel rather small when they find the United Kingdom allotments, but a fraction of the large supplies shipped to other marts direct. According to Messrs. W. S. Cresswell & Co.'s last tea report, dated the 6th instant, whilst only 10 per cent. more tea has been shipped to Great Britain this season than the corresponding period last season, there has been shipped to Australia 71¼ per cent. more; to America 170½ per cent. more; and 5⅞ per cent. more to sundry ports. Up to the 6th October, 41 per cent. of the teas sold in Calcutta this season have been purchased for foreign ports against 32½ per cent. during the corresponding period last year. "Coming events cast their shadows before," and unless we are much mistaken, before a few years more pass over our heads, the percentage taken by foreign markets will be very largely increased.

We have now given all the most recent figures illustrating the present statistical position of tea, especially Indian tea, so far as they relate to the trade with the United Kingdom; or, in other words, with the London market. A number of deductions can be drawn from the gures presented, to which we have not alluded for want of space.

Before concluding we will give a few statistics relative to the sales held in Calcutta, which we take from Messrs. Watson, Sibthorp and Co.'s report, dated the 12th instant. Since the season opened on the 12th May last, nineteen series of sales have been held, at which 333,466 packages sold at an average of 6 as. 1 p., or nearly 8d. per lb., as compared with 340,430 packages sold in twenty-two sales before the Pujahs last year at 5 as. 9 p., or about 7½d. per lb., and 278,950 packages sold in seventeen sales in 1897 at 6 as. 8 p. or about 8d. per lb.

Season.	Number of packages.	Average per lb. A. P. d.	Exchange. s. d.	Number of sales.
1899-1900	333,466	6 1 or 8	1 $4\frac{5}{16}$	19
1898-99	340,430	5 9 „ $7\frac{1}{4}$	1 $4\frac{1}{2}$	22
1897-98	278,950	6 8 „ 8	1 $3\frac{1}{2}$	17

The average exchange for six months' documents has been 1s. $4\frac{5}{16}$d, and the average freight £1 19 3 per ton of 50 cubic feet.

The following are the total quantities from each district since the season opened together with the averages realized:—

Districts.	Packages.	Average per lb. A. P.	d.
Assam	60,908	6 10	or 8½
Cachar	73,792	5 8	about 7¼
Sylhet	58,645	5 4	„ 7
Darjeeling	31,439	7 10	„ 9¾
Terai	27,903	5 4	„ 7
Dooars	69,640	5 11	„ 7½
Chittagong	5,813	5 10	„ 7⅜
Kangra Valley	1,486	5 4	„ 7
Kumaon	2,438	4 10	„ 6¼
Chota Nagpur, &c	1,402	4 10	„ 6½
Debra Doon	...	...	„ ...
Total ...	333,466	6 1	„ 8

The following are the grades, packages and percentages:—

Grades.	Packages.	Percentages.
Dust	7,059	2
Broken Tea and Fannings ..	16,730	5
„ Pekoe Souchong and Pekoe Fannings	22,378	6¾
Souchong and Congou	23,634	7
Pekoe Souchong	68,868	20¾
Do. do.	122,977	37
Broken Pekoe	68,464	20½
Orange Pekoe and Broken Orange Pekoe	3,356	1
Total ...	333,466	100

According to Messrs. W. S. Cresswell & Co.'s tea report, dated the 6th instant, the quantity of tea sold in Calcutta from 12th May to 6th October 1899 was 27,673,800 lbs., as against 25,841,500 lbs. during the corresponding period last year.

According to Messrs Watson, Sibthorp & Co's report, dated the 12th instant, the exports from 1st April to 9th October 1899 from Calcutta to Great Britain were 83,33 ,981 lbs., as compared with 75,123,728 lbs., at the corresponding period last season and 73,619,240 lbs. in 1897.

In conclusion, as it is important to know details of the shipments from Calcutta, we give the following statistics:—

EXPORTS FROM CALCUTTA.

	1899. Lbs.	1898. Lbs.	1897. Lbs.
To London—			
From 1st Jan. to 31st March ...	13,144,800	12,850,539	14,142,139
„ 1st April to 31st Aug. ...	52,461,655	47,904,396	48,052,802
In September... ...	23,522,893	21,935,364	20,883,935
Total for nine months ...	89,129,348	82,690,299	83,078,876
To Australia and New Zealand—			
From 1st Jan. to 30th Sept. ..	5,557,535	3,782,866	4,265,078
To America—			
From 1st Jan. to 30th Sept. ...	1,912,117	1,127,957	783,935
To all other places—			
From 1st Jan. to 30th Sept. ...	4,406,321	5,202,879	3,069,733
Grand Total for nine months ...	101,005,321	92,804,001	91,197,622
Total for six months from 1st April to 30th Sept. ...	87,860,521	79,953,462	77,055,483

The above figures include all teas for which Custom House passes have been granted (less relands, &c.)

TEA-SELLING DEVICES.

The following is a copy of a handbill circulated in a certain part of the U. K. :—

Something for a Rainy Day!—From 7*l.* to 30*l.* for every wife who becomes a widow. Every married woman, every married man should read this circular. It tells of Cobden's great scheme, and shows how you may secure an interest in it. Easy! Safe! Certain! Everybody sees the necessity of making a provision for the future, and yet how difficult it is, out of small income, to make the provision which all see to be desirable. The Cobden Tea Company (Limited) have solved this great problem. They know full well the strain that is thrown on the bereaved widow when the bread-winner is taken away, and it is the determination of the company to come to the help of the consumers of their tea in this time of special need. How is this to be done? By the payment to the widow of a substantial sum in hard-cash immediately after the decease of her husband—a sum large enough to help her to look into the future with some degree of hope and comfort. This great scheme has been put on a sound financial basis, and is being welcomed by all sections and classes, inasmuch as it secures to all widows, at no extra cost to themselves, and with no trouble whatever, a nice sum of money just when it is most needed. Commence using Cobden tea, and like thousands all over the country secure for yourselves a sure and certain provision for the future. Remember—Cobden tea is sold at a price within the reach of all, viz., 2s. per lb. Owing to its immense strength and fine quality, it will go twice as far as many ordinary teas, and is therefore cheaper. The Cobden Tea Company, Limited (incorporated under the Companies Acts, 1862 to 1898), will pay to every woman who becomes a widow the following sums of money:—If, at the commencement of taking Cobden tea, the husband is under thirty years of age, 30*l.*; forty, 25*l.*; fifty, 18*l.*; sixty, 12*l*; seventy, 7*l.*, provided she has purchased a half-pound of Cobden tea for the five consecutive weeks prior to her becoming a widow. Customers who purchase a quarter-pound of tea weekly will receive half the above sums. In the interest of *bonâ-fide* customers the company require that the husband shall be proved to be in good health at the commencement of the continuous taking of the tea. Quarter benefit in five weeks, half benefit in six months, full benefit in twelve months. Lists of moneys paid, with the names and addresses of the widows who have received the benefit, can be seen at the registered offices of the company in London, or at any of the Company's branches.—The Cobden Tea Company (Limited), 22, Charterhouse-buildings, Goswell-road, London, E. C.

CROSS-BREEDING OR INTER-BREEDING.

It is hoped that what has recently been written and said in relation to what is really hybridsation. will have cleared the air of the kind of cant that has been too plentiful in relation to it. It seems even needful to define what is really cross-breeding, because almost everyone who is engaged in fertilising flowers with pollen taken from other flowers that are precisely alike, perhaps, in every respect [No.] but colour, refers to such acts as cross-breeding or fertilisation [Why not? Ed.]. Because so much fertilisation is done by hand, it by no means follows that cross-breeding is performed. The proper term for work of that description seems to be more fitly described as "inter-breeding," which simply means inter-crossing allied flowers one with another that differ only in colour. True hybridisation, I take it, cannot possibly be performed between two genera or species that are absolutely dissimilar botanically. What is recognised as hybridisation presumably consists of combinations of members of the same genera that, all the same materially differ in appearance. A notable example is found in Harrison's Musk, the product of crossing the common Musk with Mimulus luteus. The old Clove Pink is another such family hybrid, and probably the now well-known Marguerite-Carnation is another. I once obtained such a hybrid by crossing Digitalis luteus with pollen of Digitalis purpureus, or the garden form of it. Mr. Smythe has the same sort of hybrid in his product of crossing Dwarf Kidney and Scarlet Runner Beans. But then, some of such products, as Harrison's Musk, for instance, are seedless, whilst some others, because the connection is of a less violent order, are free seeders. Crossing Sweet Peas with Lathyrus grandiflorus, Potatos with Tomatos. Melons with Cucumbers, would be real hybridisation; but Sweet Peas or edible Peas, or Potatos or Tomatos, one with another, is only inter-breeding, yet has probably been productive of more valuable results to gardening than has true hybridisation.—"A. D.", in *The Gardeners' Chronicle*.

THE GLORY OF MAN.

The crown and glory of manhood is strength—power. All human conquests have been won by it; individual and collective. The earliest sign of decay in man is not usually pain, but weakness of some kind—of mind or body, or both. This may be the inevitable sequence of advanced years, or it may, as we all know, show itself at any period of life. But it always means that the sources of strength are failing, as the lessening of the water in a river means a drying up of the springs and streams which feed it.

I said "*sources*" of strength, using the plural word. I should have said "*source*" of strength, for in human beings there is but one. What is it? Perhaps the experience of Mr. David Jones will help us to an answer.

"In the summer of 1881," he says, "I began to feel ill and out of sorts. I was weak and tired, and quite worn out with little exertion. I had a poor appetite, and after eating had pain and weight at the chest. My secretions were scanty and thick. My back felt stiff, and gave me much pain as I moved about. For three years I suffered like this, being at times better and then worse. I consulted a doctor, who gave me medicines and recommended Turkish baths; but I got no better for any kind of treatment.

"My brother then told me about Mother Seigel's Curative Syrup, but I had no faith in advertised medicines. He, however, urged me to take it, and after taking a few doses I experienced so much relief that I continued with it, and was soon *strong and well as ever*. Since that time I take a dose of this remedy when I feel at all ailing, and it sets me right. I have praised Mother Seigel's Syrup to all my friends, many of whom have tried it and been benefited by it. You can publish this statement as you like. (Signed) David Jones, 1 Dunlee Street, Walton, Liverpool, July 31st, 1896."

We have room for one more short letter before we try to come at the answer to the question with which we set out It is exactly in the same line, and ought to make the results for our inquiry all the more clear and plain.

"In the spring of 1888," proceeds the writer, "my health began to fail me. I felt languid and heavy, as if something had come over me. I had a bad taste in the mouth, my appetite was poor, and the little food I took gave me pain across the chest and between the shoulders My food lay like lead on my stomach. I was constantly spitting up a thick phlegm, and when in bed *heavy sweats came over me*. I got weaker and weaker, and from time to time was confined to bed. Often I was so bad I could not dress or undress myself.

"Now better, now worse, but never well, I suffered for over five years. I took different kinds of medicines, and had a doctor, but got no real benefit from anything.

"In July, 1893, a book was left at my house in which I read of cases like mine having been cured by Mother Seigel's Syrup. I got a bottle from the International Tea Company, Yeovil, and began taking it. In a short time I felt much benefit, and, by continuing with it, *gained strength* I could eat better, food agreed with me, and by-and-by I was *strong and well*. But for Mother Seigel's Syrup I believe I should not now be alive. You are at liberty to publish this statement. (Signed) (Mrs.) Jane Crouch, 82, Huish, Yeovil, November 29th, 1895."

What, then, do these cases show to be the *source of strength?* The answer is, *Digested Food*. That and nothing else. All strength, of body or of mind, comes from that, and that only. What, then, is the great enemy of strength, the fountain of weakness? Indigestion—dyspepsia. You see why and how. A child could not miss the argument. What, then, restores strength? Mother Seigel's Syrup. In what way? By setting the digestive machinery in healthy operation. That is what it did for our correspondents and does daily for multitudes. Use it if you need it, and pass the news to other weak ones.

MARKET REPORT.

By Mail Advices of 6th October 1899.

COFFEE.

The London Commercial Record says:—The market opened quiet with a tendency to ease, except for the most desirable qualities. Latterly the market became flat in consequence of the stringency in the discount market, and at yesterday's auctions a considerable proportion of the supplies on offer were withdrawn in the absence of adequate bids. Plantation Ceylon declined materially, but East India did not alter much, except for bold Coorg, which advanced somewhat. "Futures" have been somewhat irregular, but closing prices show only an occasional 3d loss, viz.:—

London ...	Santos ...	December delivery ...	26s. 3d.
New York ...	No. 7 Rio...	„ „ ...	4·60 cents.
Hamburg...	Santos ...	„ „ ..	27 pf.
Havre ...	Santos ...	„ „ ...	32¼ francs.
Holland ...	Good ordinary Java ...	...	26 cents.

Imports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
Tons ..	23,428	19,349	40,996	39.467

	Home Consumption.		Export.	
	1899.	1898	1899.	1898.
Tons ...	12,377	10,762	19,622	19,048

The preceding figures exhibit— Tons.

In the Imports an increase this year of	1,529
Home Consumption an increase of	1,615
Export an increase of...	574
Stock an increase of	4,079

Auctions this week have gone off as under:—

Ceylon.—*Plantation.*—32 casks 7 tierces 39 barrels 5 bags partly sold, common colory 40s, low middling to bold dull colory 66s to 85s, pea-berry 65s to 75s.

East India.—2,698 bags partly sold as follows:—*Mysore*, smalls 32s, low middling 34s, pea-berry 40s to 47s; *Coorg*, smalls 33s to 41s, middling colory 51s to 54s, bold 71s to 80s 6d, pea-berry 45s to 90s; *Neilgherry*, smalls 32s, low middling to middling 34s to 44s, pea-berry 40s to 49s; *Nelliampathy*, smalls 23s, low middling 38s; *Wynaad*, smalls 33s to 35s, low middling 34s 6d to 39s, bold 48s, pea-berry 43s 6d to 45s.

Jamaica.—12 barrels 21 bags sold—ordinary to fine ordinary 21s 6d to 31s, pea-berry 40.

Nyasaland.—115 bags mostly sold—ordinary to fine ordinary greenish 28s 6d to 36s 6d, pea-berry 37s to 41s 6d.

Costa Rica.—Of 2,186 bags offered about 1,300 bags sold—smalls 23s to 38s, ordinary to fine ordinary greenish 31s to 37s 6d, low middling 44s 6d to 48s 6d, bold 58s to 86s, pea-berry 32s 6d.

Guatemala.—804 bags offered and 470 bags sold—smalls 26s 6d to 35s, ordinary 30s, middling brownish 43s, bold blue 55s, pea-berry 47s.

Salvador.—2,181 bags catalogued only 580 sold—smalls 31s, good to fine ordinary 33s to 36s, low middling to middling 41s to 44s, good bold colory 54s to 57s 6d, pea-berry 58s 6d to 60s.

Nicaragua.—Of 209 bags offered 150 bags sold—smalls 31s 6d, low middling brownish 41s.

Colombian.—2,152 bags offered 1,300 bags sold—smalls 25s to 37s 6d, low middling to middling 39s 6d to 46s 6d, good middling to blue 48s 6d to 55s 6d, bold 50s to 69s, extra bold 75s to 96s 6d, pea-berry 43s to 90s.

Mexican.—992 bags offered and 400 bags sold, small 29s to 33s 6d, low middling 39s 6d to 40s, bold 50s to 61s, pea-berry 54s to 60s.

Auction supplies to-day consisted of—7 casks 4 barrels 1 tierce Plantation Ceylon, 325 pkgs East Indian, 93 bags East India Liberian, 18 pkgs. Mocha, 202 bags Nyasaland, 42 barrels Jamaica, 498 bags Nicaragua, 985 bags Guatemala, 344 bags Salvador, 988 bags Columbian, and 99 bags Costa Rica. The auctions went off with fair demand at steady rates.

Receipts in Rio and Santos.

Since July 1	1899-1900. Bags.	1898-99. Bags.	1897-98. Bags.	1896-97. Bags.
Rio	1,300,000	1,098,000	1,557,000	1,170,000
Santos ...	2,964,000	2,288,000	2,731,000	1,995,000
Total... ...	4,264,000	3,386,000	4,288,000	3,165,000
Crop	—	8,772,000	10,461,000	8,680,000

Rio Exchange 7⅜d, previous day 7¼d.

Havre, Oct. 5.—Santos good average October opened steady at 31½f. and closed quiet at 31¾f., December opened at 32f. and closed at 32¼f.

Hamburg, Oct. 5.—Good average Santos October opened steady at 26½pf. and closed steady at 26½pf., December opened at 27pf. and closed at 27pf.

New York, Oct. 4.—Closing prices of No. 7 Rio were as follow:—

	Oct.	Nov.	Dec.	Jan.	Feb
Oct. 4 ...	4·30	4·30	4·55	4·60	4·70
Oct. 3 ..	4·30	4·30	4·55	4·60	4·70

Prices realized at auctions for some of the principal marks of East India:—

COORG.

	A	B	C	PB	T
Bellarimotte Coorg	71-0	51-0	43-0	74-0	29-0

NEILGHERRY.

	A	B	C	PB	T
Woodlands	46-0 bid	39-0	—	46-0	—
Chatsworth	40-6 bid	35-0 bid	—	29-0	—

MYSORE.

	A	B	C	PB	T
Goody Tota Mysore	52-0	38-0	—	48-0	—
	1	2	3	PB	T
BSS◇ Someswarkhan Mysore	42-0 41-6	35-0	—	47-0	—

TEA.

China.—Auctions during the week have offered 2,754 packages, which have experienced a very poor enquiry, only a small proportion selling—Congou Saryune at 6½d, Souchong at 6½d to 7¼d, Panyong 7d, Keemum 7½d. Oolong 5⅝d to 7⅜d per lb, which prices show a decline, especially on the last-named description.

Indian.—Public sales were slightly heavier totalling 45,600 packages *versus* 44,600 packages in the week before and 50,600 packages at this period of 1898.

Partly owing to a temporary lull in the country demand there was not quite so much animation in the bidding, especially for the less desirable liquoring invoices. Common to medium leafy kinds in some instances were a point cheaper, but quotations for other sorts showed little alteration except when (as in the case of some of the Assams) quality marked a falling off. Prospects of considerable delay in transport on account of the recent landslips, seemed favourably to affect the market for Darjeelings as traffic on the railway there will be suspended for a while. Finest, particularly tippy lots, brought high figures, notably Assam:—Beesakopi Estate, BOP 2s 5d and 2s 2½d, BP 2s 1¼d; Hokungoorie Estate, BOP 2s 4½d; Pabbojan Co., BOP 2s 3½d; Sookerating Estate, FOP 2s 2¼d; Suddia Road Co. BOP 2s 2d, FOP 2s 0½d; Talup Estate, BOP 2s 1½d; Hansura Estate, BOP 2s 1d; Deamoolie Co., BP, and Scroon Estate, BOP 2s 0½d per lb. Darjeeling:—Soeyok Estate, BOP 2s 1½d; Margaret's Hope Estate, BP 1s 11½d, OP 1s 10d; Marmah Estate, BOP 1s 8¾d bid; Arya Co., BOP, and Ting Ling Estate, BOP 1s 8d; Badamtam Estate, BOP 1s 7⅜d per lb.

For 35,000 packages on Garden Account 9¼d per lb was realised, compared with 8½d per lb. for 39,400 packages and 9d per lb. for 32,700 packages in the two preceding seasons.

Deliveries for September were good, viz., 12,299,000 lbs., contrasted with 11,354,000 lbs. in 1898, and 10,161,000 lbs. in 1897.

Entries for export to the United Kingdom from 1st April to 30th ultimo were 75,692,000 lbs. opposed to 69,917,000 lbs. a year ago.

Ceylon.—The amount put forward was rather larger, being 30,300 packages, against 27,300 packages on the 26th ultimo and 18,000 packages in the previous year. A good enquiry existed for most descriptions, and the auctions passed without much change. Dealers, however, seemed more eager to secure Pekoe Souchongs and Pekoes up to 6½d per lb. than the medium grades of the latter, which occasionally passed at fractionally lower rates. Broken Pekoes with full and useful cup received attention and ruled firm, but parcels lacking these characteristics sometimes went in favour of buyers. Finest elicited brisk competition, and the following invoices gave some of the best results:—Goatfell Estate, Car TCo., 105 packages, 1s 2¾d, Gonamatava Estate, GCELd., 72 packages, 1s 2d, Mahadowa Estate, 60 packages, and Park Estate, NETCo., 76 packages, 1s 1¼d, Brookside Estate, ST&LCo., 60 packages, 1s 0½d, Mahagastotte Estate, 56 packages Ragalla Estate, 166 packages, and Talawakelle Estate, 87 packages, 1s 0¼d per lb.

The average is 8⅜d per lb. On the 28th ultimo it was 8¼d per lb. and 8½d per lb. in 1898.

September clearances from the London warehouses were satisfactory, being 9,699,000 lbs., while for the same month in the two foregoing years they were 8,469,000 and 8,937,000 lbs. respectively.

Java.—Catalogues included 1,200 packages of direct import which sold with less spirit, some lots being withdrawn owing to offers being below limit. Nearly 1,600 packages are advertised for the 12th instant.

Deliveries —The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns continue to be satisfactory, viz.:—

	Lbs.
From 1st to 30th Sept., 1899	19,145,666
Do. do. 1898	17,143,946

During the week the following have been printed for sale by public auction:—

	Sold.	Withdrawn.	Total offered.
	Pkgs.	Pkgs.	Pkgs.
India	37,402	8,243	45,645
Ceylon ...	27,987	2,355	30,342
Java	698	538	1,236
Total .	66,087	11,136	77,223

Also 1,506 packages from second hands.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated October 6th, 1899, says :—

Quantity brought to Auction in London from 1st June to Date.

	Indian.	Ceylon.	Java.
	Pkgs.	Pkgs.	Pkgs.
1899-1900	461,215	411,149	21,468
1898-1899	433,019	448,315	16,677

17,635 *pkgs.* Indian
40,637 ,, Ceylon
31,236 ,, Java
} Total 79,508 packages were offered in public auction this week.

The exceptionally heavy deliveries during September were probably due to the cessation of auctions during July and the greater part of August. The same cause doubtless influenced deliveries from the 1st June, which, taken as a whole, must be considered satisfactory.

Indian.—Bidding was not quite so animated as last week; no actual change can, however, be quoted, except that medium Teas were occasionally fractionally easier. Fine flavoured Teas continue to sell at high prices. Official advices from Calcutta give the export to U.K. for the second half of September as 11,020,000 lbs., against 11,750,000 same period last year, the total from 1st April to 30th September being 75,692,000 lbs., against 69,917,000 lbs in 1898. The following averages are worthy of note:—"Margaret's Hope," 1/8; "Amal. TCo., Dooteriah," 1/6½; "Darj. C.T. Ling," 1/5½.

Week's av. of Tea sold on Garden Account 1899—36,018 pkgs., av 9·12d. 1898, 40,020 pkgs., av. 8·33d.

Total Tea sold on Garden Account 1st June to date 1899—313,403 pks., av 8·59d. 1898—304,867 pkgs.. av. 8·91d.

Ceylon.—With somewhat heavy auctions, comprising 30,637 pkgs., against 27,680 pkgs. last week the recent activity in the market was not quite so pronounced, buyers showing less disposition to compete at current rates. This resulted in occasionally easier quotations, more especially in medium grades. Choice liquoring Teas sold well and Teas for price continued fairly steady. The official wire from Colombo gives shipments to U.K, during September as 7,500,000 lbs., against 7,500,000 lbs. last year, and estimates the quantity available for current month as 7½ to 8 million lbs. The quantity exported to U. K. from 1st January to 30th September was 77,250,000 lbs, against 74,500,000 lbs. The following averages may be mentioned:—"Carolina T. Co. Goatfell," 1/2¾; "Gen. Cey. Est. Co. Gonamatava," 1/2¼," "Madulseema Co. Mahadowa" and "Nuwara Eliya Co. Park," 1/1¼; "S T & L Co. Brookside, 1/0½; "Mahagastotte Ragalla" and "Talawakelle," 1/0¼.

Average for week 8·25d., against 8.42d. same period 1898.

Ceylon Tea soldon Garden Account 1st January. to date 1899—815,561 pkgs., av. 7.96d. 1898—888,725 pkgs., av. 7·67d.

Java.—The auction passed with fair spirit, although in sympathy with other grades competition was not so marked, although some fair Teas were offered.

(IN THE UNITED STATES.)

On Wednesday, September 6, the Montgomery Auction and Commission Company sold 4·643 packages tea, viz., 629 Moyunes, 536 Pingsueys, 68 basket-fired Japans, 182 Congous, 66 Indias, 174 Foochows and 2,995 Formosas. Terms net cash in bond, unless otherwise stated.

Greens.—The offering was small, and an improvement of ¼ at ½c was shown.

304 packages fine liquor Moyune sold as follows: 26 double half-chests rather good extra Gunpowder, 21½c; 29 half-chests good first Gunpowder, 17c; 23 half-chests rather good first Imperial, 16c; 9 half-chests poor second Imperial, 12½c; 24 double half-chests good extra Young Hyson, 16½c; 88 half chests fair first Young Hyson, 13c; 92 half-chests good second Young Hyson, 11½c; 13 half-chests plain third Hyson, 11c. Average, 14.05c.

105 packages good medium liquor Moyune sold as follows: 11 double half-chests good extra Gunpowder, 2 1c; 9 double half chests good first Gunpowder, 16½c; 6 half-chests plain first Imperial, 15c; 10 double half-chests good extra Young Hyson, 16½c; 34 half-chests plain first Young Hyson, 12½c; 23 half-chests good second Young Hyson, 11½c; 12 half-chests good third Hyson, 12c. Average, 13.97c.

Pingsueys.—Previous rates were well maintained.

278 packages fully medium were sold as follows: 110 boxes good first Gunpowder, 15c; 102 boxes good plain first Gunpowder, 14½c; 66 boxes good first P. L. Gunpowder. 14½c. Average, 14.70.

Japans.—Pan-fired: None offered. Quotations are: Choicest, 29½c; finest. 27 at 27½c: fine, 25½c. Sun-dried: None offered. Dust and nibs: None offered.

Congous.—Duty paid, Quotations are: Fully medium Pecco, 22c.

Amoys None offered.

Foochos.—Duty paid. Quotations are: Good, 22c.

Formosas.—The offering consisted mainly of grades below superior. Prices realized were on a parity with previous sale. Two small lines of fine tea. printed, showed a marked advance. Quotations are: Fine, 20c; superior, 13½c; good, 11¾ at 12c; fair, 11½c.

COCOA.

Auctions were limited to the small supply of 1,558 bags which small supply attracted but little attention. Under the hammer about 420 bags sold without much change in prices. Of 153 bags Trinidad offered barely 50 bags sold—fine red at 72s to 72s 6d. 247 bags Grenada were placed at valuations, fully fair at 64s. 257 bags Bahia partly sold at 58s for grayish, being about steady. Of 155 bags Samana a few bags sold at 55s 6d to 58s 6d. 29 bags Surinam, 264 bags Guayaquil and 78 bags Java retired unsold. Of 385 bags Ceylon offered about 70 bags sold firmly—good bold bright red 80s, fair to good small red 49s 6d to 58s 6d, blacks 45s 6d per cwt. Privately 200 bags Trinidad sold at 71s to 73s 6d for good to fine red, 25 bags Puerto Cabello at 115s, and 1,000 bags Guayaquil—good Arriba 69s 6d to 72s and grey Caraquez 65s per cwt.

PEPPER.

Black.—The market remains very quiet, and values are lower. Of Singapore, about 50 to 60 tons have been sold, viz., on the spot at $5\frac{9}{16}$d, September-November shipment at $5\frac{21}{32}$d, October-December at 5¾d, and February-April at $5\frac{13}{16}$d. 25 tons September-March delivery have been sold at $5\frac{11}{16}$d to 5¾d.

At auctions on Wednesday 180 bags Penang, weight 3 lbs. 11 ozs. dust 5·11 % per gallon, were bought in at 5½d, a bid of 5d per lb. being refused.

The shipments of Black Pepper for the month of September compare as follows:—

	1st-half. 1899. Tons.	1st-half. 1898. Tons.	2nd-half. 1899. Tons.	2nd-half. 1898. Tons.
U.K.—Sing. ...	180	430	40	160
„ Penang ...	110 } 290	*nil* } 430	*nil* } 40	*nil* } 160
Continent ...	120	120	210	170
United States ...	30	*nil*	*nil*	320
Total ...	440	550	250	650

White.—Inanimate, and sales unimportant. Penang has been sold at 8 7/16d for fair on the spot For arrival, no sales mentioned. At public sale on the 4th instant 35 bags Singapore partly sold at 10½d for fine. 52 bags Penang bought in at 8½d per lb.

The shipments of White Pepper for the month of September compare as follows—

	1st-half. 1899. Tons.	1st-half. 1898. Tons.	2nd-half. 1899. Tons.	2nd-half. 1898. Tons.
U.K.—Sing. ...	70	120	200	30
„ Penang ...	30 } 100	80 } 200	*nil* } 200	80 } 110
Continent ...	90	170	50	30
Total ...	190	370	250	140

GINGER.

Cochin.—A new departure has been made this week, business having been done for forward delivery for the first time in this article. 500 bags unassorted Calicut rough sold for January delivery at 26s 6d, and 500 bags Cochin washed rough for February delivery at 25s 6d, and further business in the latter up to 26s 3d. On the spot a fair enquiry exists and about 500 bags medium and small washed rough have changed hands at 23s 6d to 24s per cwt, showing a steady market. Under the hammer only 76 cases 75 bags were offered of which 13 cases medium, some small, Calicut rough, rather mouldy, sold at 25s 6d per cwt.

CARDAMOMS.

Since the auctions there has been a brisk inquiry, and full t dearer prices have been paid.

CINCHONA.

The Amsterdam correspondent of *The Chemist and Druggist*, writin on October 2, reports that the shipments from Java (according t the figures of the Nederlandsche Vriesse veem) were as follows:—

—	1899.	1898.	1897.	1896.	1895.
Amsterdam lb Supt.	1,232,000	790,000	1,051,000	1,389,000	816,00
January-September ...	8,462,800	7,926,000	5,982,000	7,418,000	5,829,70

The shipments from Ceylon for the week ending September 1 were 535 lbs. only, and the total exports from January 1 to Septem ber 12 were—

	1899.	1898.	1897.	1896.
Lbs.	483,690	690,788	526,093	881,743

QUININE.

On September 29 German makers announced a reduction of 1½d per oz. on the sulphate, and they now quote 11½d. per oz. for 1,000-oz lots. Howards' price is now 1s 2d. for 100-oz lots in 100-oz. tins, and 1s. 3d. in vials for 1,000-oz. lots. Whiffen's quote 1s. for 100-oz. tin and 11½d. for 1,000-oz. lots. Other salts have been proportionatel reduced. Immediately after this reduction second-hand sales o good German brands were made at 10¼d. for December delivery and the week closed with buyers at 10¼d, and sellers at 10½d. pe oz. On Monday there was a slight recovery, 10½d. being paid fo 6,000 oz December delivery, which improvement was maintaine on Tuesday, when some 25,000 oz. changed hands at 10¾d. to 10⅞d for December, and 10½d. per oz. spot, and on Wednesday ther were further sales at these figures. To-day 11d. spot or for Decem ber delivery is asked with buyers at 10⅜d. to 10⅞d. per oz. The ex ports from Java during July were 28 cases shipped to Amsterdam

Movements of Tea in London (in lbs.) during September.

	Imports. 1899.	Imports. 1898.	Imports. 1897.	Deliveries. 1899.	Deliveries. 1898.	Deliveries. 1897.
Indian	19,369,058	19,208,167	21,134,917	12,299,136	11,354,452	10,161,5
Ceylon	7,415,420	6,640,096	6,866,558	9,698,586	8,468,882	8,936,67
Java	304,150	419,790	325,640	357,770	388,990	372,3
China, &c.	2,329,841	3,656,017	2,195,419	2,567,129	2,535,668	2,683,0
Total lbs.	29,418,469	29,924,070	30,522,534	24,922,621	22,747,992	22,153,5

From 1st June to 31st August.

	Imports. 1899.	Imports. 1898.	Imports. 1897.	Deliveries. 1899	Deliveries. 1898.	Deliveries. 1897.	Stock. 1899.	Stock. 1898.	Stock. 1897.
Indian	45,099,765	40,056,992	41,522,611	41,057,031	42,071,448	36,982,374	35,544,275	36,059,332	36,775,4
Ceylon	36,558,750	35,143,982	36,810,832	34,259,162	32,434,164	34,117,872	22,089,840	19,703,112	22,646,1
Java	1,387,680	1,214,710	1,344,980	1,607,550	1,170,470	1,445,360	495,250	701,820	651,8
China, &c. ...	17,395,716	14,970,498	14,890,858	10,153,074	10,294,475	10,982,295	17,307,531	16,527,287	16,911,9
Total lbs. ...	100,441,911	91,386,182	94,569,281	87,076,817	85,970,557	83,527,901	75,436,896	72,991,551	76,985,3

(Average for all India 9·12d.) October 6th.

Garden.	Total. Quantity	Total. Average Price.	Broken Org. Pek. or Flowery Pekoe. Quantity	Broken Org. Pek. or Flowery Pekoe. Price.	Pekoe and Unassorted. Quantity	Pekoe and Unassorted. Price.	Broken Pekoe. Quantity	Broken Pekoe. Price.	Pekoe Souchong. Quantity	Pekoe Souchong. Price.	Broken and Souchong. Quantity	Broken and Souchong. Price	Fannings, Dust and Various. Quantity	Fannings, Dust and Various. Price
Travancore	**625**	**7·33**												
Isfield T C Isfield ...	34	6½	...	...	28	6½	...	...	...	...	...	...	6	5 6½
Kanan Dev Hil A ...	156½c	8	...	...	44½c	7½	60½c	9½	32½c	7	...	...	6	5 6½
Do. Mooreer	244½c	8	11½c	8½	53½c	7½	33½c	10½	51½c	7		...	20½c	6 8½
Rosita	90	6	...	..	51	6	30	6½	.	...	...	...	66½c	7½ 8½
Travan T Est. BA .	101	7½	...	...	43	7	58	7½ 8	...	...	3	5½	6	5½

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DOMESTIC OCCURRENCE.—The fee for inserting a domestic occurrence will be *One Rupee* for each insertion, payable in advance.

N.B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," Agra Bank Buildings, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 10th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, *1st November.*—*Weather.*—Cloudy and muggy mostly. Very little rain. Some yesterday. *Plant-diseases.*—The weather is keeping leaf-disease going. *Crop.*—Full picking will not be begun till the middle or so of the month. Some places will be even later. *Labour.*—Ample. *General Health.*—Good.

CINCHONA AND QUININE ON THE NILGIRIS.

In our present issue we give extracts from the Annual Administration Report on the Government Cinchona Department, Nilgiris, for the year 1898-99. A favourable season for the plantations was, unfortunately, accompanied—so to speak—by an unfavourable season for the sale of quinine and febrifuge. This latter fact, coupled with the initiation of a system of holding a reserve stock of chemicals, has given an unusual turn to the income and expenditure accounts; but there is no reason to suppose that the financial position of the Department is unhealthy. The receipts of the year amounted to Rs.91,039-2-8, or some Rs.9,000 less than was anticipated; the expenditure to Rs.1,94,603-14-1, or about Rs.7,400 less than was budgetted for. There was a fall in the price of bark during the year, which enabled a saving of Rs.29,680 to be effected, but of this the Director spent Rs.11,487 in laying by an extra stock of chemicals. The necessity for larger stocks of this kind was demonstrated a

year or two ago, when the factory had to suspend operations for some time owing to the loss, at sea, of a quantity of fusel oil. At the end of the year 1898-99 the Department's stock included purchased bark to the value of Rs.10,500 ; oils and chemicals, Rs.20,000 ; febrifuge, 11,274½ lbs., and a reserve of Government bark in store amounting to 228,956 lbs. Taking stocks at cost the value, at the close of the year, exceeded the opening balance by Rs.1,38,083, and Mr. STANDEN remarks that, if the quinine in store were taken into account at its current market value, "the profit for the year would have been Rs.1,32,815-1-7."

Dodabetta plantation was well cultivated and manured during the year, and continued to flourish. The total rainfall was 52·05 inches. There were the usual frosts in December and January ; but the damage done was slight. Mr. STANDEN observes, with particular satisfaction, that the oldest trees were among the healthiest and most vigorous on the estate, and that they responded readily to manure and cultivation. The plants raised from Jamaica seed were found to be, with a few exceptions, hybrids of various types, and not the true *officinalis*, or crown bark variety. On the other hand, the satisfactory growth of the plants raised from estate seed "tends to show that the local seed has not deteriorated, and that the want of success that attended the planting of recent years and led to fears of deterioration of local seed was due to the character of the old land planted, and not to any diminished vigour in the plants themselves. The importation of seed from Jamaica has thus proved to have been an unnecessary, as well as an unsatisfactory, experiment. At Nedivattam the oldest portions of the estate were looking well. Here, too, planting on old land has not proved successful, and has now been definitely abandoned, "though an experiment, on a small scale, will be tried in 1899-1900 with plants grown under shade on old land." It is intended to utilize all ground which has been denuded of cinchona for the growth of fuel trees, which will help to meet the large fuel requirements of the factory. At Hooker, again, second crops of cinchona are proved to be inferior in vitality to those grown on virgin land. The extension of 80 acres of forest-land planted during June, July and August promises to be a great success. About twenty years have elapsed since any extension of cinchona cultivation was made on the Government estates on new land and it is, Mr. STANDEN observes, "very satisfactory to note the difference between the growth on the new land and that on old land." This is one of the most important features of his report, to judge from the planter's point of view. Two other very interesting sections are those dealing with Manure and Nurseries. Mr. STANDEN's remarks under these heads are given in full on another page. The total quantity of bark harvested on the three estates during the year was 101,307 lbs., consisting of 89,354 lbs., crown and hybrid barks, and 11,953 lbs. of red barks. Purchases from private growers amounted to 405,074 lbs. The cost per pound of the year's crop is put down at As.7-4·81 per pound.

Turning now to the work of the factory, we note that the total amount of bark worked up was 461,717 lbs., and the alkaloids extracted amounted to 19,841 lbs., of which 12,603 lbs. were sulphate of quinine and 7,238 lbs. febrifuge. It was found possible, without incurring any expenditure on additional machinery, to increase the quantity of bark treated daily to 1,500 lbs., and thus there was a very considerable increase in the output of alkaloids. It has, in fact, been demonstrated that the factory, without any additions, is fully equipped to wor up to an output of 12,000 lbs. of quinine per annum, at th lowest. Mr. STANDEN says that, as at present equipped, th factory is able to deal with at least 450,000 lbs. of quinine yielding barks per annum ; the outturn of quinine woul depend on the quality of the bark treated. It is furthe stated that some of the bark purchased yielded no more tha 1·70 per cent. of sulphate of quinine, while a small quantit of bark from the Whitbeck estate gave the high figure o 6·24 per cent. sulphate of quinine. The total cost of manu facture of febrifuge from red barks by acid process wa Rs.1·4 per pound ; the total cost of manufacture and distri bution of alkaloids Rs.2-4-6 per pound. The febrifuge fron the crown bark is a bye-product in the manufacture o quinine, and is mixed with the febrifuge from the red barks Taking everything into account, the Director thinks it i perhaps right to consider that the 12,603 lbs. of quinine cos Rs.9-9-6 per pound, and the 7,238 lbs. of febrifuge from re and crown bark Rs.4-7-5 per pound. The crown bar worked up during the year, averaged 3·37 per cent. sulphat of quinine, and 1·01 of febrifuge ; and the red barks averaged 3·94 per cent. of febrifuge. Sales to Medical Stores, an Local Fund and Municipal Dispensaries were made at Rs.1 and Rs.10 per pound, respectively ; to the public at Rs.18 an Rs.12, respectively. Demand for febrifuge fell off very much probably owing to the cheapness of quinine ; but the increase of price of 5-grain packets of quinine from two pies to three pies also caused a decrease in Post Office sales of quinine.

Government observes that "the year's working has been highly satisfactory and creditable to Mr. STANDEN and his subordinates. It has been proved that the factory is equa to all estimated requirements, and a considerable stock o bark and of quinine has been accumulated at a cheap cost t meet future demands." What has *not* been proved in the report under review, however, is the need for Governmen extensions of cinchona plantation, or for the increased outpu of quinine, &c., so much of which has simply *helped to swel stocks*. A few remarks on these points would have added very greatly to the interest of the report, which, in its presen form, would appear to justify the inference that the factory i already turning out a larger quantity of alkaloids than is needed to meet the requirements of the public concerned.

THE AMERICAN DEMAND FOR COFFEE.

On more than one occasion we have called attention to the cheapness of Coffee in the United States, as compared with the United Kingdom. It is encouraging to learn that this cheapness is exercising a most important influence on demand The August report of the New York Coffee Exchange shows that the consumption of coffee has increased as it never increased before. Formerly a 10 per cent. gain in consumption from one year to another was regarded as a maximum increase, and even this was the exception and not the rule During years of very high prices there was no gain in consumption, which for three years, 1891-92 to and including 1893-94, remained steady. During that time No. 7, a low grade Rio coffee, sold as high as 17½ cents ; now, it is weak at 5½ cents. In 1896-97 the break to 7¼ cents from 13 cents was made, and the deliveries shot up 749,466 bag here and 351,925 bags in Europe. The next year, 1897-98 they increased still more, but part of this gain was due t

taking coffee out of licensed warehouses in anticipation of a duty being levied, and thus the figures do not represent actual consumption. The next year, 1898-99, ending June 30, the deliveries averaged 473,553 bags monthly in this country. During July and August the deliveries rose to 954,330 bags, against 686,650 bags for the same months last year, a gain of nearly 40 per cent. Usually the demand during the summer months is the lightest of the year, but this year the summer consumption is a little above the monthly average for the year. The low price, coupled with extensive advertising of coffee done up in packages, each containing a coupon for a prize, has enormously increased the demand among the working-classes. This package coffee, absolutely pure, retails for 5d. per lb., and makes two gallons of infusion at a cost of 2½d. One pound of tea of good quality makes six gallons of beverage, and if it costs 2s. per lb. it means a beverage costing 4d.

This refers to China and Japan teas, and accounts for the fact that the consumption of Tea in America is yielding place to the consumption of Coffee. One writer remarks that, if Americans would use Ceylon and Indian tea instead of China and Japan growths, then they would have a cheaper beverage than when using coffee, for one pound of good British-grown tea will make sixteen gallons of beverage at a cost of about 1¾d. per gallon. He adds :—"Slowly but, it seems, surely the people begin to learn how to make a right use of Ceylon and Indian tea, but there is an aversion to using them alone, and so the majority of such tea is used for blending."

Comparing imports for three years, we get the following figures :—

	Tea £bs.	Coffee £bs.
1899	74,088,153	831,820,341
1898	71,957,915	870,514,455
1897	113,347,175	737,645,670

These tell their own tale, though doubtless the imposition of a 10-cent duty on Tea, the Tea Exclusion Act, and a rise in price have done damage to the one industry, while the other has gained by a fall of prices that has made it relatively the cheaper beverage of the two. In regard to this point of the cheapness of Coffee, we would call special attention to the extract from the *American Grocer*, given on another page of this issue, under the heading "The August Coffee Movement in the U. S." The concluding paragraph should help to cheer coffee-planters up a little.

AN EXAMPLE FOR DISTRICT PLANTERS' ASSOCIATIONS.

The *Brazilian Review* draws special attention to the work of O Club da Lavoura de S. Carlos do Pinhal (Planters' Club, and remarks :—"This Association, which has for its aim and object the furtherance of Agriculture and Planters' interests) has sent us the statistics relating to the production of Coffee in its district, by far the most practical and complete of any of the kind we have yet seen. If carried on in this manner the S. Carlos Club cannot fail to be of the greatest use to planting interests ; and, if the coffee crisis has done nothing else, it has certainly awakened every one to the importance of proper statistics, the first step towards their realisation." Before quoting the statistics, our contemporary explains that an *alqueire* of land in S. Paulo is equivalent to 24,200 sq. metres or nearly 6 acre. Then follows the information given by the Club seemingly that settled lands in the Municipality of S. Carlos cover 32,000,000 acres, of which 120,000 are cultivated and 200,000 virgin, or employed for pasturage. The coffee trees are distributed as follows :—

Less than 4 years old	5,750,000
From 4 to 20 years	15,970,000
Over 20 years	5,480,000
Total number of trees ..	27,200,000

More than 56% of all the trees in the district are, therefore, in their best period, four to twenty years, and likely to give large crops for years to come, only 20% having passed full bearing age. The crop for the current year 1899-1900 is estimated at 1,200,000 *arrobas* for the S. Carlos district, which at 8$ per *arroba* will give 9,600,000$000. [The official estimate of the Santos Chamber of Commerce, by the way, gives the return from S. Carlos do Pinhal at only 700,000 *arrobas*.]

The following interesting estimate is given of the cost of production in this district :—

Caring and cultivation (capina) at 80$ per 1,000 trees ..	2.176:000$
Harvesting at 1$ per arroba	1.200:000$
Preparation of the drying ground (terreiro) and cartage to station 1$ per arroba	1.200:000$
Freight per Railway to Santos at 1$500 per arroba ..	1.800:000$
Administration, Repairs, Machinery, etc.	2.200:000$
Commission on sale, 3%	360:000$
	8·936:000$
Estimated yield 1,200,000 arrobas at 8$	9.600:000$
Probable surplus	664:000$

At 8$000 per arroba the bare cost of production, without allowing anything for interest on capital, is just covered, but before prices could fall to such a level very large quantities of coffee from less favored districts must inevitably go out of cultivation altogether. These estimates are based on the prices actually paid in the district, which vary from 70$000 to 150$000 for weeding and caring per 1,000 trees, the predominating price being 80$000 per mil, paid on 124 out of the total of 226 plantations, the next being 100$ on 47 plantations. For harvesting 500 réis per *alqueire* (little less than 1 bushel) of berry is paid on the greater part of the plantations, very few paying 600 to 700 réis. The price for pruning is 20$000 per 1,000 shrub. Day labourers (colonists) receive 2$500 (say, 1s. 8d.,) to 3$ (2s.) a day without food to 70$ (£2-6-8) with food, which is reckoned at about 30$ (£1), per month. There are in the district 12 pulping and 89 other machines for treatment of the berry, exclusive of 68 engines of a total value of about £353,000. Local statistics next given show that the rural population of the Municipality of S. Carlos is estimated at 24,320, of whom 15,688 are labourers. The 226 estates maintain 2,334 mules, 5,078 cows, 2,347 bullocks, 1,055 horses, 220 mares and 420 sheep, of a total value of, say, £60,000. The greater part of the labour is Italian, 10,096 out of the total of 15,688 hands. Not only are statistics furnished with an attempt at completeness that Planters' Associations in Southern India have not yet been persuaded to emulate, but the Club has a demonstrative and experimental annexe, which is expected to prove very useful, *especially in introducing better machinery* and encouraging its use in other branches of agriculture besides coffee. It certainly seems to us that South Indian Planters may learn a good deal from the S. Carlos Planters' Club. Now, when the question of improved cleaning and curing is well before coffee-planters here, would seem an excellent opportunity for studying the enterprising methods of this Club, and for see-

ing if District Associations in Southern India cannot undertake as much as a Planters' Club in a Brazilian Municipality. One of the wealthiest (or shall we say, the least poor ?) of our Associations might take the lead in this matter.

TEA FROM SEED TO CUP IN SOUTHERN INDIA.

(BY THOMAS BROWN, GLENDALE, COONOOR.)

XIX.

Picking Records—are best kept by entering in the Diary the names of fields and the quantity plucked each day, as follows :—

1899.	27 Saturday.	May.
Picking	No. 10 in progress ..	.. 848
	No. 3 finished ..	.. 80
	No. 9 do. ..	.. 200
	No. 7 in progress ..	.. 927
	No. 5 do. ..	.. 1,165
	Total	.. 3,350

Average per cooly, 32 lbs.

At the end of each month, or whenever convenient, the figures for each field are collected and entered into a sheet kept for the purpose as per sample given.

Flush Account for 1899.

Month.	Field No. 1.	Field No. 2.	Field No. 3.	Field No. 4.
January	1680	1332	1066	957
February	1397	3113	203	64
March	5125	2577	2154	1308

The acreage and number of bushes on each field can be added in the heading as a guide. From such a table, the differences between fields can be readily seen, and the causes clearly ascertained ; while, if the fields are all equal in size, differences will be more readily observed. The figures given in the example are actuals and in Fields Nos. 1 and 2 are about the same size, *viz.*, 13 acres.

The Year's Totals—are more reliable as a guide, since some fields may be plucked on the 3rd, 17th and 31st of a month in which another is plucked on the 11th and 25th only. Then again the earlier pruned fields will show large totals sooner than the later pruned ones. The best time for closing accounts of Tea Gardens is the 31st of December as, about that time, there is usually the smallest pickings.

Leaf Roller or Caterpillar—is best dealt with in the picking, and should not be neglected. The easiest method is to squeeze the affected leaf between thumb and forefinger (this smashes the worm inside), and pick off and throw down the shoot, afterwards. This pest gives little trouble if this method is systematically followed out. Each caterpillar becomes a moth in due time, which lays a large number of eggs. Picking off to carry away and burn is needless. Many of the worms crawl away before they are wanted !

Should a light topping—only have been the prune given, the shoots must be plucked as fast as they appear, and in a case of this sort down to the fish-leaf, or flushing will soon cease, and the energy of the bush probably expended in the production of seed. Leaf from such bushes will be found very light and the weight picked by each cooly small. Tea made from it is spongy and and flavourless.

CRITICISM.

Referring to page 882, in *Planting Opinion* of October 2 "Dangerous" criticises the paragraph headed "A New Style of plucking, etc., etc., and says that, if Mr. Thomas Brown referring to a "New Method" that has been started on th Nilgiris, his description of the same is all wrong. H adds :—"I consider his 'remarks' in general that appear i October 21 *Planting Opinion* on plucking and 'yield' mo *especially* the latter, most damaging to our industry on the Hills, which is attracting so much attention at present. Th 'Method,' now being carried out on some estates on the Hills, *has* doubled the yield and *much* improved the qualit all round."

NOTES.

The Dumont Coffee Co. When 17s. 6d. is offered for a £1 share, there is obviously not a ver cheering prospect for original shareholders.

Deterioration of Ceylon Tea. In the opinion of a large Sydne firm, Ceylon tea is now far poorer i quality than it was three years ago.

Liptonia. "I suppose you've come for you tea," said Admiral Dewey, heartily "Is it tea I'm wanting ? Sir Thomas ought to have said "divil a bit I care about beyond the Cup !"

The Drying of Vanilla. The process of drying the Vanill bean by chloride of calcium gives th most satisfactory results in Réunion. Vanilla dried in th manner is said to command higher prices in Paris tha Vanilla dried in the ordinary manner.

Calcutta Tea Sales. At the sales on 24th ultimo, 21,19 packages were sold. There was a goo demand for common grades at previous rates ; but medium an good teas were irregular, with a downward tendency. Th average realised at the tea sales was 6 annas 1 pie.

Cocoa in Guiana. The total crop in Dutch Guiana i 1898 was 2,706,338 kilos. (as again only 383,522 kilos. of coffee), exports of Cocoa amounted 2,830,414 kilos., of which 2,367,015 kilos. went to the Unit States. From French Guiana, 11,817,500 kilos were export against only 429,200 kilos. coffee).

No Duty on Tea Machinery in Ceylon. Under the provisions of Schedule I of Ordinance No. 20 of 1898, it h now been officially notified that th Lieutenant-Governor of Ceylon in Executive Council has bee pleased to order that machinery intended for the followin purposes shall be exempt from duty, *viz.* :—The sifting, with ering, cutting, breaking, packing, and sorting of tea.

London Tea Market. Cabling on 26th ultimo, Messr Gow, Wilson & Stanton report

that the market for Ceylon tea showed a fractional advance : fair liquoring Ceylon Pekoe Souchong, 6½d. (unchanged); average for the week, 8d. (⅛d. up). According to Reuter, 21,000 packages Ceylon and 41,000 packages Indian were sold out of offering of 22,000 and 47,000, respectively. The average price of Indian tea was 8⅜d. (⅜d. down).

The Plague and Coffee. After remarking that shipments of Coffee were heavy in August and would be still heavier in September, the *Brazilian Review* adds :—that unfortunately the outbreak of 'bubonic plague' in Portugal, and the subsequent enforcement of quarantine on the steamers that call there, has upset trade and regular shipments to an unforeseen degree. The rate of freight has risen "and poor Brazil has to make up this difference, too."

Overlooked. The *Critic* lately stated that French Imperialism is founded on Coffee and Cognac ; the British variety on tea and bottled beer. An irate coffee-*cum*-tea-planting Scot writes us :—"Where does Scotch Whiskey come in ; surely Spencer's '*Imperial* Highland' should not be forgotten." *N.B.*—This is not an advertisement ; but is merely intended to hint that Scotch Whiskey should have been referred to instead of bottled beer—the latter being largely of the "Made-in-Germany" order, *viz.*, Pilsener.

Ceylon's Exports of Tea. According to Messrs. Forbes and Walker's latest circular. Ceylon has shipped altogether nearly four million lbs. more to October 17th than in the same period of last year. To the United Kingdom it has despatched 81,906,599 lbs. against 78,979,136 lbs., to America 2,344,571 lbs. against 1,906,333 lbs., to Australia 12,580,425 lbs. against 12,491,696 lbs., and to Russia 2,719,244 lbs. against 2,021,285 lbs. The export to Australia is nearly stationary : those to America and Russia show a slight increase.

Colombo Tea Sales. At the public sales of tea at Colombo on 25th ultimo, about 10,140 pkgs. =797,562 lbs. were offered, of which about 7,883 pkgs.= 612,041 lbs were sold. The general quality of teas offering this week was not quite up to last week's. Prices throughout the sale were very irregular. Common leaf grades were sold at about previous rates, and common and medium brokens were rather easier. All fine teas fetched full rates. Good invoices were offered from Blinkbonnie, Monkswood, Middleton, Knavesmire, Agra Ouvah, Mocha, Glasgow, and Maskeliya.

Reduction of an Export Duty. By a new law under consideration in the State of Minas Geraes, the object of which is to gradually substitute such taxation for the anti-economical and burdensome export duties levied in all the Provinces on all kinds of produce leaving either for other States or for foreign countries it is proposed to provide that the duty on coffee exported from the State of Minas Geraes shall enjoy a reduction of 2 % (11 % to 9 %) commencing with the next fiscal year. Should the land tax yield more than 2.500:000$, the export duties on coffee, tobacco, cattle and swine shall all be reduced in proportion to the excess.

Cocoa in Hayti. Deliveries of Cocoa in Hayti have increased considerably. During 1898 about 1,000,000 lbs. were shipped, at prices ranging from 18dol. 50c. to 24dol. per 100 lbs. Exchange varies so much that it is difficult to say what these rates mean in sterling, but they can scarcely run to less than, say, 36s. 3d. to 47s. per cwt, and might even represent 52s. to 67s. with a favourable exchange from Coffee to Tobacco. Indian Coffee-planters will be glad to learn that the low prices of coffee (and logwood) in the European and American markets have induced enterprising people in Hayti to turn their attention to other articles. The island is not a very important producing centre, but every little helps ; and the news that tobacco is being grown instead of coffee is good news.

Japan Tea in the North American Continent. Statistics of the exports of Tea from Japan to the United States and Canada for the season of 1898-99 are as follow :—

EXPORT.

	Pounds.
From Yokohama	25,946,020
From Kobe	13,985,219
Total ...	39,931,239

DESTINATION.

New York and East	9,963,328
Chicago and West	13,340,815
San Francisco and Pacific coast	4,362,089
Canada	12,265,007
Total ...	39,931,23

Cardamoms in Travancore. We read in the latest Administration Report :—Under the new system the cultivation of cardamoms is increasing with great rapidity and European planters are now entering on the business. This should develop production not merely in quantity, but in quality and price—a most desirable result, since Travancore cardamoms appear to sell at about half the rate of the Mysore article ; it seems a matter of new seed and proper curing. During the year 319 new pattas were issued for 6,000 acres of forest land, and 6,000 acres more have been applied for and are under survey. In a few years cardamoms should be a source of large revenue even at the present rate of Rs.6-4-0 per acre. The business is one which requires and will repay much care in fostering and management by the Sirkar and by planters alike. It has the advantage of utilizing and not injuring the forests.

The Ceylon Planting Situation. A retired planter proprietor writes to a Colombo contemporary :—"You seem to be getting on very quietly and comfortably in the spicy island. We begin to hear much of blights on tea, and, as the soil becomes more exhausted, I fear we may hear more. I believe the best remedy is 'plant grevilleas.' I have had nearly the whole of my estate planted with them, far too thickly no doubt ; but it is easy to cut them out afterwards. They shed an immense quantity of leaf which protects the soil, keeps the roots of the tea cool, and also manures them. The Ceylon Association in London did not do themselves much credit over the late dispute with the buyers. Mr. Rutherford, for whom I entertain great respect, has not increased his reputation. September is a record month in deliveries of tea—'nine million lbs.'—never before have Ceylon tea deliveries been so large. I hope we may now see better prices again."

Economic Entomology. This is a branch of science that has hitherto been comparatively neg-

lected in this country, says the *Gardeners' Chronicle*. It is probable, however, that, in the Colonies at least, greater attention will be devoted to it, especially in connection with the agricultural development going on in tropical countries. Recently the Government of Ceylon has appointed an entomologist at a salary of 5,000 rupees per annum; and now we learn that it is in contemplation to appoint a scientific man as entomologist to the Imperial Department of Agriculture in the West Indies at a salary of £350 per annum, and a free passage to Barbados. Hitherto the number of persons who devoted themselves exclusively to economic entomology is a singularly small one. In the United States they are far in advance of us in this matter. If, however, there is likely to be a demand for capable men at good salaries, there is no reason why this demand should not be fully met.

Brazilian Coffee.

Writing on 8th September, the Santos correspondent of the *Brazilian Review* reports:—Our market presents a rather woeful aspect just now, as receipts continue unabated and shipments are light, so that new arrivals, although the stock is sold to a great extent, weigh heavily and a certain quantity is daily offered under special conditions—be it early payment or prompt shipment. Sales under such conditions can naturally only be effected at a discount. The severe quarantine regulations of the Government have upset the whole shipping business and exporters who have to meet invoices thirty days after purchase must work with great circumspection in order not to be overloaded with large quantities of coffee sold and ready for exportation which cannot be moved but have to be paid for. It need, therefore, not surprise us if prices remain low, notwithstanding a heavy fall in exchange; in fact, we have to quote: 5$900 to 6$100 for "superior" during the week under review.

Abolition or Retention.

In the course of an article on tea the *Investor's Guardian* remarks:—Another source of annoyance is import duty, both in England and America. In this country the duty amounts to 4d per lb., and the Chancellor of the Exchequer derives from this source the comfortable sum of something over four millions per annum. Coffee, on the other hand, pays only about 1d per lb. in import duty, and the spirit of the tea-importer rebels against this "partiality," but in view of the fact that four pence a pound is in itself a moderate duty, and that the impost on tea and tobacco are the only means of obtaining any sensible contribution from the temperate working man towards the expenses of the Empire, it seems unlikely and undesirable that any further decrease should be made. In America, also, coffee is more kindly dealt with than tea, and this was particularly the case during the war with Spain, when a war tax of ten cents was charged upon every pound of tea imported. With the great reduction of the duty in recent years, there has been an immense impetus given to the cup which cheers, and the hearts of good Imperialists especially rejoice at the knowledge that British gardens supply the great bulk of the tea tables of the world with fragrant leaf.

Brazilian Paper Currency.

The *Brazilian Review* of 5th September says:—Including 2,000 contos burned on Saturday, the total, 45,000 contos, corresponding to the emission of funding bonds for the current year and the third part of last year's issue as stipulated in the "funding" arrangement, has now be withdrawn from the circulation and burned. For the ti being the incineration of paper money will, therefore, suspended. The Brazilian Government has, by its str adherence to the terms of the funding agreement, shown determination to faithfully carry out its engagements, and unfortunately, the results are as yet scarcely commensura with the efforts, two points must be held in view—that t quantity of paper money in circulation is not the only fact that governs exchange, and that, even if it were, the amou withdrawn is yet too insignificant compared with the who volume to warrant expectation of a better rate of exchan than actually rules. When the withdrawal of paper mon commenced (in the month of March) the amount in circul tion reached nearly 780.000:000$. To-day it stands at abo 732.000:000$, the reduction from one cause or another bein about 48.000:000$. At the time burning was commence exchange stood at about 6 3/4d. to-day it is at 7 7/8d.

Coffee—Effect of Prices on Consumption.

Le Brésil, commenting on a prote of La Chambre du Commerce d'In portation in which it endeavours t prove by figures that a reduction of French import duties o coffee will almost certainly result in an increase of Custom receipts, in the first place in consequence of increased con sumption of coffee, and, secondly, of that of sugar als remarks:—The following figures show that, as a rule, con sumption increases in proportion to the reduction in prices:—

	Price of Coffee.	*Duties paid.*		*Price of Coffee.*	*Duties paid.*
1874	frs. 148	frs. 60 millions	1887	frs. 96	frs. 99 million
1875	,, 112	,, 75 ,,	1888	,, 82	,, 106 ,,
1876	,, 108	,, 83 ,,	1889	,, 99	,, 101 ,,
1883	,, 55	,, 106 ,,	1896	,, 71	,, 116 ,,
1884	,, 55	,, 106 ,,	1897	,, 46	,, 120 ,,
1885	,, 47	,, 106 ,,	1898	,, 36	,, 123 ,,
1886	,, 54	,, 106 ,,			

Such figures are convincing and show clearly that fro 1897 to 1898, for example, duties collected varied from 99 t 123 million francs, whilst prices fell from 96 to 36 francs pe 50 kilos. The same observation has made in the State where the largest consumption was, in 1897, being 737,695,67 lbs., and corresponded to the bottom prices of $11, or 5 francs, whilst the most feeble, only 423,645,794 lbs., was i 1888 with quotation of $14.2 or 71 francs! Again, in Ge many the consumption of coffee reaches 136,390 tons agains only 77,310 tons in France, a difference out of all proportio to their respective population. It is to the higher dut charged in France that the difference is really due, which at the rate of 156 francs per 100 kilos. as against only 5 francs in Germany.

Attar of Roses.

Exports from Bulgaria durin 1896-98 were as follow:—

	Value.
1896	
1897	£73,752
1898	£71,278
	£103,032

In the last year Turkey took 13·23 per cent; France 38·22 the United Kingdom 21; Germany 21·14; the Unite States, 0·11 and Russia 3%. The British Consul reports:— The changeable weather, which prevailed during the winte months, was most unfavourable for the cultivation of the ros fields, and, although the atmospheric conditions during th period of distillation were all that could be desired, the tota yield was about 2,000 kilos. (or one-quarter) less than i

1897: in other words, about half the splendid crop of 1896. Europe, as well as America, bought less than usual, although prices were low, ranging from £25 to £30 per kilo., a fact which goes far to prove that the adulteration of the attar is still practised to a large extent. The system on which the production of the oil is carried on is, to a certain degree, responsible for this state of things, as the peasants and small proprietors, who receive cash advances from the leading merchants in Kazanlyk, Karlovo, and other centres, usually distil the oil on their own premises without any effective supervision, and thus have every opportunity of practising adulteration with impunity, the oil of geranium being introduced into the country in sufficient quantities by Jews and Gipsies from Andrianople, in spite of the endeavours of the Government to suppress the traffic. Several leading merchants are fully alive to the harm which must eventually be caused to the trade, but the diminution in the yield, which would be the consequence of conveying the roses for a long distance under a burning sun, makes it almost impossible to entertain the idea of confining the distilling operations to a single central establishment. However, buyers have the remedy in their own hands, and a consistent refusal to purchase adulterated goods would doubtless conduce to an improvement in the primitive and unsatisfactory method of production at present in vogue.

GENERAL ARTICLES.

THE BULKING OF TEAS.

The following Memorandum forwarded to a Colombo paper by a London correspondent will afford our tea-planting readers food for a good deal of thought:—

292 packages Ceylon tea, ex *Ophir*, of value £650, sold 1st August, 1899, chested as soon as made, and bulked in London.

Tares ran even and average tares were accepted.

There were bulked	5 chests at 1s. each	£0	15	0
	12 „ 10d „			
	17 chests.			
There were bulked	74 chests at 1s. each	£12	15	8
	218 „ 10d. „			
	292 chests.			
The taring and bulking together ...		£13	10	8 *

Under the Clause G proposed by the Joint Committee for the so-called agreement, 2nd August 1899, insisting on separate tares being taken, the charge would have been—

bulking and taring	74 chests at 1s 5d. =	£5	4	10
	218 „ 1s. 2d. =	12	14	4
	292 packages.	£17	19	2
	say extra charge	£4	8	6 proposed.

The above were bulked in London, because the proprietors are of opinion that London bulking is better in several ways than Estate bulking.

Had the London bulking been forced on the proprietors, as may occasionally happen to every garden proprietor through the tea being thrown up by buyers after sale on grounds of irregularity, the same extra charge would be incurred in every case, even if previously Estate-bulked and tares unquestioned, viz:—

		£4	8	6
and, in addition new Warrants at 4d. new Weight-notes at 2½d.	say = 1d. per pkge.	1	4	4
an extra charge proposed by the Joint Committee for reasons known only to themselves. ...		5	12	10

* Actual cost.

MOSQUITOS—SPECIES ANOPHELES AND CULEX.

Mr. Thos. Christy, F.L.S., writes to the *Ceylon Observer*:—

The readers of your paper may like to make search for mosquitos, and they will have no difficulty in finding a good selection and so be able to ascertain if there are any of the Anopheles species among them, or if they are all of the Culex species.

The detail of work performed on the West Coast of Africa is now published and the reports sent home are so simple and practical that I make free to quote a few remarks from them.

When the mosquito is found on the wall you have to note if his body, with the tail, is parallel with the wall; if so, this species is the Culex and does not carry the germ of malaria; whereas if a mosquito can be found with the head pointing into the wall and the legs sustaining the body in this position and vertical to the wall, that is to say the body projecting at right angels from the place on which the insect is resting, then it belongs to the Anopheles variety and it should be carefully destroyed and a note taken of its existence.

The report gives particulars as to where the Anopheles variety is to be found. The Anopheles is a puddle-breeding mosquito: it requires puddles to breed in, but puddles of a certain kind; hence the importance of the subject. They were found in shallow roadside puddles containing water weed in the middle of the town; then some in a tub. The principal sources yet discovered consist of little pools lying in small flat areas in the towns: here the larvæ are in large numbers and are evidently in presence of the conditions most suitable to their existence. Although search has been made, as yet very few puddles have been discovered to yield this larvæ.

The whole report is most interesting reading and no doubt it will soon be in the hands of the public.

CHINA TEA.

EXPORT OF TEA FROM CHINA TO UNITED KINGDOM AND CONTINENT.

1899-1900.	1898-99.
Lbs.	Lbs.
24,313,161	24,299,525

EXPORT OF TEA FROM CHINA TO UNITED STATES AND CANADA.

1899-1900.	1898-99.
Lbs.	Lbs.
12,317,295	11,512,564

EXPORT OF TEA FROM CHINA TO ODESSA.

Shanghai and Hankow.

1899-1900	1898-99.
Lbs.	Lbs.
25,363,948	22,676,902

EXPORT OF TEA FROM JAPAN TO UNITED STATES AND CANADA.

1899-1900.	1898-99.
Lbs.	Lbs.
31,351,095	29,456,836

—*Hongkong Weekly Press*, Oct. 14.

CACAO IN THE PHILIPPINES.

"Theobroma Cacao" (Food of the Gods) as Linnaeus called it, a native of Central America, flourishes in these islands in the hot damp regions. It is said to have been imported into the Philippines towards the end of the 17th century from Mexico, where it has been in very ancient use. Outside the tropics, the tree will grow in some places, but gives no fruit. The Philippine quality is very good, and compares favourably with that of other countries, the best being produced between latitudes 11 and 12 N.

The cultivation of Cacao is an extremely risky and delicate business as, often when the planter's hopes are about to be realized, a slight storm will throw down the almost ripened fruit in a day. A disease sometimes attacks the roots and spreads through the plantation. It is natural, therefore, that no one should dedicate his time exclusively to the cultivation of this product at the risk of almost instantaneous ruin. Usually the Philippine agriculturist rightly regards cacao as a useful adjunct to his other crops. Small quantities of it are sent to Spain, but the consumption in the colony, when made into chocolate by adding sugar, vanilla, cinnamon, etc., to counteract the natural bitterness of the bean is considerable. To make chocolate-paste, a large quantity of sugar is added varying to one-third of its weight to equal parts, whilst one pod of vanilla is sufficient for 1½ lbs. of Cacao. As a beverage, it is in

great favour with the Spaniards and half-castes and the better class of natives.

The cacao beans or kernels lie in a fruit something like a gherkin about five inches long and three inches in diameter, and are of a dark reddish colour when ripe. The fruit contains from 15 to 25 beans, in regular rows, with pulpy divisions between them, like a water-melon. The kernels are about the size, shape and colour of almonds, obtuse at the end, and contain a fatty or oily matter to the extent of one half their weight. In order to make "soluble cacao" as sold in Europe, this fatty substance is extracted.

The beans are planted out at short distances in orchards, or in the garden surrounding the owner's dwelling. The tree, in this colony, does not attain a great height—usually up to 10 feet—whereas in its natural soil it grows up to 30 feet at least. Like coffee, it bears a fruit in the fourth year, and reaches maturity in the sixth year. The fair annual yield of tree, if not damaged by storms or insects, would be about three pint measures of beans, which always find a ready sale.

If all went well, and present prices, more or less, were maintained, large profit might accrue to the planter, but it rarely happens (perhaps never) during the six months of fruit ripening that losses are not sustained by hurricanes, diseases in the tree, the depredations of rats and other vermin, etc. Practically speaking, cacao-planting should only be undertaken in this colony by agriculturists who have spare capital, and can afford to lose a crop one year to make up for it in the next, no planting to be taken up by hand-to-mouth colonists who must seek immediate returns.

In the aspect of a cacao plantation there is nothing especially attractive. The tree itself is not pretty. The natives who grow the fruit usually make their own chocolate at home by roasting the beans over a slow fire, and after separating them from the hulls (like almond skins), they pound them with wet sugar, etc., into a paste, using a kind of rolling-pin on a concave block of wood.

The roasted beans should be made into chocolate at once as, by exposure to the air, they lose flavour. Chocolate is often adulterated with roasted rice and vily nuts. The roasted Pili nut alone has a very agreeable almond taste; the cacao bean itself, in its pure state, is extremely bitter and unpalatable.

In Manila there is a steam power manufactory which partly supplies the capital with good chocolate, and which will receive our attention in a subsequent article.—*Manila Times*, October 4.

THE AUGUST COFFEE MOVEMENT IN THE UNITED STATES.

The marked increase in the deliveries of coffee during August, over the monthly average of last year and as compared with the same month in 1898, is very significant. It shows that low-priced coffee has enormously stimulated the consumption. It is also remarkable that this great gain should occur during July and August, two months, when consumption is usually at the lowest point for the year.

It is evident that the extensive advertising of the article is making a favourite beverage still more popular, and is also reducing the use of tea.

The August deliveries in the United States show a gain over the same month last year of nearly 40 per cent., while in Europe they were only 1·3 per cent. greater. The following statement shows the visible supply and movement for the month:—

	Bags.	Bags.
Stocks, August 1, 1899—		
United States	1,301,834	
Europe	3,755,209—	5,057,043
Receipts during August—		
United States	395,579	
Europe	626,206—	1,021,785
Total supply...		6,078,828
Less stocks, September 1—		
United States	1,176,447	
Europe	3,780,097—	4,956,544
Deliveries, August—		
United States	520,966	
Europe	601,318—	1,122,284
Deliveries, August, 1898		963,052

The total visible supply of the world on September 1 was 7,650,544—an increase over August 1 of 870,501 bags, and showing an increase in the world's visible supply in one year of 1,254,4 bags. The present visible supply is more than equal to one-t the total maximum production of the world for any year on reco

The following table summarizes the general movement for th years:—

	Bags
Visible supply July 1, 1896	2,555,1
Arrivals, United States and Europe, three years (1897-99) ...	43,451,8
Total supply, three years ...	46,004,9
Average yearly supply	15,346,6
Average yearly deliveries ...	13,432,3

This year's supply bids fair to equal that of any former ye An estimate made by Messrs. Duuring & Zoon, Rotterdam, ; the world's crop this year at nearly sixteen million bags, distr buted as follows:—

	Bags.	
Central America, Colombia, Venezuela, and West Indies (1900.		3,250,0
Brazil (1899-1900)—		
Rio	3,875,000	
Santos	6,000,000	
Victoria	450,000	
Bahia	400,000—	10,725,0
Ceylon, India, Africa, etc.		600,0
Java and Padang		1,368,0
Total..		15,943,0
Estimated production, 1898-99		13,609,0
Estimated production, 1897-98		17,744,9

The above statement, coupled with the heavy receipts at Rio an Santos, are sufficient to account for the present weak market an exceptionally low prices.

The receipts at Rio and Santos, July 1 to September 9, 189 were 3,036,000 bags, against 3,052,000 bags for the bumper yea 1897-98.

On the Coffee Exchange, No. 7 Rio coffee sold at 4.20 cents fo October contracts—the lowest price recorded since December, 188 when February contracts sold at 5.25 cents. In June, 1887, Decem ber contracts sold at 22.25 cents, and as late as October, 1894, sale were made at 17.75 cents, or more than four times the presen price of October contracts.

It is always safe to carry a liberal stock of coffee when price are abnormally low. Age improves the bean, but carrying charge must be considered in connection with the probable future of crops If it were not for the extensive area of new plantations in Brazil Mexico, and Central America, that are coming into bearing, i would be conservative to argue that plantations could not produc three bumper crops in succession, and therefore that it was a fai business risk to keep stocks large, with the chances in favor of a crop reduction. Another factor, almost as powerful as supply, is demand. If the United States is going to increase the consump tion at the ratio it did in July and August, it means a gain over last year of over 225,000 bags. The two factors need to be watched closely, with the chances in favor of the supply being more sud denly checked than the demand.

CINCHONA AND QUININE ON THE NILGIRIS.

The following are extracts from the annual administration report on the Government Cinchona Department, Nilgiris, for the year 1898-99:—

[CULTIVATION OF CINCHONA.]

The season was a favourable one for the plantations. The south-west monsoon burst later than usual, but there were no very heavy falls of rain, and the rainfall was well distributed throughout the year. There were the usual frosts at Dodabetta in December and January, but the damage done was slight.

(*a*) *Dodabetta.*—The total rainfall on this estate was 52·05 inches compared with 52·44 inches in 1897-98. From October to March the quantity of rain registered was 22·28 inches against 9·38 inches for the same period of the preceding year.

(*b*) *Nedivattam.*—The total rainfall was 85·51 inches or 22·13 inches less than in 1897-98, but the rain was well distributed.

(*c*) *Hooker.*—On this estate there were 79·41 inches of rain and the number of days on which rain fell was 158 against 141 in 1897-98.

II. FINANCIAL—(*a*) *Receipts.*—The actual receipts for the year amounted to Rs.91,039-2-8 and include Rs.1,917-2-0, the outstandings of the previous year. A sum of Rs.2,775-9-0 was due at the close of the year for quinine and febrifuge, nearly the whole of which was owing by Local Fund and Municipal hospitals. Every effort was made to collect the outstandings before the close of the official year, but for various reasons payment was deferred.

(*b*) *Expenditure.*—The actual expenditure for the year amounted to Rs.1,94,603-14-1. Compared with the actuals of 1897-98 the expenditure in 1898-99 shows an increase of Rs.97,435 and it is necessary to explain how this money was utilized. The excess expenditure occurred chiefly under the heads working charges, propagation, and cost of Europe stores and purchase of bark. Apart from the new extensions and the extra labour required for the factory, the amount spent under working charges and propagation was Rs.908-14-8 less than in the previous year. It was also found possible to purchase a reserve stock of fusel-oil and chemicals. The necessity for holding such a reserve was shown in 1897-98, when the manufacture of quinine could not be started until September owing to the loss at sea of a large shipment of fusel-oil. The actual expenditure under cost of Europe stores and purchase of bark was Rs.1,33,007-7-3 as against Rs.45,819 in 1897-98 or an increase of Rs.87,188-7-3. Of this excess Rs.60,120-4-8 represents the extra expenditure incurred on the purchase of bark from private growers for, while Rs 23,000 were spent in 1897-98 on the purchase of 108,934 lbs. of bark, the amount spent in 1898-99 for the purchase of 405,074 lbs of bark and the payment of a sum of Rs.999-6-5 due on the previous years' purchases was Rs 83,120-4-8. The total expenditure for chemicals, &c., was Rs.49,887-2-7 against Rs. 22,819 in the previous year, or an increase of Rs.27,068-2-7. This extra expenditure was required for the largely increased outturn of quinine and febrifuge and for the accumulation of a reserve stock of chemicals and oils.

The sum spent on head office and plantations including Rs 8,634-12-11 for the new extensions at Hooker was Rs.55,496-0-2, and the amount spent on the purchase of bark, the manufacture of quinine and febrifuge, the packing and distribution of the alkaloids, and the reserve stock of oils and chemicals was Rs.1,39,107-13-11. The excess of the year's expenditure over revenue amounted to Rs.1,03,564-11-5, but as a set off against this sum there remained at the close of the year 57,623 lbs. of purchased bark which cost Rs.10,544-14-3, a reserve stock of oils and chemicals the cost price of which was Rs 20,143-3-10, a reserve stock of quinine amounting to 11,591⅛ lbs. and of febrifuge 11,274½ lbs., and a reserve of Government bark in store amounting to 228,956 lbs. The value of the plantations was also enhanced by the new extension of 80 acres at Hooker.

The balance sheet shows a profit for the year of Rs.35,377-3-3 which, considering the low rate at which the stock of quinine has been valued, may be considered satisfactory. The present market price of quinine is 1s. 6d. per oz., or Rs. 18 per pound. At this rate the 11,591⅛ lbs. of quinine in store would be worth Rs.2,08,640-4-0 and if this valuation had been adopted the profit for the year would have been Rs.1,32,815-1-7.

III. GENERAL CONDITION—(*a*) *Dodabetta.*—This plantation which has been well cultivated and manured during the year continues to flourish. It is particularly satisfactory to note that the oldest trees are among the healthiest and most vigorous on the estate, and that they respond readily to manure and cultivation. In addition to the ordinary weeding 78,595 renovation pits were dug the beneficial effect of which was well marked. Eight acres of new land within the boundaries of the estate were opened, of which 3⅕ acres were planted with plants raised from Jamaica seed, and 4⅘ acres with plants grown from seed gathered on the estate. These plots are looking very well, the failures are few, and the growth vigorous. The small plot of 2 acres opened in 1897-98 with Jamaica plants shows very satisfactory growth, but it is to be regretted that the plants raised from the seed received from Jamaica are, with few exceptions, hybrids of various types, and not the true officinalis or crown bark variety. It was observed in the last annual report that the difficulty experienced in growing a second crop of cinchona on land which had been for many years under cinchona cultivation, gave rise to the question of the deterioration of the crown bark plants raised from seed from the older trees on the plantations, and resulted in the importation of seed from Jamaica, but the satisfactory growth of the plants raised from estate seed on the 4⅘ acres of new land referred to above, tends to show that the local seed has not deteriorated, and that the want of success which attended the plantings of recent years was due to the character of the old land planted, and not to any diminished vigour in the plants themselves. Further evidence on this point is afforded by an experiment at Nedivattam, where a small plot of old land was planted in 1897-98 with healthy Jamaica seedlings and a plot of new land was planted with estate seedlings. The Jamaica plants had every care bestowed upon them, but more than half of them died, and the survivors give little promise of reaching maturity, while the estate plants on the small plot of new land have come on remarkably well and not more than 5 per cent. of them have failed.

(*b*) *Nedivattam.*—The oldest portions of this estate are looking well and the condition of the younger trees consisting chiefly of hybrids which were planted on old land has improved, though it was found necessary to coppice 20,375 sickly trees. The estate was kept in good order during the year. The plants put out on old land in 1896-97 and 1897-98 failed to a large extent in spite of the care they received. The attempts to grow cinchona on old land have therefore been definitely abandoned though an experiment on a small scale will be tried in 1899-1900 with plants grown under shade in old land. It is intended to utilize all ground which has been denuded of cinchona for the growth of fuel trees. During the year 37,750 eucalyptus and acacia plants were put out and arrangements have been made for the planting of a larger number in 1899–1900. The quantity of firewood required for the factory is considerable and the systematic planting of fuel trees is therefore a step which cannot be longer delayed.

(*c*) *Hooker.*—It was mentioned in the last administration report that nearly the whole of this estate is growing a second crop of cinchona and that the trees thus grown are inferior in vitality to those grown on virgin land The condition for healthy growth being unfavourable it is not surprising that the estate has a somewhat patchy appearance For some years past it has been found necessary to coppice a number of sickly and dying trees and during the year under review the number coppiced was 27,891 which yielded 35,573 lbs. of bark.

The No. 1 extension of 80 acres of forest land which was planted during June, July and August promises to be a great success. The plants were all put out in plant baskets, and as the season was an exceptionally favourable one for planting, growth was not checked and the number of deaths has been very small. Many of the plants which measured 3 to 4 inches when put out are now from 18 inches to 2 feet high and all have a fine healthy appearance. The 80 acres comprise two blocks of forest land of 33 and 47 acres, respectively. The former was planted entirely with plants raised from estate officinalis seed taken from young vigorous trees, and the latter almost entirely with plants from Jamaica seed. At present the plots are doing equally well, but the hybrid character of the Jamaica plants is as noticeable as it is at Dodabetta. About twenty years have elapsed since any extension of cinchona cultivation was made on the Government estates on new land and it is very satisfactory to note the difference between the growth on the new land and that on old land.

IV. MANURE.—In the last administration report reference was made to some experiments with artificial manures and it was remarked that at the end of the year the trees would be coppiced and the results of the manures made known. It was decided however to leave the trees for two years under the influence of the manures instead of one year, as the improvement in their appearance was so well marked that it was thought the maximum results would be obtained later on. Samples of 100 lbs. of dry bark were taken from the manured plot and were worked up in the factory. The trees manured with the mixture of bone meal, white castor poonac, nitrate of potash and nitrate of soda gave 5·06 per cent. sulphate of quinine and 1·37 per cent. febrifuge or 6·43 per cent. total alkaloids, and the bark from the plot treated with bone meal, white castor poonac, super phosphates and nitrate of potash gave 4·80 per cent. sulphate of quinine and 1·15 per cent febrifuge or 5·95 per cent. total alkaloids.

On Dodabetta 1,934 cart-loads of stable and cattle manure were put out on 24·06 acres and 52 80 acres were treated with from 4 to 10 cwt. of lime per acre. No manure was put out on Hooker during the year, but at Nedivattam, plots 18, 19, 20 and 7 were treated with cattle manure and plot 28 with artificial manure.

V. NURSERIES.—For some years past it has been found difficult to raise plants in the Dodabetta nurseries. The seed germinated freely and the seedlings came on well until the early showers when

a large number died out. It was thought that the seed had deteriorated, but the same difficulty was experienced with the Jamaica seedlings. During the year under review, however, Mr. H. V. Ryan, the Superintendent of Dodabetta, discovered that the mischief was caused by a number of small nematode or thread-worms which girdle the roots and thus cause the death of the plant. These insects were found in the baskets containing the plants, and an examination of the roots of the plants under the microscope clearly revealed the damage done. As soon as the cause of the mischief was discovered steps were taken to eradicate the worms. About 10,000 plants in baskets were immersed in a strong solution of salt and placed in beds covered with sawdust that had been sprinkled with kerosine-oil. The result so far has been satisfactory as the worms seem to have left the soil in the baskets. Burnt soil is now being used for filling the plant baskets and a new site has been chosen for the nursery.

At Nedivattam and Hooker the nurseries received close attention and there was no mortality among the seedlings raised from Jamaica or estate seed. Two pounds of Jamaica seed and six pounds of seed taken from specially healthy officinalis trees at Hooker were put down and a sufficient number of healthy seedlings has been raised for the No. 2 extension. Eight pounds of eucalyptus and acacia seed were also sown to provide for the planting of fuel trees.

VI. CROP.—The total quantity of bark harvested on the three estates during the year was 101,307 consisting of 89,354 lbs. of crown and hybrid barks and 11,953 of red barks. The amount of bark purchased from private growers during the year was 405,074, and a report showing prices paid the quantity of this bark worked up and the outturn of quinine and febrifuge was submitted to Government on 19th April 1899. At the close of last year the balance of bark in store was 242,139. The additions during the year amounted to 506,381, making a total of 748,520. Of this quantity 461,717 lbs. were used for the manufacture of quinine and febrifuge and 224 lbs. were supplied to medical institutions, leaving a balance in store at the end of the year of 286,579.

VII. BUILDINGS.—The total expenditure under this head amounted to Rs.1,792-10-10 against Rs.1,352-7-7 in 1897-98. The increase was due to improvements made in the factory. The buildings generally were maintained in a good state of repair.

[MANUFACTURE OF QUININE, &C.]

VIII. FACTORY.—Work in the factory was commenced on the 17th June and was continued without interruption until the 31st March. The total amount of bark worked up was 461,717 consisting of 373,967 lbs. of crowns and hybrids, and 87,750 lbs. of red bark, and the alkaloids extracted amounted to 19,841, of which 12,603 lbs. were sulphate of quinine and 7,238 lbs. were febrifuge. It was found possible without incuring any expenditure on additional machinery to increase the quantity of bark treated daily to 1,500 lbs., and the result has been an output of alkaloids very considerably in excess of that of any previous year. In paragraph 7 of G. O., No. 140, Revenue, dated 10th March 1898, the Government considered that at least 10,000 lbs. of quinine should be manufactured during the year, and the reason for exceeding this quantity was to show that the factory without any additions is fully equipped to work up to an outturn of 12,000 lbs. of quinine per annum. If the manufacture had been commenced on 1st April and continued until 31st March the output of quinine would have been over 14,000 lbs. The machinery worked well, and the disintigrator which was worked throught the year, including the driest months, ground up 461,863 lbs. of bark. As at present equipped the factory is able to deal with at least 450,000 lbs. of quinine-yielding barks per annum. The outturn of quinine would depend on the quality of the bark treated. An average of 3 per cent. bark would give 13,500 lbs., while 3½ per cent. bark would give an outturn of 15,750 lbs. of sulphate of quinine per annum. The quantity of bark purchased from private growers during the year was 405,074 lbs. Of this quantity 347,451 lbs. were worked up and 57,623 remained in store at the close of the year. As evidence of the different degrees of richness of natural crown barks it may be mentioned that some of the bark purchased yielded no more than 1·70 per cent. of sulphate of quinine, while the highest analysis was shown by a small quantity of bark from the Whitbeck estate which gave the high figure of 6·24 per cent. sulphate of quinine.

The total cost of the febrifuge extracted from the red bar including the value of the bark used was Rs.32,316-6-4 or Rs.9- per pound and the cost of the quinine and febrifuge yielded by t crown barks was Rs.1,20,960-5-8 or Rs.7-6-1 per pound, but as t febrifuge from the crown barks is a bye-product in the manuf ture of quinine and is mixed with the febrifuge from the red ba it is perhaps right to consider that the 12,603 lbs. of quinine o Rs.1,20,960-5-8 or Rs.9-9-6 per pound and the 7,238 lbs. of feb fuge from red and crown bark cost Rs 32,316-6-4 or Rs.4-7-7 pound. The crown barks worked up during the year average 3 per cent. sulphate of quinine and 1·01 per cent. of febrifuge a the red barks averaged 3·94 per cent. of febrifuge. The avera yield of total alkaloids from the 461,717 lbs. used was 4·29 per ce

The following table gives the outturn of quinine and febrifu since the commencement of manufacture at Nedivattam:—

	Crown and hybrid barks	Red bark.	Total bark.	OUTTURN OF ALKALOID		
				Sulphate of quinine.	Febri-fuge.	Tota alkaloi
	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.
1889-90 ...	6,650	8,600	15,250	234	357	59
1890-91 ...	96,200	...	96,200	2,928	1,050	3,97
1891-92 ...	122,500	22,000	144,500	4,425	3,174	7,59
1892-93 ...	157,771	13,946	171,717	4,933	3,139	8,07
1893-94 ...	52,600	122,400	175,000	2,000	5,775	7,77
1894-95 ...	152,800	43,800	196,600	4,770	1,756	6,52
1895-96 ...	136,000	97,800	233,800	3,600	2,284	5,88
1896-97 ...	237,000	1,100	238,100	7,891	3,350	11,24
1897-98 ...	125,934	114,650	240,584	5,092	6,389	11,48
1898-99 ...	373,967	87,750	461,717	12,603	7,238	19,84

The quinine and febrifuge were sold to Medical Stores, Local Fun dispensaries and Municipal dispensaries at Rs.15 and Rs.10 p pound, respectively. The price charged to the public was Rs. per pound for quinine, and Rs.12 for febrifuge.

[SALES OF QUININE, &C.]

Quinine.—The stock of quinine on hand at the close of last ye was 3,618 lbs. During the year 12,603 lbs. were manufactured, ma ing a total of 16,221 lbs. The issues during the year amounted 4,629⅞ lbs. and the balance in store at the close of the year w 11,591⅛ lbs. Compared with last year there was a falling off in th issues of 1,706⅝ lbs. which was chiefly due to a reduction in th amount required for Bombay from 2,400 lbs. to 1,640 lbs. and to th fact that no quinine was sent to the Medical Stores, Punjab. Th question of the distribution between the Bengal and Madras fa tories of the business of supplying quinine to the various Loc Governments and administrations was decided in the Governme of India letter No. 3-34-16 of 9th January 1899. The Nedivatta factory will supply quinine to Madras, Bombay, North-West Pro inces and Oudh, Central Provinces, Burma, Ajmere, Coorg, Ber and Mysore, while the Bengal factory will supply Beng Punjab and Assam. An increased demand is therefore expecte during 1899-1900 and there is an ample stock of quinine o hand to meet all indents.

Febrifuge.—At the end of last year the stock on hand was 5,66[illegible] The quantity manufactured was 7,238, making a total of 12,89[illegible] The quantity issued was 1,623½ and there remained a stock in ha of 11,274½ lbs.

The present stock of febrifuge is so large, and the prospect disposing of it rapidly in this country is so small that it is sugges ed that some use might be found for the alkaloids in the Briti Possessions in Africa and in Egypt.

IX. MISCELLANEOUS.—(*a*) *Issue of quinine packets to Collectors.*—During the year 610 packets, each containing 102 5-grain powder were issued to Collectors for sale and the amount realized by th sale of powders by the Revenue officials was Rs. 789-12-7.

(*b*) *Sale of quinine at Post offices.*—It is to be regretted that falling off has occurred in the sale of quinine at the Post offi Before the price of each powder was raised, the sales were increa

ing steadily, but the raising of the price from 2 pies to 3 pies per 5-grain powder has undoubtedly checked the sales. The number of packets sold during the year under review was 4,766·14 against 8,605 in the preceding year. 279·48 packets were sent out as permanent advances, that is, as stock to be held at newly-opened offices making the numbers of packets issued 5,045·62 against 9,030 in 1897-98. A special report on this subject will be submitted to Government on the 1st September, but it may be mentioned here that since the close of the year there has been a very decided improvement in the sales.

THE PROPOSED COFFEE ASSOCIATION.

A SCHEME FOR DIRECT SUPPLY.

Mr. John Samson, Joint Editor and Director, *South American Journal*, writes :—

As I find that many coffee planters in your district, as well as in the Federated Malay States and in the Dutch East Indies, are manifesting a great interest in the movement I initiated recently for the organisation of an association of producers of coffee, with the object of stimulating the consumption of the article and generally to protect the interests of those engaged in the industry. I beg that you will grant me space in your columns to reply to the numerous correspondents who have addressed me on the subject. I will thus be enabled to give fuller particulars with regard to the objects and progress of the association. I should explain that I was led to take up this matter in the first instance, in view of the heavy losses which are being sustained by the producers in Brazil and Central America, with which countries my paper, the *South American Journal*, has been for so many years associated. Consequently the final programme of the association have only been published in the prospectus in the Spanish and Portuguese languages. These are now being largely circulated in the countries mentioned. The Government of Brazil has manifested a great interest in the scheme and has asked me to supply a large number of pamphlets to be distributed officially. The consuls of the coffee-producing countries of Central America and of Mexico have also sent out quantities of pamphlets to their Governments, and many merchants in London, Hamburg, Havre and elsewhere, have sent copies to their correspondents. I send you herewith specimen copies.

It is obvious, however, that the success of the proposed association will be more assured if the coffee growers throughout the world should take part in it.

The Editor of the *Indische Mercuur*, of Amsterdam, has kindly offered his co-operation in bringing this matter before his countrymen in Java, Sumatra, etc., where about sixty of the leading planters have already intimated their approval of the scheme.

Probably this letter may lead to the planters in Ceylon, &c., taking some definite action in the matter.

As explained in the Spanish prospectus, the original idea was to form an association principally for propaganda purposes, to impress upon the public the peculiar merits of coffee and to instruct them how to prepare it. It was suggested that this institution should be supported by a small levy, voluntarily, or legally, imposed upon each bag of coffee exported.

Upon going into the matter more closely, however, I soon perceived that this plan was encumbered by so many practical difficulties that to carry it out to a satisfactory issue would be almost impossible. These I have alluded to at length in my pamphlet. Amongst them I may mention the delay which would necessarily have to take place before all the coffee-producing countries of the world could be got to agree to the assessment; the impracticability of arriving at a general agreement as to its amount, the difficulty of its collection and of being able to estimate in advance the amount of revenue likely to be derived from it; the danger of official interference in the management, and many others, which will immediately occur to business men.

It became evident that the association could only succeed if founded upon a commercial basis.

Fortunately it will be easy to do this under the conditions which now exist, and are likely to prevail for some long time to come in the coffee markets of the world. It is well known that the retail prices have not yet fallen in any degree proportionate to those which rule in wholesale quotations; also that coffee is sold largely adulterated in most European countries. From these circumstances it results that there is a splendid profit to be made by any association, or company, which will take up the business of coffee-roasting on scientific principles upon a large scale, whilst by the issue of coffee, guaranteed pure, at moderate prices, all adulterations could be driven from the market, whereby consumption of coffee will be greatly increased. I have gone carefully into this matter, and have made elaborate calculations as to the profits, which are most alluring. My estimates have been verified by people who have had great experience, and it is probable that, whether the planters give their support or not, there will soon be several large roasting factories established in England, using the machinery which I have discovered to be the best. as by it a great saving is made in the process.

It will be much better, however, if these factories are owned and controlled by an association of producers. If started by commercial speculators, the interest of the proprietors will be to keep the wholesale prices of coffee as low as possible, whereas the producers, having a wider view, could devote some of the profits to propaganda, which would ultimately lead to a more general consumption of coffee.

If I find that there is a real interest taken in this business, I shall have much pleasure in publishing the full detailed prospectus in English. The plan at present is to form a company with a capital of £60,000 in shares of £1 each.

There is another important function, which an association of coffee-producers could perform to the great advantage of its shareholders, namely, that of acting as their commercial agent; as the consignee of their coffee and the supplier of their stores, I have perceived this ever since I arrived at the conclusion as to the best plan of organising the company; but I have not sought to emphasise the point as I hoped and desired that I would have the support of merchants on this side in my efforts for its promotion. As, however, these gentlemen have now shown themselves to be either apathetic or covertly hostile to the scheme, there is now no object in keeping it dark, especially in a letter addressed to planters. Many of your readers must know from experience that their European correspondents do not always take the pains they ought in order to secure the best prices for produce consigned to them. In too many cases it is simply handed over to a broker to be "slaughtered," at any price it will fetch. A co-operative association of planters, however, formed upon the lines I have set forth, would have its own large body of consumers which it would reach directly, and many intermediate commissions and expense would be saved. Besides this, all the profits now derived by merchants from sale commissions or purchase of supplies would come into the treasury of the association and back into the pockets of the planters themselves in the shape of dividends. I hope the considerations I have mentioned will be sufficient to lead the planters of your district to take an active interest in the scheme.

RUBBER—ARTIFICIAL AND NATURAL.

Artificial Production of India-Rubber.—The artificial production of india-rubber has long been a fascinating problem for chemists. Dr. Tilden has how succeeded in producing it in small quantities, although its commercial production does not at present seem very near realisation. A hydrocarbon known as isoprene was discovered years ago by Greville Williams amongst the products of the destructive distillation of india-rubber, and in 1884 Dr. Tilden obtained it by the action of moderate heat on turpentine. Some isoprene, which was made by Dr. Tilden in the course of his researches in terpenes, was preserved, and on examining these he was surprised to find the contents of the bottles completely changed, and in place of a limpid, colorless liquid the bottles contained a dense syrup, in which floated several large masses of a yellowish solid. This, on examination, turned out to be india-rubber, exhibiting all the characteristic reactions of that body with solvents and also its power of combining with sulphur to form a tough elastic body. The change from isoprene to india-rubber is extremely slow, taking several years to complete, and so far, Dr. Tilden says that although he has tried everything he can think of, all attempts to hasten the action have resulted in the production of a body known as colophene, a thick sticky oil, quite useless for all purposes to which india-rubber is applied.

Rubber of the Soudan.—Whilst on the subject of rubber, it is of interest to learn from the recently-issued report of Sir William Garstin on the subject of the Soudan, that on the White Nile, in

the Bongo and Rohl districts, the india-rubber creeper (Landolphia florida) is found in great profusion, which, as is pointed out, should be an important asset in the future trade of the Soudan, although, of course, the rubber produced from this plant is not of such good quality as that from Para or Assam. We are accustomed to look upon the Soudan as anything but a source of wealth to its holders, but from this report of Sir William Garstin's to the Foreign Office it would appear that there are great potentialities of wealth in the district, and there is urgent need of a scientific examination of the country with a view to the development of its natural resources. The vast forests which line the banks of the Upper Blue Nile, and extend as far as the Abyssinian frontier and those of the provine of Bahr-el-Ghazel, should prove sources of future wealth. In regard to the mineral wealth of the district, very little appears to be known. Iron ore is found in the Bahr-el-Ghazel province and also at Darfur, and gold mines were at one time worked in the mountains south of Fazogl. At present coal does not seem to have been discovered.—*Daily Chronicle*, September 8th.

LONDON CHARGES OF TEA COMPANIES.

III.

Having demonstrated that the warehouse charges for working tea were unduly high, and that the maintenance of these charges was enforced, or endeavoured to be enforced, by the organisation known as the Tea Clearing House, we now proceed to give some particulars of the constitution of that body. No one will complain about its ostensible aims which are to give facilities to the wholesale trade in tea by providing a central office where all warrants and delivery orders may be lodged, instead of at the various docks and warehouses, thus avoiding any necessity for the personal attendance of clerks and others at the offices of the various docks, warehouses, wharves, &c. In this respect it forms a most useful organisation, and all practical people connected with the tea trade would be sorry to see its scope limited But from the very start we should imagine that its founders had in view the maintenance of warehouse charges. Created about midsummer, 1888, its formation followed upon the long struggle between the docks and wharfingers, during which warehouse rates on tea, like other warehouse charges, had been cut to points that were positively unremunerative. Discounts of 50 and 60 per cent. were then not at all unusual, and it is only fair to say that importers of tea do not desire to see that state of things return, as, like all sensible men, they recognise that poor pay leads to bad work. And in fixing the present tariff with a discount of 10 per cent. defenders of the Tea Clearing House may urge that it was justified by the conditions of the time. We have grave doubts upon this point, but, however that may be, conditions have certainly changed since, for whereas in 1888 the Indian tea crop amounted to about 99,000,000 lbs., and the average price obtained to 10¾d. per lb, in the past year the crop exceeded 150,000,000 lbs., and the average price had declined to 8¾d. per lb. With larger quantities to handle, and importers working upon a much lower margin of profit, the 1888 tariff of the Tea Clearing House has become antiquated, and, as we have said, many of the warehouse keepers would be quite prepared for a reduction in charges.

To outsiders like ourselves, nothing might appear easier than to bring pressure to bear upon this central body. The members of the Tea Company House consist of the following docks, wharves, and warehouses:—

PRIVATELY OWNED.	OWNED BY COMPANIES.	
Brook's Wharf.	Cutler-street Warehouse.	London and India Docks.
Buchanan's Warehouse.	Commercial-road Warehouse.	
Cooper's-row Warehouse and Brewer's Quay.	St Katharine Dock Warehouses.	
Fresh Wharf.	Butler's Wharf.	
Hay's Wharf.	Chamberlain's Wharf.	
London and Continental Wharf.	Colonial Wharf.	
Nicholson's Wharf.	Metropolitan Warehouse.	
Oliver's Wharf.	Monastery Warehouse and Abbey Wharf.	
Red Lion and Three Cranes Wharf.	Monument Warehouse.	
Smith's wharf.	Priory Warehouse.	
Trinity and St. Olave's Warehouse.		

Rudimentary as our knowledge of the tea trade is, we have been able to gather that a large interest in these warehouses wharves is held by those directly interested in tea. Informat about the privately-owned concerns is, of course, difficult to obta but we believe that Buchanan's Warehouse and Oliver's Wharf owned by Messrs. P. R. Buchanan & Co., which means that John Muir has a large share in their management. Then we also led to understand that the respected firm of W. J. & Thompson have a strong interest in the Trinity and St. Olav Warehouses, and we understand that tea importers have intere in other of these privately-owned concerns. Turning to the joi stock properties, those owned by the London and India Do Committee would probably be unaffected by this influence, as warehousing of tea forms but a small proportion of their busine Butler's Wharf, however, stands on a very different footing, for operations are wholly devoted to tea. The company, in fact, is outcome of an organised attempt to reduce warehouse charg Somewhere about 1892 tea importers felt the onerous character these charges, and a number of the leading companies and age firms bought up Butler's Wharf and formed it into a moderat capitalised company which has paid exceedingly good dividen ranging from 70 to 80 per cent In doing this, although an portant section of the tea importers were included in the effort was found that the Tea Clearing House, with its prohibition subscribers dealing with warehouses outside its members, too strong for the new company, and it had to enter the "rin and make its charges correspond with those of others in the sa business. The capital of the concern is £20,550 in shares of each, of which only £5 per share has been paid up; and four-fif of the shares are in the following names:—

	No of Shares.		No. Sha
Darjeeling Company	... 200	Surgeon-Gen. de Renzy	..
Jorehaut ,,	... 300	H. Earnshaw ...	..
Doom Dooma ,,	... 50	H. Lafone ...	..
Jokai ,,	.. 325	A. M. Lafone ..	
Central of Ceylon Company	.. 50	E. Wahab ..	
R. G. Shaw ...	... 250	J. F. McGuire	..
R. B. Mayor ...	... 100	C. E. Buckingyoung	...
F. A. Roberts ...	... 300	J. Young ..	..
R. Lyell ...	... 100	J. Brooks ..	...
G. Williamson ...	... 200	R. J. Boyle ..	...
G. G. Anderson ...	... 100		

Thus only five tea-producing companies hold shares in the und taking directly, so that the major part of the high profits earn by this company go into the pockets of private individu Excepting the two Messrs. Lafone, who were probably the origi wharfingers, the other large shareholders are wholly gentlem connected with the tea trade, either as directors of tea compan or members of agency firms. As a co-operative company, owned a few companies and a number of individuals, it has been a gre success, but it has altogether failed to improve the position of t tea trade. Amongst the other companies we find that the lar importing house of Barlow & Co. practically owns the Monaste Bonded Warehouse and Abbey Wharf, and that the old-establish firm of Rucker Marshall & Co., formerly Rothwell, Marshall & C are virtually the owners of the Monument Bonded Warehous Finally, we have a rather curious instance of small interests of importers in the case of Chamberlain's Wharf, the shareholders which are as follow:—

	No. of Shares.		No Sh
C. R. Besley ...	... } 77	E. G. Goulder	..
E. Besley ...	... }	Sir W. Johnston	
M. B. Peacock ...	... }	C. P. Jones	
E. Besley ...	... 77	W. M. Leake	...
R. A. Bosanquet ...	... 1	J. L. Shand	...
A. T. Brooke ...	... 1	Anglo-Ceylon and Estates	
W. Figg ...	... 1	Company ...	

The capital of this company is only £1,630 in shares of £10 ea and the first three holdings represent executors of the late A C. R Besley. The holdings of one share each have gradually gro up of late years, and the holders are all connected with the trade in one way or another.

Contrary to the view of outsiders, those who are taking an act part in the agitation for a reduction in Warehouse charges consi that the large interest in Warehouse and wharfage property h by prominent members of the tea trade is a source of weakness

the trade as a whole. It is argued that it divides the trade into two classes—those who benefit by the paying of high Warehouse charges, and those who suffer by them.

At this stage of the controversy we can hardly agree with this doctrine, for, after all, it is better to deal with those who know the difficulties and troubles of a trade than with strangers. Even tea-brokers, who are not interested directly in prices, have a strong motive to seek a reduction of charges in the fact that the present heavy levies, coupled with higher freight rates, prevent tea coming to London, and are leading to the Colombo and Calcutta markets having the entire handling of much of the tea sold to countries outside the United Kingdom. If Sir John Muir, Messrs. Buchanan & Co., Barlow & Co., George Williamson & Co., Alexander Lawrie & Co., and other important firms and personages, are imbued with that strong desire to improve the position of tea companies which was evinced in their proceedings over the "draft" question, they should recognise at once that the smoothing away of these Warehouse difficulty is easily within their powers. By a decided stand on the part of those owners of warehouses and wharves who are interested in tea, we believe that at least seven out of the twenty-one warehouses in the Tea Clearing House could declare their independence of its arbitrary tariff, and these warehouses are precisely those which have the handling of the greatest quantity of tea. Against a threat to do this the other members would probably be powerless to act effectively, and the moderate reduction in charges asked for by the trade might be attained in a proper manner without friction. Shareholders in, and directors of, tea companies, together with owners of plantations, know, therefore, where they should turn for assistance in this matter, and by judicious ventilation of the subject at meetings of the Indian Tea Association and the Ceylon Association in London, and by those committees so beloved by the trade that have sprung from these associations, much could, we feel sure, be done to bring about a better state of things. Otherwise, we shall be much inclined to consider that the passionate action of the tea importers as a whole over the "draft" question did not arise out of very elevated motives, and that individual interests are allowed to override the interests of the trade as a whole.—*Investors' Review.*

CACAO SOILS IN THE WEST INDIES.

Mr. J. B. Harrison, Government Analyst, British Guiana, wrote on 31st August last to the *Ceylon Observer*:—

My attention has been directed to an article in your issue of July 18th, 1899, in which Mr. Cochran has ascribed work done in this laboratory by myself and staff to Professor Carmody, of Trinidad. I shall be obliged to you if you will give to Mr. Cochran the two pamphlets I have sent under cover to you, the first entitled "The rocks and soils of Grenada" and "The agricultural chemistry of cacao" and the second an extract from a report on the agricultural work in the Botanic Gardens of this colony relating to cacao. I may remark that the Grenada soils were personally selected by myself from the plantations.

I have also a series of analyses of the very fertile cacao and coffee soils of Surinam, which I made for the purposes of comparison with the soils of the interior of the Colony, which, if they are of any interest to you or to Mr. Cochran, I shall be happy to place at your disposal.

Professor Carmody's analysis are not comparable with ours, as he uses a different method of attacking the soil with acid solvents. We have for the last fifteen years used invariably the process described in one of the pamphlets.

I may say that my experience in the West Indies points to the great importance of the amount of potash in an available state present in the soil and to the lesser importance of phosphoric and nitrogen and this consideration is based on the analyses of sixty or seventy different soils.

The *Observer* also publishes Mr. Cochran's remarks as follows:—

City Analyst's Office, Colombo, October 21.

I have to thank you for a reading of the letter of Mr. J. B. Harrison, Government Analyst of British Guiana, on the subject of the cacao soil analyses, with which I dealt in the article you published on 20th July of the present year. I am also much obliged for the two pamphlets he has sent to me, embodying the results of his analytical work of many years.

They represent an amount of original and careful analytical work which only an analyst can fully appreciate. I should also very much wish to see his analyses of the very fertile cacao and coffee soils of Surinam, which Mr. Harrison offers to place at your disposal.

Of the two sets of cacao soil anlyses which I compared last July, only the second set, viz., the analyses of soils, of average fertility, was conducted under the supervision of Professor Carmody, Government Analyst of Trinidad; while the first set, the analyses of fertile cacao soils, was the work of Mr. J. B. Harrison, and his staff at British Guiana. I am sorry I did not know that Mr. Harrison was the analyst till I received his letter which you have forwarded. The copy of the proceedings of the Agricultural Society, in which I first saw the analyses (published in 1897) was incomplete, some pages being a-wanting, and amongst them the first page of Mr. Harrison's report; but even in the complete form which he now sends me, entitled "Extracts from the Report on agricultural work in the Botanic Gardens relating to cacao" and printed by authority of the Government, neither Mr. Harrison's name nor that that of any other member of the staff of the Botanical Gardens occurs!

As the two sets of analyses were by different chemists, using different analytical methods, they are of course not so strictly comparable, as if the same analytical methods had been followed, but a comparison is still instructive.

As Mr. Harrison has had great experience in the analyses of cacao soils, planters will be glad to have the latest word he has to say on the subjects which is as follows:—"I may say that my experience in the West Indies points to the great importance of the amount of potash in an available state present in the soil, and to the lesser importance of phosphoric acid and nitrogen, and this consideration is based on the analyses of sixty or seventy different soils."

I find the same view as regards nitrogen more fully expressed in Mr. Harrison's work entitled: "The rocks and soils of Grenada and Carriacow and the agricultural chemistry of cacao," where he remarks:—"Upon all the soils of Granada, light dressings of nitrate of soda or sulphate of ammonia will prove beneficial to plants and upon the soils which appear in the list marked 'nitrogen' such dressings are, in my opinion, essential to successful cultivation." (These last are soils in which the amount of nitrogen ranges from ·032 to ·137 per cent.). "Where such crops as cacao, coffee, and nutmegs are the staples, it is necessary to use great care with regard to nitrogenous manures. Heavy dressings of active nitrogenous manures may easily cause excessive leaf formation.

COFFEE CULTIVATION IN INDIA.

MR. J. E. O'CONOR'S REPORT.

The Report of the Director-General of Statistics on "The Cultivation of Coffee in India" has been issued. Two tables appended to it state the facts regarding the cultivation of coffee, the first in detail for the two years 1897 and 1898, the second in abstract for the fourteen years 1885 to 1898. Mr. O'Conor remarks:—"It should be noted, however, that the figures, for which the Government are dependent upon the planting community, are imperfect and defective, planters, for unknown reasons, sometimes withholding information."

Following is the Report itself:—

AREA.

At the end of 1898 there were 281,570 acres of land under coffee in India, all, with the exception of 549 acres, in Southern India. The cultivation of coffee is in fact restricted for the most part to a limited zone in Mysore, Coorg, and the Madras Districts of Malabar

and the Nilgiris. About 45 per cent. of the coffee-bearing area is in Mysore, where there were 128,079 acres in 1898, and the plant is grown on 128,410 acres, forming another 45 per cent. in the British Districts of Coorg (82,575 acres), the Nilgiris, and Malabar (45,835). If to these two areas are added 6,384 acres in Travancore and Cochin, we find 93 per cent. of Indian coffee concentrated in the elevated region above the South-western Coast. Mysore, Coorg, and the Madras Districts contain 97 per cent. of the coffee-growing area.

In the Madras Presidency cultivation on an extended scale is practically restricted to the two Districts already mentioned and to Salem and Madura. The only other Province in which coffee is grown, except experimentally or to an insignificant extent, is Burma, and the cultivation there, mostly in Toungoo, is very limited.

The area in Madras, after a reported contraction in 1896 and 1897, again expanded in 1898 to the level of 1894 and 1895. In Coorg the area reported in each of the last three years is much beyond the average, but in Mysore it has been reduced approximately to the level of 1892.

PRODUCTION.

The yield in 1898 was about 23¾ million pounds, that of 1897 having just exceeded 24 millions, the production in both years having been extremely poor, following a poor yield in 1896. The poverty of the crop in 1896 and 1897 was due in the main to adverse seasons in Mysore, Coorg, and Travancore, and in all three cases there was a recovery in 1898, which was, however, incomplete in the case of Mysore; but, to set against this recovery, the Madras crop was a signal failure. Since 1897 the fall in prices has removed the stimulus which had been given for a few years to the further expansion of the coffee-growing area, and disease has combined with adverse climatic conditions to reduce the yield.

Taking 100 to represent the area and production in 1885, the ratio of yearly increase or decrease is as follows:—

	Area.	Prodn.		Area.	Prodn.
1885 ..	100	100	1892 ...	110	97
1886 ...	97	90	1893 ...	109	109
1887 ...	103	109	1894 ...	117	101
1888 ...	104	76	1895 ...	119	115
1889 .	110	85	1896 ...	121	75
1890 ...	114	63	1897 ...	116	69
1891 ...	111	113	1898 ...	118	68

PERSONS EMPLOYED.

According to the statements there were, in 1898, 25,930 persons permanently, and 88,550 temporarily, employed on the coffee estates, making a total of 114,480 persons, which is equal to one person, to 246 acres.

EXPORTS AND CONSUMPTION.

The following figures are the average of the five years ending 1898-99:—

		Lbs.
Indian coffee	Production	29,849,357
	Exports	28,628,514
	Left in India	1,220,813
Foreign coffee	Imports	1,564,416
	Re-Exports	1,025.225
	Left in India	539,191

About 96 per cent. of the production is exported, and the coffee consumed in India consists of Indian and imported coffee in the proportion of 69 per cent. of Indian to 31 per cent. of foreign coffee. The explanation of the fact that such a large proportion of foreign coffee, mostly imported from the Straits, is consumed in India doubtless lies in the disinclination of the planters of Southern India to take any account of the local market.

The principal countries to which were shipped the 30,246,272 lbs. of Indian coffee exported in 1898-99 were—

United Kingdom	17,392,480
France	9,356,816
Austria-Hungary	1,023,568
Germany	618,688
Ceylon	505.680
Australia	265.440
Arabia	229,488
Asiatic Turkey and Persia	131,264

PRICES.

Coffee is not sold, as tea is sold, before shipment for export, therefore there is no Indian quotation of price. The average pri in London for East India plantation coffee in each of the twenty-five years are here subjoined with their variations, tak the price of 1874 as the datum=100:—

	Per Cwt. s.	d.	Variation.		Per Cwt. s.	d.	Variati
1874 ...	92	1	100	1887	94	9¼	103
1875 .	107	4⅓	117	1888 .	85	6½	93
1876 ...	108	2	117	1889	99	10	108
1877	110	0½	120	1890 .	106	2½	115
1878 ...	107	6	117	1891	105	2⅓	114
1879 ...	100	10	110	1892 ..	104	2⅓	113
1880 ...	99	9	108	1893 ...	105	4½	114
1881 ...	91	4	99	1894 ...	101	0	110
1882	85	4	93	1895 ...	101	2	110
1883 ...	85	7	93	1896 ...	99	11	109
1884 ...	76	4⅓	83	1897 ...	94	8	103
1885 ...	75	3⅓	82	1898 {	78	1	85
1886 ...	79	7½	86		100	0½	109

MARKET REPORT.

Per Mail Advices of 13th October 1899.

COFFEE.

The London Commercial Record says:—Colory qualities contin in good demand, and full prices are realised, bold East India selli at even higher rates. No material change can, however, be repo ed in prices of less desirable samples, but a fair proportion h been disposed of at about previous rates to an occasional decli A much firmer tone has prevailed for "futures," with large expo purchases, and although there has been a slight reaction at t close, prices for the week shew a decided improvement, viz.:—

London ...	... Santos ...	December delivery	... 27s. 6d.
New York	... No. 7 Rio...	„ „	... 4·85 cen
Hamburg...	... Santos ...	„ „	... 28 pf.
Havre ...	... Santos ...	„ „	... 33½ fran
Holland ...	... Good ordinary Java ...	...	... 26 cents

Imports, Deliveries and Stock of Coffee in London are as follows

	Stock. 1899.	1898.	Imports. 1899.	18
Tons ...	22,543	18,978	41,340	39,9
	Home Consumption. 1899.	1898.	**Export.** 1899.	18
Tons ...	12,768	11,015	20,460	19,0

The preceding figures exhibit—

	To
In the Imports an increase this year of	... 1,3
Home Consumption an increase of	 1,7
Export an increase of... ...	 8
Stock an increase of	 3,5

Auctions this week have gone off as under:—

CEYLON.—*Plantation.*—45 casks 13 tierces 43 barrels 7 bags mos sold—smalls 50s to 66s, low middling dull greenish 60s to 65s, l middling to middling colory 74s to 93s, fair to good bold 89s to 17 pea-berry 71s to 106s

EAST INDIA.—3,181 bags partly sold—*Coorg*, smalls 30s 6d 43s 6d, low middling to middling 38s to 46s, good middling bl 52s, bold 50s to 81s, pea-berry 50s 6d to 85s; *Neilgherry*, sma 31s 6d to 33s 6d, low middling to middling 34s to 44s, bold 52s to 54s, pea-berry 40s 6d to 46s; *Naidershatum*, smalls 35s, low m dling 38s 6d, bold and very bold 50s to 69s, pea-berry 45s to 8 *Mysore*, smalls 36s 6d to 40s, low middling to middling 35s 6d 46s 6d, bold faded greenish 44s to 44s 6d, colory 67s 6d; *Wyna* low middling greenish 36s; *Neliampathy*, pea-berry 65s.

LIBERIAN.—Of 13 bags offered 12 bags sold—triage 13s.

JAMAICA.—29 barrels mostly sold, good to fine fine ordinary greenish 32s 6d to 37s 6d.

COSTA RICA.—174 bags bought in.

GUATEMALA.—Of 2,296 bags offered 1,700 bags sold, smalls 32s to 35s, fine fine ordinary 38s, low middling brownish to middling greenish 40s to 44s 6d, good middling 45s to 47s, bold 54s to 64s 6d, pea-berry 35s 6d to 53s 6d.

SALVADOR.—Of 1,878 bags catalogued 980 bags sold, ordinary to good ordinary 31s to 33s, fine fine ordinary 37s 6d to 39s 6d, low middling to middling bright colory 41s to 45s 6d.

NICARAGUA.—362 bags mostly sold, smalls 27s 6d to 29s, ordinary foxy green 31s 6d to 32s, fine fine ordinary 36s to 38s 6d, middling 44s, bold 51s 6d, pea-berry 45s 6d.

COLOMBIAN.—4,136 bags offered, and 2,850 bags sold—smalls 27s to 44s, good ordinary 32s 6d, fine ordinary 35s 6d to 38s 6d, low middling to middling 40s to 45s 6d, good middling colory 45s 6d to 56s, fine blue 77s to 80s 6d, bold 48s 6d to 69s 6d, fine to very fine 88s 6d to 104s, pea-berry 45s to 94s.

ECUADOR.—15 bags sold—ordinary pale dull 28s.

HONDURAS.—24 bags sold—ordinary to fine ordinary 30s to 36s.

MEXICAN.—Of 144 bags offered, only a small part sold—fine ordinary 35s 6d, low middling to middling 41s 6d to 43s.

VERA PAZ.—75 bags sold—ordinary to good ordinary 30s to 33s. Nyassaland, 55 bags Mexican, 597 bags New Granada, 929 bags

Auction supplies to-day consisted of:—11 casks 6 barrels Plantation Ceylon. 586 bags East India, 179 packages Mocha, 492 bags Colombian, 54 bags Coban, 678 bags Vera Paz, 681 bags Salvador, 1,107 bags Costa Rica, 456 bags Guatemala, and 100 bags Santos. The sales went off steadily without change in quotations.

Receipts in Rio and Santos.

Since July 1	1899-1900. Bags.	1898-99. Bags.	1897-98. Bags.	1896-97. Bags.
Rio	1,382,000	1,183,000	1,668,000	1,247,000
Santos ...	3,141,000	2,469,000	2,892,000	2,112,000
Total	4,523,000	3,652,000	4,560,000	3,359,000
Crop	—	8,772,000	10,461,000	8,680,000

Rio Exchange $7\frac{9}{32}$d, previous day $7\frac{13}{32}$d.

HAVRE, Oct. 12.—Santos good average October opened barely steady at 33f. and closed steady at 33f., December opened at 33f. and closed at 33f.

HAMBURG, Oct. 12.– Good average Santos October opened steady at $27\frac{3}{4}$pf. and closed steady at $27\frac{1}{2}$pf., December opened at $28\frac{1}{4}$pf. and closed at 28pf.

NEW YORK, Oct. 11.—Closing prices of No. 7 Rio were as follow:—

	Oct.	Nov.	Dec.	Jan.	Feb.
Oct. 11 ...	4·60	4·65	4·85	4·90	4·95
Oct. 10 ...	4·55	4·60	4·80	4·85	4·95

Prices realized at auctions for some of the principal marks of East India:—

COORG.

	A	B	C	PB	T
I M Balakadoo	71-0	43-0 bid	37-6	76-0	34-0
Rose's Chinwercottay Coorg	77-6	54-0	38-0	85-0	30-0
I M Santicoopa	80-6	53-0	37-6	77-0	33-0
Do. Balakadoo	74-0	46-0 bid	37-0	78-0	33-0
P J B Rookma	80-0	51-0 bid	—	80-0	38-0
Charlotte Coorg	50-0	40-0	33-6	50-6	31-0
	1	2	3	PB	T
G M M Coorg Abial Mountain ...	75-0 bid	48-0 bid	39-6	75-0	33-6
Grant and Abbs Cowerie Betta Coorg Unsized (Cherry)	—	35-0	36-6	—	24-6
Matheson's Coorg Polli Betta ...	80-0	51-0	41-0	90-0	36-6
Do. Hanchi Betta	76-0	47-0 bid	39-0	83-6	32-6
Do. Farewell	78-0	no bid	39-6	90-0	34-6
Matheson's Coorg Cotta Betta ...	76-0	45-6	43-6	82-0	32-6
Do. Koring Kadoo	66-0 bid	42-0 bid	36-6	75-0	31-6
Do. Mattada Kadoo	74-0 bid	46-0 bid	37-0	76-0	33-0
Do. Watta Para	68-0 bid	44-0 bid	37-0	66-0 bid	33-0
Do. Woshully	78-6	47-6 bid	39-6	79-0	33-6
Do. Taneer Hulla	81-0	52-0	41-0	85-0	32-0
Do. Kanambaddy	70-0	44-0	35-6	69-0	33-0
Do. Nulla Cottay	72-6	46 0 45-6	36-6	73-0	31-6
Do. Kembety Cadu	no bid	45-6 bid	—	75-0 bid	—
Matheson's Coorg Ben Lomond ...	63-0 bid	43-0	31-0	63-0	30-0
Do. Chenencottay	55-6 bid	38-6	30-6	62-0	29-0
Do. AF ◇ Coorg	66-0 bid	44-0 bid	35-0	70-0	31-0

NELLIAMPATHY.

	A	B	C	PB	T
Polyampara Nelliampathies	44-0 bid	38-0 bid	—	43-6	—

WYNAAD.

	A	B	C	PB	T
Cauvery Peak	—	37-0	—	45-0	—
Wynaad P & Co.	—	38 0 35-0	—	—	—

NAIDOOBATUM.

	A	AA	B	C	PB	T
Guynd WPC	69-0	50-0	38-6	35-0	45-0	28-0

MYSORE.

	0	1	2	3	PB	T
Merthi Subungudigy Mysore ...	41-6 bid	34-0	—	—	—	—
Leslies' Mysore	40-6 bid	34-0	—	—	40-0	—

	A	B	C	PB	T
HC S Mysore	46-0 bid	36-0 bid	32-0	47-0	26-6
MECo. Abragay Mysore ...	37-0	34-6	29-0	40-0 bid	24-6

NEILGHERRY.

	A	B	C	PP	T
Crofton Nilgiris	40-0 bid	36-0	32-0	40-0	—
Elephant Devicolam Talliar ...	60-0	44-0	—	—	—
Mullanoor	46-0 bid	39-6 bid	32-6	—	26-6

SHEVAROY.

	A	B	C	PB
Brooklands Shevaroy S◇	45-0 bid	41-0 bid	—	56-0 bid

TEA.

CHINA.—Rather easier prices obtain for Scented Caper, but other makes are about steady. During the week 3,348 packages have been offered at auction, mostly selling as under:—New make Congou $5\frac{3}{4}$d, Scented Caper 6d to $7\frac{1}{2}$d, Ouchaine 6d to $6\frac{3}{4}$d, Lapseng Souchong $6\frac{1}{2}$d to $7\frac{1}{4}$d, Oolong 5d to $5\frac{1}{4}$d; Green, Gunpowder $9\frac{1}{2}$d to $10\frac{1}{4}$d, Young Hyson $6\frac{3}{4}$d to 1s $2\frac{1}{4}$d, Hyson $4\frac{3}{4}$d to 1s $0\frac{1}{2}$d per lb

INDIAN.—Rather more was brought to the hammer, viz, 48,500 packages, compared with 45,600 packages last week and 48,900 packages a year ago.

Although the satistical position is favourable a quieter tone prevailed, due it is said to the stringency of the money market, and also to less support from the country. Supplies therefore proved somewhat in excess of requirements and prices "sagged" a little for all except choice liquoring parcels, which held their own. Common to fair Pekoe Souchongs and Pekoes in most instances mark a decline of $\frac{1}{4}$d per lb. for the fortnight while, inferior Broken Pekoes passed in favour of buyers. Medium Pekoes, especially when lacking fulness in cup were occasionally neglected so that at times lower rates had to be accepted to effect sales. About 1,200 packages from South India mainly of useful quality were included in the catalogues and met with attention.

Duty paments continue on a very satisfactory scale, and it is encouraging to note, as will be seen by the figures given below, that the exports of British grown Tea from London during September amounted to about $\frac{1}{2}$ million lbs., this being the largest total yet recorded for one month.

For 39,100 packages on Estate Account $8\frac{5}{8}$d per lb. was realised, contrasted with $8\frac{3}{8}$d per lb. for 37,700 packages, and 9d per lb. for 38,000 packages in the two preceding seasons.

CEYLON.—Public sales were about on a par with those of last week, viz.:—29,400 packages versus 30,300 packages: while at this period in the foregoing year, the quantity was only 12,900 packages

Competition was less keen and quotations for most descriptions showed some irregularity, leading in many cases to a shrinkage in value. Ordinary Pekoe Souchongs were more readily to be had at 6¼d per lb., while Pekoes and Broken Pekoes over 6¾d per lb., unless with good flavour, dropped ¼d to ½d per lb. Fine and finest with stand-ont infusions, maintained their position, but when deficient in this respect, they went against sellers.

Partly on account of the smaller proportion of desirable invoices offered, the average has fallen to 8d per lb. On the 5th instant it was 8¾d per lb., and 8¾d per lb. in 1898.

JAVA.—Nearly 2,300 packages of direct import were submitted which in sympathy with other growths were slightly easier. At present nothing further is advertised.

Deliveries—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns are, viz.:—

	Lbs.
From 1st to 10th Oct., 1899	6,795,727
Do. do. 1898	5,524,247

During the week the following have been printed for sale by public auction:—

	Sold.	Withdrawn.	Total offered.
	Pkgs.	Pkgs.	Pkgs.
India	41,222	7,296	48,518
Ceylon ...	24,964	4,388	29,352
Java	1,844	413	2,257
Total ..	68,030	12,097	80,127

Also 114 packages from second hands.

Messrs. Gow, Wilson and Stanton's Indian, Ceylon, and Java Tea Report, dated October 13th, 1899, says:—

QUANTITY BROUGHT TO AUCTION IN LONDON FROM 1ST JUNE TO DATE.

	Indian.	Ceylon.	Java.
	Pkgs.	Pkgs.	Pkgs.
1899-1900	509,723	440,768	23,757
1898-1899	482,329	461,519	18,649

48,508 *pkgs.* INDIAN
29,619 „ CEYLON
2,289 „ JAVA
} Total 80,466 packages were offered in public auction this week.

The consumption of Tea in the United Kingdom continues to increase, duty payments for the past nine months being five million pounds over the corresponding period of last year, notwithstanding the rise in value of low priced Teas. The re-export from this country of both Indian and Ceylon growths also shows a slight increase.

Stock of all Tea in United Kingdom on 30th September.—1899' 84,128,000 lbs. 1898, 77,160,000 lbs. 1897, 78,934,000 lbs.

INDIAN.—The quieter feeling noticed last week has become more apparent Competition for all but the finest grades was less animated. medium Teas occasionally showing a slight decline in price; finer grades continue to realise good prices. The late floods in Darjeeling do not appear to have done as much damage as at first believed.

Although arrivals of Indian Tea since 1st June are 5,000,000 in excess of last year, the stock in London is below that September of last year. The following averages are worth note:—"Poobong," 1/9¼; "Risheehot," 1/4½; "Oaklands," 1 "Ass. Fron. T Co. Hok," 1/2¼; "Budla Beta T Co. K.," 1/2

Week's av. of Tea sold on Garden Account 1899—39,485 pk av. 8·58d. 1898, 37,815 pkgs., av. 8·29d.

Total Tea sold on Garden Account 1st June to date 1899—352 pks., av. 8 57d. 1898—342,682 pkgs.. av. 8·84d.

CEYLON.—The auction was again heavy, comprising 29,619 p ages against 30,637 packages last week, and 27,680 the week bef these heavy auctions being caused by the recent accumulatio Tea; this is now pretty nearly disposed of, and it seems likely the sales will become gradually smaller. The continued press has placed a very heavy strain upon the market, and prices week again showed its effect, being slightly lower, especially medium Teas, many of which must be quoted ½d. to ¾d. per cheaper. For Teas for price bidding was strong, and quotati fully maintained, while good liquoring and fine Teas were wanted. The followidg average may be mentioned:—"Talawak T Es. T." 7/0¼. Average for week 7·93d against 8·67d. in 1898.

Ceylon Tea sold on Garden Account 1st January to date 189 842,932 pkgs., av. 7·96d. 1898 899,168 pkgs., av. 7·67d.

JAVA.—Not much change was noticeable in this growth, tendency being if anything slightly easier. 8,853 packages are be offered in Holland on the 26th instant.

IN CANADA.

Wholesalers are experiencing a continued increase in the dema for teas, and a good business is now being done. The brokers rep that they are experiencing a good demand for teas of Indian Ceylon growth under 15c. per lb. Business is limited on acco of the smallness of supplies on spot. Very little is being do from London, as importers prefer to wait until teas are on spot.

COCOA.

Auctions on the 10th instant presented 3,316 bags, which me fair enquiry at generally better prices except for African, wh was lower. Of 413 bags Trinidad catalogued 190 bags sold—fai fine red at 71s to 75s 6d, or 1s to 2s over valuations. 653 b Grenada offered and half sold at full rates—64s to 65s for good fine red, and 60s for common. 65 bags Jamaica mostly sold at improvement of 1s per cwt.—at 59s to 60s for common. 4 b St. Lucia realised 59s 6d. 10 bags Dominica retired. Of 69 b Surinam only a lot or two sold at 61s. Of 133 bags Puerto Cabe only 3 bags sea-damaged sold at 89s 6d. Of 901 bags Guayaq 80 bags sold at 66s for Carapuez. 381 bags African found buy at 59s 6d to 62s for good to fine, showing a depreciation of 1s. bags Seychelles sold—fine Ceylon cure at 73s 6d, common 60s to 6 Ceylon quiet but steady; 664 bags offered and 95s bags sold—g to fine bold red 80s 6d to 84s 6d, good to fine small 58s 6d to 66s pickings 53s, black 43s per cwt.

Agents for LEA & PERRINS' WORCESTERSHIRE SAUCE.
CROSSE & BLACKWELL'S, LTD.
By Special Warrant Purveyors to The Queen AND Empress of India.
CELEBRATED OILMAN'S STORES.
[w. 1-10 98—t.f.o.]

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

	1899.	1898.	1897.	1896.
	Bags.	Bags.	Bags.	Bags
Imports, B.P. ...	113,642	113,785	104,234	114,442
Foreign ...	65,527	96,848	68,602	57,549
Home Con., B.P. ...	66,581	83,054	68,995	59,988
Foreign ...	41,911	48,609	45,609	43,966
Exports, B.P. ...	37,259	29,624	38,075	33,215
Foreign ...	22,455	25,127	35,688	24,105
Stock, B.P. ...	55,435	61,146	75,039	87,057
Foreign ...	53,735	56,612	47,523	67,019

PEPPER.

BLACK.—The market is firm and a considerable business has been done, sales including 100 tons Singapore on the spot at 5½d for fair For arrival value has declined and about 200 tons are reported sold at 5½d to 5 9/16d for near at hand, at 5 17/32d to 5 9/16d September-November at 5 11/16d October-December at 5 11/16d for January-March, and at 5¾d to 5 13/16d February-April. The tone at the close is firm and 25 tons March delivery sold at 5¾d, being dearer.

At auction on the 11th instant 100 bags Penang bought in at 5⅝d; 7 bags fair small Tellicherry sold at 5⅝d per lb.

WHITE.—is quiet, with business in fair Singapore on the spot at 3¾d, and fair Penang at 8 7/16d to 8½d per lb. For arrival no sales reported.

At public sale on Wednesday 74 bags 5 cases Singapore offered—fine at 9½d. 31 bags Siam retired at 8⅝d per lb., and 67 bags Penang at same price.

GINGER.

COCHIN.—Offerings were large—303 cases 1,104 bags—but there was only a desultory enquiry, not more than 170 packages selling in the room at barely valuations. Bold, with a little medium coughly cut and scraped, realised 76s to 76s 6d, medium ditto 52s 6d to 53s, dull small and ends partly limed 25s, good pickings 17s to 17s 6d, common ditto 15s. Calicut rough Sorts, rather lean and partly mouldy, 23s, bright medium and small ditto 22s 6d, small ditto 21s to 21s 6d per cwt.

JAMAICA.—40 barrels sold at about late rates—low middling 60s to 61s 6d, common 54s to 56s 6d per cwt.

CARDAMOMS.

The moderate supply offered to-day was well competed for, and practically everything was sold at about 3d to 4d per lb. dearer rates, the following being among those paid:—Ceylon-Mysore, good to fine bold pale, 3s 7d to 4s 3d per lb.; good medium ditto, 2s 11d to 3s 5d; small pale, 2s to 2s 10d; very small pale, 1s 8d to 2s; medium long pale, 2s 6d to 2s 10d; medium specky, 1s 8d to 2s; splits, 1s 6d to 2s; dull brown long medium and small, 1s 10d (4 cases); brown pickings, 1s 7d to 1s 9d; seeds, from 1s 9d to 2s 6d, according to quality. Ceylon-Malabar, fair brown, 2s, and lean, 1s 9d; very small brown, 1s 5d; splits. 1s 2d per lb. Tellicherry, very leanish brown, sold at 1s 7d to 1s 8d per lb. without reserve.

CINCHONA.

The *Chemist & Druggist report*:—In auction on Tuesday there was a good demand for the small supplies catalogued, and the bulk was sold at prices showing a recovery on the recent decline in Amsterdam, the unit value being 1d to 1⅛d per lb.

The offerings were as under—

	Packages offered.		
Java cinchona	279,	of which 279	were sold.
East India cinchona	226	,, 176	,,
Cuprea bark	202	,, 156	,,
Bolivian Calisaya cinchona	165	,, 165	,,
Ceylon cinchona	59	,, 26	,,
Other kinds (damaged)	44	,, 44	,,
	975	846	

The following were the approximate quantities purchased by the principal buyers:—

	Lbs.
American and Italian factories	77,238
Mannheim and Amsterdam factories	21,090
Imperial quinine-factory	20,100
Messrs. Howards & Sons	16,800
Brunswick factory	3,135
Druggists, &c.	8,650
Total quantity sold ...	147,013
Bought in or withdrawn ...	14,178
Total quantity offered ...	161,191

The following were the prices paid:—

SOUTH AMERICAN.—Cuprea, new import, 1⅝d to 1¾d per lb.; Bolivian, cultivated Calisaya quill, 6d to 6¾d; very rich, 7¼d to 7⅝d per lb; Colombian, damaged, sold with all faults.

CEYLON.—Succirubra, fair red chips, 3⅛d to 3½d; Ledgeriana ditto 4⅝d per lb.

JAVA.—Ledgeriana stem chips, &c., poor, 1⅛d to 1¼d; fair 3d; to 3½d; and good. 4⅝d to 5⅜d.

EAST INDIAN.—Crown branch, 1¼d to 2d; chips, 2⅞d to 3¾d; good 4¼d; Ledgeriana, &c., chips, 2⅞d to 3⅜d per lb.

The shipments from Ceylon for the week ending September 19 have been 9,726 lbs; and the total exports from January 1 to September 19 were—

	1899.	1898.	1897.	1896.
Lbs.	493,416	723,482	526,093	881,743

The cinchona-auctions to be held in Amsterdam on November 2 will consist of 4,510 bales Ledgeriana, 368 cases Hybrid, and 678 packages Succirubra. The stock in first-hand at Amsterdam on October 10 consisted of 2,350 packages Government and 8,059 packages private bark, including the quantity to be offered in auction. In the drug-auctions good thin Huanoco sound quill brought 6¾d to 7¾d per lb., and Loxa quill 9¾d to 10d for sound and 6¾d for first class water-damaged. Eight bags of New Granadian from Savanilla brought 2d per lb., subject. Twenty bales of flat Cartagena were bought in at 6d per lb.

CINCHONA.—Only 975 packages were brought to the hammer at the monthly sales on Tuesday, which small supply met good competition and nearly all sold at the rates ruling at the last auctions, or rather above the prices paid at the Amsterdam sales a fortnight ago. The unit value is 1⅛d, contrasted with ⅞d this time last year.

411 packages *South American* offered and 370 sold—Bolivian cultivated Calisaya quill 6d to 7⅝d, Cuprea 1⅝d to 1¾d, and Colombian 1⅜d per lb.

62 packages *Ceylon Cinchona* half sold—Succirubra chips 3⅛d to 3½d, Ledgeriana chips 4⅝d per lb.

226 packages *East India Cinchona* catalogued and 180 bales sold—Officinails, chips and shavings 2¾d to 3¾d ditto renewed 4d to 4¼d, branch 1¼d to 2⅞d; Red, chips 2¾d to 3⅛d, silvery quill 4d; Ledgeriana, chips 3⅝d; Hybrid, chips 2d per lb.

Java Cinchona sold—Ledgeriana, chips 3½d to 5¼d, twigs 1⅛d to 1¼d, root 5⅛d; Hybrid, chips 4⅝d to 5⅜d per per lb.

QUININE.

The market closed last week with a good business at 11⅛d per oz. spot, and December at 11d in second-hand, but on Monday a firmer tendency set in December delivery being quoted at 11¼d, at which a small business was done, buyers offering 11⅜d, but no sellers. Since then business has been on a small scale, Zimmer and Amsterdam brands selling at 11d on Wednesday, and B & S or Burnswick, quoted at 11⅛d for December delivery, which figure is now on a level with German makers' quotation. To-day makers advanced their quotations to 1s per oz. for 1,000-oz. lots, and in second hands business has been done at 11¾d for December delivery; but there are no eager sellers, and later in the day there was practically no second-hand market.

MOVEMENTS OF TEA IN UNITED KINGDOM FROM 1ST JANUARY TO 30TH SEPTEMBER AS SHOWN BY CUSTOM HOUSE RETURNS.

	Imports.			Duty Payments.			Exports.		
	1899.	1898.	1897.	1899.	1898.	1897.	1899.	1898.	1897.
Indian ...	76,353,041	75,035,552	76,643,963	97,517,526	96,207,619	92,006,158	5,194,514	5,085,095	3,758,006
Ceylon ...	78,435,277	76,622,146	78,214,371	62,815,668	62,358,488	65,306,015	8,912,789	8,831,540	7,804,955
China ...	24,634,848	19,460,330	18,670,278	12,761,635	11,206,415	31,231,495	8,565,590	11,875,913	15,410,038
Other Countries ...	7,599,033	7,046,406	5,303,232	5,467,527	3,629,873	2,979,223	499,664	961,595	786,325
Total lbs. ...	187,022,199	178,134,434	178,651,844	178,562,356	173,402,395	173,522,891	23,172,557	26,754,143	27,759,324

ANALYSIS OF ABOVE EXPORT OF TEA FROM U. K. DURING THE LAST TWO YEARS (NOT INCLUDING TRANSHIPMENTS).

	INDIAN.		CEYLON.		CHINA.		OTHER COU
	1899.	1898.	1899.	1898.	1899.	1898.	1899.
Countries in Europe ..	2,837,425	2,718,013	5,494,425	5,035,871	4,553,541	7,177,377	316,279
United States .	388,717	505,793	945,212	1,070,275	363,165	867,374	20,433
British N. America ...	1,093,295	927,538	1,296,009	1,426,855	412,018	618,577	43,014
Newfoundland ...	64,924	28,955	192,959	156,625	235,189	250,526	4,539
Other Countries ..	810,153	904,796	984,184	1,141,914	3,001,677	2,962,059	115,399
Total lbs. ...	5,194,514	5,085,095	8,912,789	8,831,540	8,565,590	11,875,913	499,664

(AVERAGE FOR ALL INDIA 8·58d.) October 13th.

GARDEN.	Total.		Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings and Var
	Quantity		Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity
Travancore	**1140**		**6.60**											
B A ...	8		6	...	...	...	...	...	...	...	...	8	6	...
Belford ...	42½c		6¼	...	..	22½c	6¼	14½c	6½	...	...	3½c	5½	3½c
B M ...	5		5¾	...	...	...	...	...	...	...	...	5	5¾	...
Bon Accord ...	80	p	6¾	...	...	30	6½	26	7	13½c	6¼	...	...	11½c
Braemore ...	106	p	6¾	...	...	43	6¼	35	7¾	...	...	16½c	6	12½c
Cherian Malay ...	236	p	6¼	162	p 6¼ 6¾	27	6	...	...	12	6		...	35½c
Glenfruin ...	10		8	4	8½ 1/1	1	7½	...	...	2	6¾	3	6½	...
Great Valley ...	19½c		6¼	...	...	12½c	6¼	4½c	6¾	...	...	2½c	5½	1½c
M E ...	41		6	...	...	10	6¼	...	...	...	...	31	6	...
Merchiston ...	158	p	6½	94½c	6¾	53	6¼	...	...	...	...	...	...	11¼c
Poonmudi ...	110	p	6¼	18	6½	49	6	26	7	11	6	2	6	4½c
South Trav C Vn ...	217		7	...	...	94	6¼ 7	82	7 7½	32	6½	...	...	9
Stagbrook ...	108		6¾	29	7¼8¼	27	6¼	...	...	27	6	24	5¾6½	1
Wynaad ...	**130**		**8**											
Chulika ...	102	p	8	31½	10¾	31½c	8	...	...	29	6¾	...	...	11½c
Richmond ...	28	p	8	16½c	10	4	7½	...	...	8	6½	...	...	...

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PLANTING OPINION,

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

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SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 17th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

THE FOREST PRODUCTS OF TRAVANCORE.

We are very pleased to see that the Travancore Government is alive to the necessity of marching with the times in respect to Forest Products. The Administration Report of the Travancore State for the Malabar year 1073 (1897-98) contains many allusions to defects or deficiencies that have been noticed, and to progressive measures actually introduced or recommended. In these remarks there is a good deal that would apply equally well to other parts of Southern India, though it has always to be borne in mind that very few districts in the Madras Presidency are comparable with Travancore in the matter of fertility. Progress is evidently being aimed at, and if agriculture generally, and "planting" in particular, are pushed forward on lines similar to those suggested in the report, with reference to forest products, there should be a grand future before planters in the State. The forest tracts cover nearly half the area of Travancore. They constitute its most valuable asset, bringing in four lakhs of rupees per annum; yet, says the report, they are not yet worked otherwise than superficially. Their tropical position, their splendid and unfailing rainfall—from 100 to 200 inches—and their general external accessibility by river and backwater, point them out as capable of producing and placing on the market

in any quantity products essential to modern needs; such as camphor, now consumed enormously in modern explosives and to the value of many lakhs in India, India-rubber for which the demand is unlimited and which is apparently producible by several species of tree, gutta percha, other gums, resins and drugs, oils, timber, fibres, and paper material, match woods, and so forth. A forward step has been made towards introducing valuable exotics in sending to Formosa for seeds of the camphor tree.

The report points out, with special reference to the products mentioned above, that development is hardly possible to individual private enterprise owing to the knowledge, capital and time required; an organized and continuous State department with a keen perception of the markets exactly fills the position. At present teak plantations are almost the only form of such enterprise; mahogany can hardly be said to have been seriously tried, though long ago introduced; perhaps a more extended introduction of commercial valuables may now be possible. Seeking a lesson from outside, the writer of this report observes that at the Peradeniya and Hakgalla Government gardens in Ceylon, especially at Hakgalla, the camphor tree is being successfully and rapidly grown; probably cuttings from those gardens could be obtained and, for experimental purposes, would prove better than seed from Formosa, which, however, will be needed for extended cultivation. He then passes to minor produce, and suggests the desirability of developing the collection of existing forest produce other than timber is suggested; it is admitted by the Conservator that this is undeveloped and that more might be done; *e.g.*, there is a demand for the valuable gum kino, but the collection is prohibited because of doubts whether its collection may harm the trees which produce it, a doubt which might surely be easily solved. The report proceeds:—There must be many rich products in these forests, and it would be well to ascertain and collect them. Obviously, however, the Conservator is right in alleging that the small income is due to the present inaccessibility of the interior of the main forests, through the entire want of internal roads. This want has been adverted to by successive Residents, but is still a want; in 1070 and 1071 together, only Rs.3,409 were spent on forest roads; in 1072, Rs.1,979 out of Rs. 3,398 sanctioned; in 1073, only Rs.819 out of Rs.1,582! As a provision for roads and bridges, this allotment is insignificant, and the failure to spend even the allotment is regrettable; an expenditure of less than one rupee per 500 of income is mistaken economy. Moreover, it would seem that not only roads but decent shelter sheds for staff and workmen should be prodvided, if the forests are to be properly explored and exploited. Again, it is suggested, in view of the approaching railway construction, that special consideration be at once given to the supply of sleepers; irul and other suitable timbers appear to abound; perhaps they are also accessible. Two lakhs of sleepers at Rs.2-8-0 to Rs.3 each would be a large addition of forest revenue.

There is a good deal in the above observations that deserves the consideration of Forest officials in the Madras Presidency, and, though, perhaps, few planters will have a direct interest in the experiments of the Travancore State, we trust that there are at least a very few who are keen upon watching the progress of every effort to introduce new products. That private enterprise is not absolutely wanting is instanced by the attention given to Tea cultivation, and by the increased attention that is being given to Cardamo But there are many matters that the State should certa take in hand. The first essential towards progress is a rec nition that it is needed, and on this point the report bef us is very clear. It states that the need for agricult capital and its usefulness in operation are as great in Trav core as in British India; greater probably, because ther probably a readier return: low forests and scrub-jun abound in many tracts where capital is needed for little m than clearance and levelling; immense areas of shallow ba water may be turned into most valuable plantations; in south and south-east, where the rainfall and soil are sim to that of Tinnevelly, the borders may be known by entire cessation, on this side, of irrigation wells. It is deem probable that the same causes prevent applications in Trav core as used to prevail in British India, and that a f lakhs of the reserve would be excellently invested in loa "since they would not only bring the Sirkar 4 per cent. actual interest *plus* an increase in revenue, but also an calculable addition to the wealth and stability of the ryot a to food production." Thus, on paper, at any rate, the T vancore Government manifests a revival of interest in pla ing matters; may it prove to be of a really practical a permanent character.

THE PROSPECTS OF COFFEE PLANTING.

We publish to-day a Brazilian view of this subject, a note, with considerable interest, that the pinch is eviden as acutely felt in the home of cheap coffee as in Ind where the highest quality of mild coffee should flouri The *Brazilian Review* paints a somewhat gloomy pictu It draws the conclusion that removal of the export duty Brazilian coffee would tend to make matters worse rath than better, as it would stimulate production. The idea the advocates of this course is, no doubt, that it would a stimulate consumption by bringing the price of coffee do as compared with that of tea. The *Review* holds a differe opinion and sums the whole matter up by asserting that " present the kindest thing to be done is, if anything, to hast the liquidation of an industry that, under existing circu stances, has become unprofitable." But how is this to done? We fully share the view that "to stimulate produ tion further in any manner, when coffee is a positive drug the market, would only prolong the agony." Yet what do the so-called liquidation process mean? Merely, ruin planters, "bargains" for capitalists, and a more vigoro working of estates bought for a song and thus not ove capitalised at the very outset. True, some estates may given up; but it is, unfortunately, the rule among planter as among other strugglers for life, not to go to the wa until they are forced. No man is willingly the first "chuck coffee." All hang on hopefully while there is a spa of hope left; and we fancy the mortgagee or the capital who forecloses on the estates he holds in pledge will do as a rule, with the object of trying to make *Coffee* pay, n with any intention of experimenting with other products letting the land lie waste. Of the *best* remedy for the prese stagnation, of the active whipping-up of demand for coff the *Brazilian Review* says not a word. Surely, the Ceyl tea-men have indicated the right road out of the mire.

THE MALARIAL MOSQUITO.

We have said a good deal about this insect of late. It is one with which planters have to reckon, and when they urged upon Government the deputation of Major Ross, I.M.S., they acted not so much in self-defence as in the interests of their coolies. Professor Koch and some others appear to have joined in the investigation, or rather to have conducted one of their own, and the result is that the murderous malarial mosquito is as much a topic of the day as the most recent human murderer can ever hope to be. Professor Koch seems to make out that the mosquito pumps malaria into human beings one season and sucks it out again the next from all whom quinine has not freed from the disease. Now who *began?* Did the human brute once impart the malaria poison to the innocent fly, or was a mosquito Adam responsible for the original sin? Here is a point for antiquarians. Anyhow, Professor Koch and Major Ross agree that the malarial mosquito is of the genus *Anopheles*, and not of the genus *Culex*, while the latter states that in the case of the *Anopheles* the insect sticks its body out almost at right angles from the wall, while the *Culex* drops its body parallel to it. Further, it breeds in puddles, and a very little kerosene oil in these renders them barren "breeding-grounds." Major Ross says, therefore, put kerosene oil in the breeding places, and sleep under mosquito-curtains, so that you may not be infected before the malarial fiends are exterminated. Professor Koch, on the other hand, hopes to discover a serum that will cure the disease. As the serum has not been discovered yet, while kerosene and mosquito-net have, we rather fancy that Major Ross will have more followers at first than Professor Koch; but the inoculation mania is "catching."

THE TEA BUYERS' ASSOCIATION, LONDON.

The Tea Buyers' Association, formed at the time of the dispute over the pound draft question, has now been placed on a stable basis and has a strong and influential committee, with offices at Ingram House, 165, Fenchurch-street, E. C. The President of the Association is Mr. William K. Appleton, the Honorary Treasurer Mr. John Lecky, and the Committee include—Messrs. James and I. Batten & Co.; Brooke, Bond & Co. (Limited); S. Hanson, Son & Barter; Harrisons & Crosfield; Home & Colonial Stores (Limited); Kearley & Tonge (Limited); Lipton (Limited); Mazawattee Tea Company (Limited); Moffatt & Co.; Peek Brothers & Winch (Limited); Reinachs, Nephew & Co.; Joseph Travers & Sons (Limited); and the Co-operative Wholesale Society (Limited). Into this Association the Wholesale Tea-dealers' Association has been merged. A circular to the members says:—

We beg to inform you that we have opened an office at the above address (165, Fenchurch-street, E. C.), and have appointed as Secretary and Inspector Mr. J. A. Brown, who will be pleased to do all in his power to assist members to investigate any matters of irregularity at the warehouses with regard to complaints respecting their teas. Delays of delivery at any warehouse can best be dealt with by members themselves. Should, however, the complaints of delayed delivery be so numerous as to indicate inattention or insufficient accommodation, the Secretary has instructions to report to the Committee. Very full particulars of any matter to be placed before the Secretary must be furnished, and a personal interview is desirable. Mr. Brown will be at this office always between 10 and 11 clock. It is not intended at present to charge any fee for inquiries.

The *Grocer* states that, in a letter addressed to the Chairman of the Clearing House, the Association has made a formal request that members of that body shall afford Mr. Brown every facility to inquire into any matter concerning members' teas, and also that they will permit him to examine generally any parcels of tea that are printed for sale, or about to be printed for sale, in order that the members of his Association may be assured that the various operations, as stated in the public sale conditions, have been carried out prior to the day of sale. A copy of this request has been sent to the proprietor of each warehouse.

It remains to be seen how the scheme will work, and whether its directors will aim at harmony, or conflict with the importers who wish to regulate the placing of tea supplies on the market. As there does not appear to be much probability of hostility benefiting either party, we may reasonably hope that there will be peace, and that permanent friendly relations will be established to the mutual advantage of all concerned.

BOARD OF TRADE RETURNS.

SEPTEMBER 1899.

We append the statistics relating to the products that chiefly interest our readers, and those that come most directly into competition with these products:—

Cocoa (raw) shows smaller deliveries for home use, but a generally healthy position.

In the first nine months.		1899.	1898.	1897.
Imports... ...	lbs.	37,935,179	35,702,034	30,309,198
Home consumption...	,,	25,974,865	23,278,260	20,667,905
Exports... ...	,,	8,701,495	8,275,975	11,020,787
Stocks in bond ...	,,	19,066,000	18,790,000	22,370,000
Value of imports ...	...	£1,137,707	£1,098,881	£800,090
,, exports ...	...	270,195	265,878	296,408

Cocoa (prepared) was in much scantier supply than before, and the bonded stock remained low.

In the first nine months.		1899.	1898.	1897.
Imports... ...	lbs.	3,697,108	6,165,053	6,298,093
Home consumption...	,,	3,978,051	4,601,807	5,635,030
Exports... ...	,,	572,207	492,244	386,984
Stocks in bond ...	,,	468,000	1,451,000	358,000
Value of imports ...	...	£356,105	£454,145	£421,273
,, exports ...	...	62,939	53,250	43,098

Coffee—with smaller arrivals and full average deliveries gained ground a little, though it still leaves much to be desired.

In the first nine months.		1899.	1898.	1897.
Imports... ...	cwts.	907,057	837,909	666,814
Home consumption...	,,	196,691	189,616	186,455
Exports... ...	,,	458,842	415,042	346,438
Stocks in bond ...	,,	558,000	432,000	243,000
Value of imports ...	...	£3,187,837	£3,365,910	£3,055,603
,, exports ...	...	1,577,396	1,611,986	1,495,728

Chicory.—A steady trade is recorded, though the stock was diminishing.

In the first nine months.	1899.	1898.	1897.
Imports... ... cwts.	66,482	70,528	73,659
Home consumption... ,,	56,653	57.179	61,219
Exports... ... ,,	379	381	1,104
Stocks in bond ... ,,	16,000	20,000	16.000
Value of imports	£31,248	£30,406	£32,730
,, exports	432	384	1,133

Tea.—Increasing deliveries; but stocks in bond well maintained. China recovered a little in Imports and Consumption, but Exports from Great Britain showed a further falling off. Stocks heavy.

In the first nine months.	1899.	1898.	1897.
Imports—China ... lbs.	24,634,848	19,460,330	18,670,278
,, British East India ,,	76,353,041	76,035,552	76,463.963
,, Ceylon ... ,,	78,435,277	76,622,146	78,214,371
,, Other countries ,,	7,599,033	6,016,406	5,303.232
Total imports ...	187,022,199	178,134,434	178,651,844
Home consumptions—China lbs.	12,761,635	11,206,415	13,231,495
,, ,, B.E.I. ,,	97,517,526	96,207,619	92,006,158
,, ,, Ceylon ,,	62,815,668	62,358,488	65,306.015
,, ,, O.C. ,,	5,467,527	3,629,873	2,979,223
Total ... ,,	178,562.356	173,402,395	173,522,891
Exports—China ... ,,	8,565,590	11,875,913	15,410,038
,, British East India ,,	5.194,514	5,095,095	3,758,006
,, Ceylon ... ,,	8,912,789	8,831,540	7,804,955
,, Other countries ,,	499,664	961,595	786,325
Total ... ,,	23,172,557	26,764,143	27,759,324
Stocks in bond ... lbs.	84,128,000	77,160,000	78,934,000
Value of imports	£6,828,054	£6,795,264	£6,963,769
Of which British Indian ...	2,916,505	2,979,684	3,100,631
,, Ceylon... ...	2,864,934	2,911,634	3,010,557
Value of exports	1,005,378	1,107,442	1,131.388

TEA STATISTICS.

The Indian Tea Association is urging upon the U. P. A. S. I. the necessity for more accurate statistics than have hitherto been prepared with respect to South Indian—and especially Travancore—teas. The *Home & Colonial Mail* refers to "the misleading character of the figures with reference to the area of tea in Travancore published by the Government authorities for the period of 1897-98" as having almost caused a scare in Mincing-lane last year! That the blunder was a bad one is evidenced by the fact that, according to official returns, the area under tea cultivation in Travancore in 1898 was only 19,634 acres, as against 30,076 acres a year earlier, while the outturn was put at 2,545,913 lbs. off the larger area, and 8,413,860 lbs. off the smaller!! By the way, in commenting recently on some remarks of the *Indian Planters' Gazette*, we alluded to the absence of reference to figures of *production*; our contemporary's reply is to the effect that the criticism is not quite just, as it also gave figures put together in India, *in so far as they were procurable*. (The italics are ours). It goes on to say that reliable statistics "are non-existent. Government blue-books afford a certain amount of information on the desired subjects, but they are meagre and inaccurate: in some cases very wide of the mark, because, as the officials say, planters simply will not give the desired information." This shows that planters in the North are much like their brethren in the South. The *I. P. G.* adds: "It is not only with the want of statistics that we have reason to complain against planters, but also against the indifference shown, generally, against supplying really useful, practical information on all subjects connected with tea estate management, cultivation, manufacture, etc. Amongst the few practical men who do contribute to our planting journals, it appears to be a growing fashion to dilate on any and every subject rather than tea—which is severely left out in the cold. Is it because we have learnt everything about tea that it is possible to learn"? In Ceylon, things are different; and, while we do not wish planters to neglect their estates in order to "write to the papers," we certainly consider that the Ceylon men have gained not a little by discussing planting matters in the local papers, a course they have followed so far that practically every issue of the chief "dailies" in the island constitutes a standing reminder of the vast importance of the local planting industry. South India has improved a little of late years in this respect; but still leaves a great deal to be desired.

TOBACCO CULTIVATION.

We have received several letters—mostly not for publication—on this subject of late; and, now that tobacco is actually being taken up by planters, we have decided to include it among our "subjects," and give, from time to time, information in regard to methods of cultivation, curing, &c. If any of our readers can assist us—more especially in regard to experience acquired *in India*—we shall be very grateful for any papers—original or otherwise—that they can bring to our notice. The subject is a somewhat wide one, for it embraces tobacco for cheroots, pipes and cigarettes; *jâts* and systems of curing differ very materially, according to the particular purposes to which the leaf is to be put; and of course climatic, atmospheric and soil influences must also be taken into account. We are glad to know, however, that experiments are in process in this country, not only with the strong tobacco so common in the South, but with milder descriptions. It is to these latter that we specially wish success.

THE BRITISH TEA DUTY.

We are glad to see that *Capital* and the *Indian Planters' Gazette* are not in agreement with the Indian Tea Association on this subject. The former paper, while admitting that no doubt a reduction in the duty on tea is a factor in increasing the consumption of tea, adds: "but a far more potent one has been the advent of men like 'Lipton,' who have cut profits and sold tea at popular prices." It also quotes one of its correspondents as saying:—"I am at one with the Ceylon Planters' Association in thinking that the time is scarcely ripe for a movement in favour of the reduction or abolition of the duty on tea in England, and all those interested in the question must feel that the time is not exactly opportune

Revenues, of course, must be raised, and a fair view of the question will show that a duty on tea is, in every way, as appropriate as a duty on salt or piece-goods. Statistics have shown us that the excise-duty on beer and spirits in England has not reduced their consumption to any appreciable degree, and we feel sure that, while good tea can be bought at Lipton's prices, the matter of duty may be dismissed without any further discussion." The *I. P. G.* asserts that it has consistently maintained that the time has not arrived to urge the removal of the impost that has so hampered the Indian and Ceylon industry, and adds :—" The action of the Indian Tea Association in urging this matter at the present moment we take to be an attempt to turn public attention from the 'draft bungle' and warehouse charges." When criticism such as this is evoked "at home," what must be expected from those who have watched the game from Ceylon and Southern India ?

In this connection, we reprint the following letter from Mr. North C. Davidson, of Udapussellawa, to the Colombo papers :—

It seems to me that, instead of the tea producer trying to get the Customs style of weighment altered from 1 lb. to ½ lb., we should try and get the taring at the Customs done away with entirely.

It must be an easy matter to prove to Government that the even taring of tea chests at the Customs means only increased labour to the Customs officials, and a *dead loss to the Revenue.*

The duty charged is on the tea. Why should the Customs then weigh the tare? And, should the tare exceed the exact pound, why should they deduct an extra pound from the declared nett weight of tea, and by so doing charge duty on nearly 1 lb. per package *less* than is actually received into England?

Everyone knows that, should a chest arrive at the Customs, marked 100 lbs. nett and 127 lbs. gross, and the Customs on weighing find that the *tare* weighs $27\frac{1}{16}$ lbs., they call the tare 28 lbs. and the nett 99 lbs., and levy duty on 99 lbs. only—the revenue thus losing $\frac{15}{16}$ of 4d.—and this not on a solitary chest, but on the whole break, as the 28 lbs. tare is taken as the average. The only gainer by this system is the buyer, who is already protected from loss by the 1 lb. draft allowance and by the few ounces extra put in at the factory to ensure the declared nett weight.

Why should the Customs not accept our declared nett weight, as printed on each package, and charge duty on the full amount? No Superintendent would knowingly pack less than the declared nett weight; and if, on purchase, the weight was found to be short, the buyer has the right to throw it back on the seller's hands, so that the buyer would have no just cause of complaint.

The abolition of even taring at the Customs would mean the same in the factory, and all Superintendents know how difficult it is to tare evenly. Take Momi ½ chests, 17 in. by 17 in. for example. These vary, including lead lining, from $15\frac{1}{4}$ to $17\frac{1}{4}$ lbs., and the difference has to be made up in waste lead, &c. To do this entails considerable trouble and expense, and the result is always unsatisfactory, as any chests exposed to wet weather, in the carts, absorb several ounces of moisture, and the evenness of the tare, arrived at with great trouble in the factory, is lost again.

The abolition of even taring at the Customs would, therefore, be a distinct gain to the producer, to the British ratepayer through the Revenue, and to the Customs—by reducing the work considerably—and would be no loss to the buyer.

The Superintendent would, for his own sake, tare as evenly as possible, *i.e.*, within a couple of pounds or so, and the Customs could always open chests to ascertain the contents *were* tea, and not some articles on which a higher duty should be charged.

A reform on these lines would not lead to another fight between producers and buyers, as it is a matter for the Government to decide.

The letter is interesting, if only as creating a diversion, and, no doubt, it will elicit comment from other planters.

NOTES.

Liptonia. That packets are more in Sir Thomas' line than racing yachts.

A Record broken. Ceylon deliveries in London for October totalled 9,400,000 lbs. This is the highest total yet reached, the previous highest being 8,962,686 lbs. in July 1897

Mexican Coffee. Coffee planters should study with particular care, the remarks of the *Mexican Herald* on what American Companies are doing in the Isthmus of Tehuantepec. We quote these on another page under the title of "Coffee Plantations in Mexico."

A Debt paid. "America cancelled its debt to Asia and Africa for their gift of tea (the world's most famous leaf), and coffee (the world's famous berry) by bestowing *Theobroma*, or cocoa 'the food of the gods.'" So says the *American Grocer.*

Export of Indian Tea. According to Messrs. Watson & Sibthorpe's statement of tea exports for October, the exports this year to Australia, compared with those of last year, have decreased by 45,000 lbs.; but the exports to foreign countries have increased by 700,000 lbs.

"Indian Museum Notes." Volume IV., No. 5, comprises a list of the Melolonthini contained in the Collection of the Indian Museum, a description of a new Pear-tree Aphis from Ceylon. Notes on two new Species of Aphids from India, and a description of a new Parasitic Tachinid Fly from Ceylon.

Calcutta Tea Sales. The average price at the last tea sales was 6 annas 3 pies. About 22,000 packages were to be offered on Friday last. At the sales on 31st ultimo, 19,600 packages of tea were sold. There was a strong enquiry for Pekoe Souchong, which was occasionally rather dearer.

An Antiquity among Advertisements. "That excellent and by all physicians approved *China* Drink called by the *Chineans Tcha*, by other Nations *Tay alias Tee*, is sold at the *Sultaness Head Cophee House*, in *Sweetings* Rents, by the Royal Exchange, *London.*"—*Mercurius Politicus*, September 30th, 1658.

Amsterdam Bark and Quinine Markets. The amount of bark listed in the combined catalogue for the Dutch auctions on November 2nd amounted to 5,182 packages, comprising 469,224 kilogrammes. This is equivalent, roughly, to 470 tons of bark, and $23\frac{1}{2}$ tons of quinine. It is only about three-fifths of that put up at the last previous auction.

Cocoa and Chocolate in the United States. The growth of the chocolate industry in the United States is indicated by the imports of crude cocoa, which for the year ending June 30, 1899, were 35,512,364 pounds, of which 2,361,336 pounds were exported, leaving net imports of 33,151,028—an increase over imports of 1896 of 50 per

cent., and 100 per cent. greater than ten years ago, or in 1889, when the net imports were 15,244,488 pounds.

Tea Prospects in Northern India. The Indian Tea Association cabled to London on the 2nd instant that Assam prospects, throughout the districts generally, are favourable. In Cachar cold weather generally has set in. Sylhet, Dooars, and Terai prospects, throughout the districts, are favourable. The Darjeeling season has practically closed. The outturn last month was good

A Permanency. Of course, says Mr. A. H. Gardner in the *Canadian Grocer*, Ceylons and Indians have come to stay, as they are the best values, and the grocer wants to buy them blended, but not in packets. It costs the consumer 2 to 3c. per lb. extra for the cost of packing. If this were added instead to the quality of the tea, is it not plain that the trade would receive that much more for their money ?

Tea in London. The following are the particulars of stocks of Ceylon and Indian Tea in London on 31st ultimo :—

	Lbs.
Ceylon tea stock	21,100,000
Month's landings	8,400,000
Do. deliveries	9,400,000
Indian tea stock	46,100,000
Month's landings	24,300,000
Do. deliveries	13,700,000

The Paris Exhibition. It has been definitely announced that the sale of tea in packets will not be permitted at the Paris Exhibition, though the distribution of samples will be allowed on certain conditions. One is that the boxes or packets distributed shall not advertise special firms or gardens. A notice of moderate proportions, and of an artistic character may be displayed on the walls of the Tea Courts to the effect that the teas used there can be obtained at the central depôt.

Brazilian Statistics. It is not only *Indian* statistics that are unreliable. The *Brazilian Review* impugns official statistics of Coffee, and, after giving figures that appear to prove that there is something very seriously wrong, remarks :—"This difference, equivalent to 80,997 bags in two months and a half, is so enormous as to demand an immediate investigation as to the methods employed to obtain the official figures." It is almost superfluous to add that official estimates of arrivals are *below* the mark.

Coffee Disease, Nicaragua. The following is Mr. Massee's report on coffee leaves showing a fungoid disease received from Central America for identification :—"The disease is caused by *Stilbum flavidum*, Cooke, a minute fungus resembling miniature golden pins, scattered on the white patches of the upper surface of the leaf. Spraying with Bordeaux mixture would check the spread of the fungus. Diseased fallen leaves should be collected and burned.

Hard Times. At a General Meeting of the Selangor Planters' Association on 30th September a resolution was put forward : "That in view of the distressed condition of coffee planting in the State the Government be asked to remit the quit-rent on all blocks of 200 acres and upwards until such time as prices improve." An amendment was adopted, that Government be asked to remit the quit rent on the unopened portions of estates until better times." It was remarked incidentally that "for the present coffee has gone to the bad."

The London Tea Market. Cabling on the 2nd instant, Messrs Gow, Wilson and Stanton reported –Competition is general and well distributed ; the market for medium liquoring pekoes and broken pekoes shows a fractional advance, teas for price dearer ; Ceylon Pekoe Souchong is 6¾d. (¼d. up). The average price of Ceylon tea sold on Garden Account during the week was—8⅝d. (½d. up). Reuter states that 22,000 packages of Ceylon tea were sold out of 23,000 offered, and 48,000 Indian out of 49,000. The average of Indian for the week was 9d. (⅝d. down).

The American Tea Trade. It is remarkable to think the change that has taken place in the demand for teas of India and Ceylon. Formerly it used to be an exception rather than a rule to find a dealer who carried more than a few packages ; but now, not only does every dealer carry half a dozen lines, but every grocery store, tea shop, or department store, from one end of the country to the other, is perfectly familiar with the merits of India and Ceylen tea, and apparently takes pleasure in pushing them. In 1893 the importation was about 4,000,000 pounds ; in 1898, 12,000,000 pounds, showing the fruits of the money spent in advertising by the India and Ceylon Tea Associations.

The British Tea Duty. Calcutta is hammering away at Ceylon in the hope of producing an amalgamation of ideas on the subject of the abolition or reduction of the British Tea-duty. South Indian Associations for the most part hold that the present is not a favourable opportunity for pressing this matter upon the British Government, while the *Madras Mail* touches upon the fact that the Indian Tea Associations' arguments are all based upon an assumption that a reduction of the duty on tea *alone* might be brought about. Coffee-men would naturally oppose any such partiality, and we fancy the Government would be slow to accord tea any special preference.

United States Experimental Tea Garden. The only tea plantation in the United States, at Summerville, S.C. The estate, known as Pinehurst, covers 700 acres, of which fifty are devoted to the cultivation of tea. The first "Rose Garden" was planted in 1890. In 1894 151 pounds of tea leaves were harvested ; in 1895, 33[illegible] pounds ; in 1896, 6[illegible]0 pounds ; in 1897, 648 pounds ; in 1898, 1,200 pounds. On the basis of 900 plants, the production per bush is almost five ounces of tea. This tea has a distinctive character, and retails in the local market at $1 per pound. It compares favorably with tea bringing 25 cents a pound in lines in the New York market.

Geographical Distribution of the Tea Plant. At the International Geographical Congress recently held at Berlin Mr. J. M'Ewan read a paper on the geographical distribution of the tea plant. It is a curious and interesting fact that almost the entire production of tea is raised within an area confined by 40 degrees of latitude and 50 degrees of longitude, and it is no less remarkable that the consumption shows itself to have strictly geographica

limitations. Outside of the domestic consumption of China and Japan, regarding which no reliable statistics can be obtained, the principal tea-drinkers, according to Mr. M'Ewan's researches, are the people of Great Britain, Ireland, and of the British colonies, the people of the United States and those of Russia.

The Alkaloidal Content of Cinchona.

According to an article appearing in the *Journal de Pharmacie et de Chimie*, the following are the usual limits of alkaloidal content in various groups of bark :—1. Succirubra from Java, 6 to 8 per cent. of total alkaloid ; quinine sulphate, 2 to 3 per cent. 2. Loxa, from St. Thomas, 5 to 6 per cent. of total alkaloid ; quinine sulphate, 2 to 2½ per cent. 3. Loxa, from Nilgiris, 4 per cent. of total alkaloids ; 1 to 1½ per cent. of quinine sulphate. 4. Calisaya, from Bolivia, 5 to 6 per cent. of total alkaloids ; 3 to 4½ per cent. of quinine sulphate. There is room for Nilgiri bark to improve, and it is to be hoped that one effect of Mr. Standen's recent visit to Java will be an increase in the alkaloidal content of Indian-grown cinchona.

Rejected!

The *New York Merchants' Review* remarks :—"The shutting out of inferior teas from this country has naturally led to a larger movement of low-grade leaf towards the British Isles, but most of it is prevented from entering by the Customs officials. Of late the Treasury has ordered greater vigilance to be exercised at the request of members of the trade. It is reported that more inferior tea has been excluded during the past six months than during the previous four years. If the rejected tea is not destroyed at once, it may be sent to some other country, or treated with lime and assafœtida, preparatory to the extraction of the alkaloid, caffeine." There is, we fear, but too much reason to fear that London is the most accommodating dumping ground for rubbish heaps such as here referred to, and that previous little of the stuff goes to swell the production of caffeine.

Demand for Black Teas in Canada.

The *Canadian Grocer* of the 6th ultimo says :—There have been some interesting developments in Montreal this week in relation to black teas of all sorts, but especially Ceylons and Indias, in which an absolute scarcity of certain grades exists. Montreal brokers who had orders this week for the teas mentioned could not fill them, except at a material advance. In one case, an Ontario firm had to raise their bids 3½c. per pound before they could close their purchase, and shortly after the seller bewailed the fact, as he could have made more money. The scarcity appears to be chiefly in teas worth from 17 to 19c., and it is interesting to note, as showing the increased cost this year, that the same grade of goods were obtainable this time last fall from 12 to 14c. Advices on China Congous are strong. These also have an upward tendency, and cables state that the Russians are expected to take a third of the entire crop. In Japans the same strength does not exist, and business in them continues dull.

"Mr. Chisholm, India."

"Smith of London" is known to all good men in Madras ; "Mr. Chisholm, India," is familiar—though not perhaps by this title—to many of our readers. Note what the *Cairns Argus* says :—"First-class coffee seed is advertised for sale in our business columns. The advertisement came direct from the advertiser, another conclusive proof of the widespread circulation of the *Cairns Argus*. Our coffee growers cannot do better than import some of the seed offered by Mr. Chisholm, India." Now see what has to be said "on the other side." Mr. W. A. Hannan writes to the above contemporary :—"I see you have an advertisement in your last issue *re* coffee seed for sale, grown in India, too. I should certainly not advise anyone to order any, for the importation of coffee seed into Queensland is especially prohibited by Act of Parliament, and rightly too. We are free from leaf-disease now, and wish to remain so." Under these circumstances, Indian Coffee-seedsmen need scarcely advertise in Queensland newspapers.

1869 - Review of Prices—1899 (America).

A glance over the tables of comparative prices of leading staples, for the past thirty years, shows that there has been a steady decline in cost, and says, the *American Grocer*, in many instances the fall has been so marked as to be almost incredible. For instance, refined sugar is about one-third its cost in 1869 and so is coffee. Tea, notwithstanding a duty of ten cents a pound, is one-half or more lower. Canned salmon has fallen from $4.00 to less than $1.50 per dozen. This drop in prices results from various causes, prominent among them being the application of steam, electricity and machinery to the production, transportation and manufacture of food ; the work of the chemist, and co-operative industry. There is scarcely an article within the entire range of food that is not prepared with greater skill, and in a more thorough and economical manner than ever before. With food, as with other things, the former waste has been utilized until nearly everything has been given a commercial value.

Brazilian Exchange.

Says the *Brazilian Review* of 16th September :—"Ninety days bank rate on London opened on Monday 11th at 7 21/32 rose to 7 3/4 on the 13th and finally closed this evening at 7 21/32. Although tonnage is so short, coffee is going forward rapidly, the value of this week's shipments being £477,665 as against £255,099 last year, and declared sales here and at Santos 267,000 bags as against only 198,000 last year, exchange sticks and despite the general conviction that a reaction is imminent, refuses to budge, or if it do so in the wrong direction.". . . Apart from the immediate prospects of rise and fall it cannot be denied that the present fall of exchange is a disquieting and disappointing symptom. Even if the fall were the exclusive result of speculation, which it is not, it would be none the less alarming that just at this time when coffee bills are most abundant, speculators should have been able to bear rates at all ! As a symptom we regard it as most unhealthy. If such things are possible in the green tree, what will be done in the dry" ?

A Novel kind of Hospital.

The New York Tribune announced some time ago :—The United States clipper bark *Jacob A. Stamber* is being fitted up as a hospital ship at Stapleton, Staten Island, N. Y. It is said that, when the improvements are completed, the ship will be taken to the coffee plantations owned by Arbuckle Brothers in Brazil for the reception of their employees who may be taken ill. The vessel is 175 feet in length, 39 feet beam, and 23·3 feet in depth, with a displacement of 1,000 tons, and was built in Brooklyn, N. Y., in 1856. The *Brazilian Review* rounds the news off by saying :—In addition to these particulars we

may add that the ship is to be fitted with sixteen 82" driving wheels and be mounted on a truck with 52" wheels, the wheel base being adjustable to any gauge. This will be enabled to travel on any railway in the country, climb the mountains and pick the coffee from the trees as it runs along, thus avoiding all the cost of unnecessary handling and transhipment *en route*, and deliver straight to the New York Coffee Exchange at a minimum of expenditure, time and money.

Coffee in Hayti.

Violent fluctuations of price would appear to have characterised the market for Coffee in Hayti during 1898, if the following consular statistics are correct :—

	Per 100 lb. From Dol. c.	To Dol. c.
January	11·0	13·0
February	8·0	9·50
March	7·0	12·0
April	9·0	12·0
May	12·0	14·50
June	9·50	14·0
July	7·0	11·0
August	7·0	11·0
September	8·0	10·50
October	8·0	10·50
November	6·0	7·75
December	7·50	8·75

The January—March figures certainly appear to be erroneous, as there is such a wide gap between the quotation of one month (including the *last* day thereof) and of the next (including the first day).

Cinchona in Java and India.

The *Chemist & Druggist* has the following introductory remarks relative to Mr. Standen's report on his visit to Java and Annual Administration Report of the Nilgiris Cinchona plantations :—"The remarkable change in the position of quinine, which is mentioned in our Trade Report this week, once more calls attention to the anomalous behaviour of cinchona and its chief alkaloid, so far as price principles are concerned. Java has been behaving badly this year, in the opinion of speculators, by increasing her shipments of bark in face of a rising market. According to the prophets the shipments would not increase, either because the planters had at last seen that their best policy was to get double prices for half the normal supply of bark, or because their plantations are shrinking in production. Now the indicator on the speculative dial has swung round with a vengeance, and at the moment the quinine-manufacturers are giving quinine-speculators as hard a squeeze as they have felt these past two years. It is all the harder because it was unexpected. At the critical moment we receive two valuable reports having an indirect bearing upon the matter, which it may be well to give the gist of, especially as one of them deals with that abstruse problem—Java cinchona."

The German Quinine Trust.

The *American Druggist* has interviewed some Chicago wholesale druggists on the likelihood of breaking down the German quinine trust through a movement recently started by leading cinchona-planters in Java, to keep the raw material out of the hands of the syndicate ; but none of the druggists have any faith in the scheme. The following are substantially the remarks of a few wholesale houses :—"If a market is established in Java, as is suggested, we do not see what is to prevent the German manufacturers fr going there and securing supplies, and we do not see h conditions will be changed from what they are at prese The only way the Javanese can keep their bark from t German manufacturers will be to use it all themselves, the Germans certainly will bid as high as America Besides, the Java quinine is not of a quality to meet wi ready sale here, because of its colour." *Apropos* of this, read in a consular report a lamentation arising from the fa that crops of bark in and shipments from Java have be large ; the quantities sent to the Pandan-Aroem, and Bandor factories have been very small, so that they are in gre danger of having to close. Instead of giving their bark the local factories, the planters, as soon as the unit rose 4½c., preferred to ship their cinchona to Europe. The America Consul naively concludes his report with the remark that " seems very shortsighted in Americans to swell the profits of German trust." However, since January 18, 1899, the da of the first direct shipment of quinine sulphate from Java the United States, he has certified invoices for the shipme of 265,900 oz. quinine sulphate. Up to the present tim however, there have been no direct shipments of cinchon bark, although he has received an inquiry from a Philadelph manufacturer asking if it were not possible to import cinchon bark direct from Java without the intervention of t European trust.

LETTERS TO THE EDITOR.

TOBACCO.

DEAR SIR,—The note on tobacco, as an "auxiliary" t coffee, in your issue of 28th October, interested me, as put down some tobacco-seed at the beginning of the monsoo and have since planted it out in coffee land. It has grow very well, and has been topped at 18", that being, I believe about the right height. The next thing will be to pluck an wither the leaves ; but as to what size the leaves should b allowed to grow, or how they should be withered, &c., I a ignorant. If you, or any of your readers, would give me few tips, I should be very much obliged. The seed I put dow was some I got out of a Gowda's tobacco-field. Whethe it is a good jât or not, I don't know ; but the plants are, think, well grown, and I intend sending a sample of the lea to a firm of cigar manufacturers, if I can get it properl dried, &c.

CHUNGU.

GENERAL ARTICLES.

THE PROSPECTS OF COFFEE PLANTING IN BRAZIL.

We take the following from the *Brazilian Review* :—

Since the commencement of 1897, when the big crop of coffe occurred, the position of coffee has been going from bad to wors until it seems to have culminated in prices that in many district do not cover cost and even in the most favoured leave but a bar margin of profit insufficient to compensate the capital employed.

On July 1, 1896, the visible supply stood at 160,320 tons, grew t 239,000 on 31st December of the same year and reaching 386,8 31st December 1898 has gone on growing ever since threatening t reach 400,000 before the end of the year.

The increase in quantity was followed, naturally, by depreci tion and prices, which were maintained between 80 and 90 franc

until 1896, fell to fr'cs 47 in 1897, fr'cs 35,50 in 1898 and lastly to fr'cs. 32 the current price at Havre.

In 1895-96 the production of Brazil Coffee was 5,480,000 bags: in 1897-98 it had risen to nearly 11,000,000 !

Under such conditions the fall of prices, though certainly exaggerated and facilitated by the simultaneous depreciation of the currency, was inevitable, nor is there any hope of any considerable improvement until production and consumption are more closely balanced either by the shrinkage of the former or increase of the latter, or both.

The state of things now obtaining amongst planters leads to the belief that before very long production must undergo a considerable modification unless artificially fostered. Overloaded with debt, unable not only to meet their mortgage charges, but what is worse to even compensate labour adequately, the difficulties of the planter are becoming so overwhelming as to make it impossible to many to maintain the struggle much longer.

Mortgages may, it is true, press hard upon the planter, but after all, when purchasers are not to be found and creditors see no means of even working the estate without loss on any terms whatever, few, and certainly not the banks, will be particularly anxious to foreclose.

There are, of course, some foreclosures even on such conditions, but if any one expects to purchase *fazendas* (plantations), even now at the ruination prices referred to in the leading article of the *Rio News* of September 19, he would be sadly disappointed.

In fact plantations are sold at the rate of about 1$000 (one milreis—8d.) per tree to-day as they have been for the last twenty years, the alteration being in the value of the milreis; and, were the matter examined into, it would be found that the plantation costing over 500:000$, that our contemporary represents as having been sold for only 10:000$, or 1/50 of the cost was probably mortgaged up to its full value at that valuation, and that the cash payment of 10:000$ represented in reality so much paid over true value to get possession or to avoid transfer duties.

No estate ever worth 500:000$ on which 150:000$ had been spent in improvements could by any possibility go for only 10:000$. The buildings, stock and machinery alone would be worth many times that sum, not to mention the land, which can be put to other uses besides coffee planting.

No doubt the crisis is bad enough, but things have not yet reached such a pass that plantations are actually given away.

The most serious feature of the situation from a planter's point of view is that at present prices coffee does not yield sufficient to pay for labour. Wages, which were never high, have, consequently, been dropping and as they drop labourers, who are chiefly Italians and nomadic, emigrate. Some 15,000 are said to have left S. Paulo during the last two or three months and, should the exodus continue, there can be no doubt that labour will not only be insufficient, but that wages will rise to still higher and more prohibitive rates.

In that case, unless exchange should fall proportionately, which seems not unlikely, there is every chance of labour in S. Paulo being short and that a good deal of the next crop will remain unpicked, at least in outlying districts.

So far reports of the flowering both in S. Paulo and Rio are most favourable, but without labour to pick it, the heaviest and most promising crop will not avail the planter

In regard to Minas and Rio the conditions are somewhat different.

In these two States labour is chiefly local and attached to the plantations by a share-system in lieu of wages.

Being paid in kind, the planter is more independent than his S. Paulo colleague, and though the yield is far smaller in S. Paulo, succeeds better in retaining labour on the estate

Should the expectations of scarcity of labour be realized, there can be little doubt that next year's crop will suffer and that, though undoubtedly painful to the individual planter, in the long run it will not be so injurious to general interests as appears.

The *Rio News*, consistent to the end, hysterically calls on Government to reduce taxation and save this "the great agricultural industry of the country on which," it says "its credit depends, from serious disaster."

Taxation, of course, is a very bad thing always, and over-taxation still worse. But even the *Rio News* will scarcely maintain that Government is, except in an indirect manner, responsible for the over-production of coffee, to which, if statistics are to be trusted, the fall of prices and, consequently, difficulties of the planter are due. Nor, indeed, is it clear that even if taxation were abolished altogether, the eqilibrium between the supply and demand for coffee that can alone make prices we will not say rise, but keep from falling lower still.

Is it not clear that any relief that would again reduce the cost of production and delivery must at the present moment tend to increase in lieu of diminishing the supply and to, therefore, further depress prices ?

Should the State Governments remove the 11% tax to-morrow, is it certain that the producer would gain a corresponding advantage, or would not prices, rather, fall still further abroad in consequence ?

Either prices are, or they are not, controlled by the relation of supply to demand. If they are, as economists generally suppose, so long as the supply be largely in excess of the demand for coffee, cost may be reduced here and revenue be sacrificed, but without benefit to anyone except to foreign consumers.

At present the kindest thing to be done is, if anything, to hasten the liquidation of an industry that, under existing circumstances, has become unprofitable. To stimulate production further in any manner, when coffee is a positive drug in the market, could only prolong the agony.

What happened with Cotton in the United States will, unless production be checked, occur here too, and low prices and small profits persist for years until demand commence to gain upon supply.

Here, too, the problem is more complex because there is practically no other industry to fall back upon.

It is on this account that the prosperity of the coffee industry is of such vital importance, because upon it the whole financial and economical edifice depend.

In the interest of the country generally it seems, therefore, requisite that nothing should be done that can interfere with the indispensable and wholesome liquidation that is now in process, of an industry so inflated as to prove an impediment and menace to the general welfare.

The coffee boom, like all others, has run its course, burst and, naturally, hurt a lot of people in the process. The sooner it is finally liquidated and the industry placed on a solid and paying basis the better.

A GENERATION OF AMERICAN TRADE.

Says the *American Grocer* in an admirable special number commemorating its attainment of the age of thirty years :—

COFFEE.

Coffee challenges beer in being the National beverage The United States is the largest consumer of coffee in the world, importing an average, for the past three years, of 814,000,000 pounds. Making allowance for loss in roasting and assuming that one pound of coffee makes two gallons of infusion, we have 1,384,000,000 gallons as the total annual consumption. Coffee has been duty-free since July, 1872. The table presented gives the annual average cost of green Rio coffee, grading Fair:—

	Cents.		Cents.
1899 to Aug. 1	6.26	1883	10.36
1898	7.64	1882	9.77
1897	11 66	1881	12.23
1896	16.22	1880	15.12
1895	18.64	1879	14 85
1894	18.61	1878	16.51
1893	19.28	1877	19 72
1892	18.36	1876	17.97
1891	18.15	1875	19.01
1890	19 64	1874	21.08
1889	18.55	1873	19.99
1888	15.35	1872 (free from July 1)	18.42
1887	17.80	1871 (duty 3c)	25 91
1886	10.32	1870 duty 3c)	16.33
1885	9.01	1869 (duty 3c)	15.82
1884	10.92		

TEA.

The per capita consumption of tea in 1899 is almost exactly the same as in 1868, being 0.91 pounds and 0.96 pounds, respectively. From 1872 to 1888, it was fairly steady at an average of 1.40 pounds. Cheap coffee has been too much for duty-paying tea, and that together with the tea law restricting imports to a fixed standard, has checked growth in demand. It is very difficult to establish a satisfactory basis of grade for comparison for a term of years. Tea

was made duty-free July 1, 1872. From July 1870 to July 1872 the duty was 15 cents per pound. Tea remained duty-free until the tariff of 1877 imposed a duty of 10 cents per pound. The following table furnishes the average yearly cost of a popular grade:—

	Japan. Med to fine. Cents ℔ lb.			Japan. Med. to fine. Cents ℔ lb.
1899 to Aug. 1	26½	@27½	1884	22½ @23½
1898	21½	@18⅞	1883	19 @20⅝
1897	17¾	@18⅞	1882	20¼ @22½
1896	14⅝	@19⅝	1881	21½ @23¾
1895	13	@17½	1880	25 5-6 @27
1894	13	@18½	1879	29½ @30½
1893	14½	@20¾	1878	24⅛ @25⅛
1892	14 1-6	@21¼	1877	23 @24
1891	14	@20	1876	25¾ @2½
1890	15¼	@20⅜	1875	39 @41
1889	13⅝	@19	1874	44 11-12 @47 1-6
1888	12⅞	@19	1873	38½ @41¼
1887	13 5-6	@18¾	1872	46¼ @48 5-6
1886	16 5-6	@21 1-6	1871	56½ @59
1885	18⅜	@23 1 6		

THE AMERICA TEA MARKET.

Mr. John B. Brown, of Bronson, Brown & Co., writes to the *American Grocer*:—

Reviewing the past twelve months, those engaged in tea business can truthfully say that they have had serious obstacles to confront. When the duty was imposed large stocks of teas were held by all the trade on which no duty had been paid and these have been most severe competition. The market for free teas advanced rapidly until it assumed prices within two cents of what duty-paid goods were selling at, the holders receiving the benefit. All the old stock has by this time been used and the only available goods now are those which pay a duty.

Green teas in bond are ruling to-day at about the same rates existing in China one year ago. This applies to Ping Sueys as well as Country and Moyune Greens. The market for Formosa Oolongs has been seriously handicapped by the excessive old stock which has been largely reduced so that now the supply will amount to only about three months stock. The prices for new crop have ruled several cents per pound above the same quality of old crop, and it looks like an unsatisfactory market for importers of Formosa Oolongs, except for the better kinds, as these grades of the old crop have been entirely used and there is a fair demand for fine new crop Formosas

The better grades of Foochow Oolongs are a trifle lower than last season's, but the common to good are ruling equally as strong as last year.

Amoy Oolongs are practically extinct, the Government standard being so high as to practically exclude the importation to this country of the largest part of the crop.

The better kinds of English Breakfast have been purchased in China at a trifle less cost than rates existing last year. The lower grades, however, hold firm on a basis of last year. The rigid enforcement of the Tea Adulteration Act should compel importers to give most careful attention to the quality of their imports as if below the standard will surely be rejected. Jobbers, who are not familiar with the tea examination laws, know but little of the many complications connected with the importing branch in the trade.

COFFEE PROSPECTS IN NETHERLANDS INDIA.

Coffee cultivation in Java is now in a bad way. Planters lay the blame on the fall in quotations. But experts point out that good and well prepared Java coffee commands still a remunerative price, and certain brands of the article fetch fancy prices. It is held that planters have largely to blame themselves for the untoward turn of events by producing inferior coffee, bringing low-grade land under cultivation, and trying to do business in many cases on insufficient capital. In short, bad management has a good deal to do with the coffee crisis in that island. The result is that the quality of the berry has so gone from bad to worse that the Java article cannot stand the competition of the Brazil berry. Again planters, in the days of high prices, laid by nothing to meet adverse times. The latter took them unprepared. Recourse was then had to wholesale cutting down of expenses to the crippling of est operations. Money had to be raised at high interest and ordina charges proved to be burdensome the moment receipts dwindl Too often a load of debt accumulated until the banks took pos sion and worked the estates on their own account as cheaply possible, regardless of the consequences Other planters, beset creditors, had to abandon their estates. The outcome is th investors in Europe are afraid to sink money now in Java co estatas unless on conditions highly burdensome to the plante An expert points out in the *Sourabaya Courant* that Java coffee h still a world-wide reputation for excellence. Planters now ha only to keep up that good name to find safety. With choice s and judiciously economical management, there is every chance well-cured Java coffee commanding such prices as will pay han somely. But this depends upon care not to grow inferior so brought to market under brands of good repute. Another conditi for success is that the planter should, as much as possible, be ma ger as well, and should on no account allow those who lend h capital to have any voice in the management or in contracting supplies. Other evils to be guarded against are that of going useless expense on buildings and machinery before there is a prospect of a crop; and that of allowing too young trees to be Too often coffee has been grown on bad ground for the purpose rearing sickly and weak plants, because they bear sooner th strong healthy ones. The argument is that there must be a cr three years after planting, otherwise the capital sunk would unremunerative Berries from these weaklings produce still wea er plants in the nurseries. The result is that degeneration a weakness characterise much of the Java coffee grown, and t plants themselves are stricken with disease.

THE COFFEE TRADE IN AMERICA.

Coffee, at one cent a cup, as sold at the St. Andrew's coffee stan and coffee, at Delmonico's or Sherry's at twenty-five cents per cu marks, says the *American Grocer*, the popularity of the beverage a the favor in which it is held by all the people, or—as some are wo to say—the masses and the classes.

Coffee has become the favorite National beverage, outranki its greatest rival beer, being a cheaper and less harmful bevera

That epicure of all epicures, the late Theodore Child, author the charming work, entitled "Delicate Feasting," says:

"Tea, coffee and tobacco come under the heading to whi scientific men have given the name of paratriptics. The dema for them is based upon their power to prevent waste in the bo so that by their help and stimulus men can do more work a endure more privation with a smaller amount of actual food. T coffee and tobacco are not food, although temporarily and contin ously they supplant it. The physiologist, Moleschott, calls th the "savings banks" of the tissues"

The physiological or dietetic value of coffee is indisputable; b as with every other article used by man, it may disagree with th whose physical condition is not normal. Every man is, as regar food and drink, a law unto himself, and must find out and use th substance or beverage which best agrees with him.

There are millions ready to confirm Lord Bacon's statemer "They have in Turkey a drink, coffee, which comforteth the hea and aideth digestion."

Coffee, when made into an infusion which gratifies the pala causes one to thank God for the sense of smell and bless Him fo gift which adds to physical comfort and the pleasures of the tab And so it comes about that memory retains the delights that thro a halo about the perfect cup of coffee, to make which requires high grade of the bean and that it be fresh roasted, fresh grou and fresh made. Then it is that the gentle stimulant acts upon t heart, warms the body and makes one grateful for life and innumerable gifts.

The United States is the largest user of coffee of any nation the world, as regards imports, but is behind Holland in its p capita use. Last year the net imports were 801,750,146 poun which yielded 673,470,123 pounds of roasted beans, equivalent 1,346,940,246 gallons of infusion, or 18·2 gallons per capita. T per capita import of the green bean was 10.8 pounds.

Grinding is also quite an important process. If ground t coarse, the strength of the coffee is not readily extracted, and will not be strong enough; if ground too fine, it is apt to be made Here again the happy medium is best It should not be grou until just before it is made, as, after grinding, the aroma passes

very rapidly. Hence it is best for every family to have a portable coffee-mill and grind their own coffee. Where this is not practicable, the ground coffee should be kept in a tightly-closed tin can or glass jar.

One necessity for the making of good coffee is the finest coffee bean. Of these there are many different varieties, chief among which are those produced in Brazil, commonly known as Rio coffee; that which comes from Java; and the Arabian coffee, known as Mocha. The Central American growths are of high grade, and now constitute an important part of the supply. A blend, or mixture, of Mocha or Java is in high favor, although there are many other favorite blends and mixtures suited to different tastes. Some varieties of coffee are strong and somewhat acrid in flavor, and others are milder and richer; and there is great scope for an expert in coffee to produce good effects by careful blending and roasting. Naturally wholesale merchants, doing a large business in coffee, employ the most expert blenders and roasters, and produce the best average results, although any careful and intelligent person having the proper facilities, and who can give the necessary time to it, can, with a little study, perform this delicate operation very well.

The world's yearly supply for three years past has averaged 15,346,674 bags; for this year is estimated at 16,000,000 bags. The Republic of Brazil is the colossal producer of coffee, furnishing 70 per cent of the world's supply. * * * * * *

Thirty years ago the bulk of the coffee reached consumers in the United States in the raw bean; but, gradually, after the Civil War, the Southern and Western States adopted the custom which was almost general in the Northern cities of buying the bean roasted.

Green coffee now ranges in price from 4½ cents to 35 cents, the wide range being due, in a large measure, to the popular prejudice for certain growths, rather than to differences in intrinsic merit between the coffee of different countries. In other words, it is possible to buy for 14 to 18 cents a green coffee that has as good, if not superior, drinking qualities to coffee for which buyers will pay 25 to 35 cents per pound. This condition of the market affords roasters unusual opportunity for making fine blends and carrying a business at a good profit. The result has been a very rapid increase in the number of roasting establishments and a competition which insures the consumer a good article. Never was coffee so popular a beverage as now, nor its use increasing so fast.

ENGLISH IMPORT DUTY ON TEA.

The annexed correspondence has been issued by the Indian Tea Association, Calcutta, for general information, in continuation of the General Committee's letter No. 463-O., of 17th August, to the Secretary to the Planters' Association of Ceylon, which has already been published:—

From the Planters' Association, Ceylon, to The Secretary, Indian Tea Association, Calcutta, dated, Kandy, 11th September 1899.

SIR,—Your letter No. 463-O, of 17th August. In forwarding you the resolution adopted by this Committee, I am instructed to say that they are not yet convinced that the time is ripe for a movement in favour of the abolition or reduction of the duty on tea in England, or that the abolition is in the best interests of the producers. They will, however, continue to collect information, and would be glad to know on what figures you base your statement, "that it is admitted that reduction of duty in the past has tended to increase consumption as a whole, and that further reduction would have a similar effect."—Yours faithfully, W. D. GIBBON, Acting Secretary, Planters' Association, Ceylon.

RESOLUTION.

"That the Committee, having considered the letter of the Indian Tea Association, deem it inadvisable to take action in the matter at present.

INDIAN TEA ASSOCIATION.

No. 634-O. Royal Exchange Building,
Calcutta, 24th October 1899.

The Acting Secretary,
The Ceylon Planters' Association, Kandy.

ENGLISH IMPORT DUTY.

DEAR SIR,—The General Committee of the Indian Tea Association direct me to acknowledge receipt of your letter of 11th September on the above subject, with which you forwarded a copy of the following resolution adopted by your Committee, *viz.*:—

"That the Committee having considered the letter of the Indian Tea Association deem it inadvisable to take action in the matter at present."

2. Your letter, and the resolution, were discussed at the last meeting of the Committee and they noted that you are collecting further information on the subject. They hoped that, in the light of that information, when obtained, your Committee would see their way to participate in a movement in favour of reduction or abolition, and to give the weight of their support to the views expressed in my letter of 17th August.

3. You asked to be furnished with the statistics upon which the General Committee based their statement that "it is admitted that reduction of duty in the past has tended to increase consumption as a whole and that further reduction would have a similar effect." When writing the letter of 17th August, the Committee were under the impression that your Committee were in agreement with them in regard to this statement. Their reason for so thinking was because, in a speech delivered on the 17th February, in the present year, the Chairman of your Association made the following remarks:

"They knew, and they felt undoubtedly, the reduction of duty in past years had tended to increase consumption. Figures that were before him were most encouraging. Going back to 1837, when the Queen came to the throne, only 30,000,000 lbs. of tea were consumed in the United Kingdom, and the duty was 2s. 1d.; in 1887, the duty was 6d. and the consumption was 183,000,000 lbs.; and in 1897, ten years later, the duty was 4d, and the consumption 232,000,000 lbs He did not mean to say that that was entirely due to the reduction of duty, because the increase in population had to be taken into account, but it was quite sufficient for his argument that the reduction of duty tended to increase consumption."

In view of these remarks the Committee concluded that they were justified in assuming that your Committee admitted that consumption was increased by a reduction of duty. In response, however, to the request now made they have instructed me to annex to this letter a table, which gives, in a concise form, the figures upon which they based their statement. But before remarking on this table I am to offer a few comments on the statement itself. The Committee regard it as merely an application of a well-known economic law to the case of a particular commodity. The law briefly stated is that, when the price of a commodity falls, the demand increases, and conversely when the price rises the demand is lessened. An indirect tax, such as an import duty, on any commodity may be correctly regarded as a part of the price paid for that commodity by the consumer. Therefore a reduction in duty necessitates a fall in price. This law is admitted by all economists; it is clearly laid down by Professor Nicholson, of Edinburgh University, in an essay on "Value," as follows:—

"As the price of any article falls, other things remaining the same, the quantity demanded increases, and conversely as the price rises the quantity demanded decreases. A very good example of this law is found in the remission of taxes. The repeal of a tax leads to a fall in price and the fall in price is accompanied by increased consumption. Conversely it has often been found that to increase the amount of a tax does not increase the revenue from it because the demand for the article falls off."

The converse of the proposition now under discussion was also stated by Mr. John Stuart Mill in his work on the "Principles of Political Economy," as follows: "The higher price necessitated by the tax [an import duty] almost always checks the demand for the commodity." Another eminent political economist, Professor Leone Levi, remarked, as far back as 1860 in reference to tea, that "the revenue from tea may be expected to increase considerably, so long as the present limits are maintained; and should the finances of the nation admit the realization of the reduction to 1s. per lb., the increase of consumption, which is certain to follow, will cause the revenue speedily to recover, if not to exceed the present amount." (*On Taxation*, pp. 72, 73.)

4. That tea is no exception to the operation of the law referred to in the last paragraph is, in the opinion of the Committee, conclusively proved by the table appended to this letter. Between 1815 and 1820 the duty was practically 4s. per pound—the highest rate which has obtained during this century. The average consumption per head of the population during the same period was 1 lb. 4oz.—the lowest level reached during this century. That is to say, the lowest rate of consumption coincided with the highest rate of duty. From 1824 to 1865 the reduction of duty may be said to have been almost progressive; the price of tea in bond was also almost pro-

gressively falling. The inclusive price paid by the consumer was thus appreciably lowered and the consumption per head rose consequently from 1 lb. 4 oz. in 1824 to more than 2½ lbs. in 1865. In the latter year the duty was reduced to 6d., and by 1870 consumption had reached 3·81 lbs per head of the population From that time to 1890 consumption was stimulated by the fall of the price in bond, which of course lowered the price paid by the consumer. On the 1st May 1890 the duty was reduced to 4d. per pound. The result was an increase in consumption from 4·66 lbs. per head in 1889 to 5·36 lbs. in 1891, and 5·4 lbs. in 1892 It was in view of these facts that the Committee's statement was made, and they hold that it is indisputable that the reductions of duty, which have been effected since the days when it stood at 4s. per pound, constitute one of the main causes of the enormous increase in the consumption of tea in the United Kingdom.

5. It would be easy to cite instances of other commodities, the consumption of which has been likewise stimulated by the reduction of the import duties levied upon them. Up to the year 1846 the consumption of sugar per head of the population of the United Kingdom scarcely exceeded 17 lbs. The duties on foreign sugar were at that time, owing to the anti-slavery policy of the Government, as high as £2 3s. per cwt. In 1846 they were reduced by nearly one-half; consumption immediately rose to 22 lbs. per head. In 1848 the duties were brought down to 10s. per cwt; consumption was further extended to 34 lbs. per head. After 1848 the duties were progressively reduced, and finally abolished, with the result that at the present time the consumption per head of the population in England is about 80 lbs.

6. From the foregoing your Committee will doubtless agree that the statement made in the letter of 17th August was literally correct, in so far as reductions in the duty in the past are concerned. The opinion that the effect on consumption of any future reduction, or of abolition, would be similar to the effect of past reductions is clearly based upon a fair assumption, supported as it is by recognised economic principles, and by the experience of the past. The Committee, therefore, can come to no other conclusion than that embodied in the statement quoted in your letter. The probable relative effects of reduction or abolition were dealt with in the previous letter, and they do not now propose to make further reference to them In conclusion they trust that your Committee will again give the whole question their most careful consideration, and that by a convenient opportunity you will favour this Association with a more or less detailed expression of their views.

Yours faithfully,

J. TAYLOR,
Acting Secretary

YEARS.	Quantity of China Tea consumed annually in the U. K.	Quantity of Indian and Ceylon Tea so consumed.	Total quantity so consumed.	Average rate of duty.	Average price in bond.	Average price inclusive of duty.	Average quantity consumed per head.
	lbs.	lbs.	lbs.	s. d.	s. d.	s. d.	lbs. oz.
1801-1804	24,016,235	...	24,016,235	1 7	3 0	4 7	1 8
1805-1809	23,325,495	...	23,325,495	3 0¾	3 3¼	6 4	1 6
1810-1814	24,264,940	...	24,264,940	3 1½	3 4½	6 6	1 5
1815-1819	24,997,373	...	24,997,373	3 11½	2 0¼	5 10¼	1 4
1820-1824	26,956,571	...	26,956,571	2 9¾	2 10	5 7¾	1 4
1825-1829	29,402,033		29,402,033	2 5¾	2 5½	4 11¼	1 5
1830-1834	31,678,328	...	31,678,328	2 2½	2 2½	4 4¾	1 5
1835-1839	36,764,065	..	36,764,065	2 0½	1 8	3 8½	1 7
1840-1844	37,588,274	...	37,588,274	2 2½	1 10¼	4 0¾	1 6
1845-1849	47,200,093	...	47,200,093	2 2¼	1 1	3 3¼	1 11
1850-1854	56,124,305	...	56,124,305	2 0	1 2½	3 2½	2 1
1855-1859	69,000,000	...	69,000,000	1 6	1 5	2 11	2 8
1860-1864	82,000,000	..	82,000,000	1 4	1 5	2 9	2·27 lbs.
1865	96,000,000	...	96,000,000	0 6		...	3·00 ,,
1866	97,681,000	4,584,000	102,265,000	0 6		...	3·42 ,,
1867	104,628,000	6 360,000	110,988,000	0 6		...	3·68 ,,
1868	99,339,000	7,746,000	106,815,000	0 6		...	3 52 ,,
1869	101,080,000	10,716,000	111,796,000	0 6		...	3·63 ,,
1870	104,051,000	13,500,000	117,551,000	0 6		...	3·81 ,,
1871	109,445.000	13,956,000	123,401,000	0 6		...	3·92 ,,
1872	111,005 000	16,656,000	127,661,000	0 6		...	4·01 ,,
1873	111,665,000	20,216,000	131,881,000	0 6		...	4·11 ,,
1874	118,751,000	18,528,000	137,279,000	0 6		...	4 22 ,,
1875	122,107.000	23,220,000	145,327,000	0 6		...	4·43 ,,
1876	123.364,000	25,740.000	149,104.000	0 6		...	4·49 ,,
1877	123.300,000	27,814,000	151,114,000	0 6		...	4 50 ,,
1878	120,652.000	36,744,000	157.396,000	0 6		...	4 64 ,,
1879	126,340,000	34,092,000	160,432,000	0 6		...	4 08 ,,
1880	114,485,000	43,836,000	158.321,000	0 6		...	4 57 ,,
1881	111,715 000	48,336,000	160,051,000	0 6		...	4 58 ,,
1882	114,462.000	50,496 000	164,958.000	0 6		...	4·69
1883*	111,780,000	68,859,000	170.780,000	0 6		...	4·82
1884	110,843,000	82,217,000	175,060,000	0 6		...	4 90
1885	113.514,000	68,000.000	182.409,000	0 6		...	5 09 ,,
1886	104,226,000	74.665,000	178,891,000	0 6		...	4 92 ,,
1887	9 ,508,000	93,053,000	183.561,000	0 6		...	5·02 ,,
1888	80,653,000	104,763.000	185.416,000	0 6		...	5 03 ,,
1889	61,100,000	124,500,000	185.600,000	0 6		...	4·99 ,,
1890	57 530,337	136.478,155	194.008.492	0 4		...	5·17 ,,
1891	52,287,304	150 169,533	202,456,837	0 4		...	5·39 ,,
1892	34,483,408	172.630,296	207.113.704	0 4			5·43 ,,
1893	35,735,722	172 361,663	208,097,385	0 4			5·41 ,,
1894	25,805,313	188,535,731	214,341,044	0 4		...	5·52 ,,
1895	31,433,014	190.367.123	221,800.137	0 4		...	5·65 ,,
1896	24,549,936	203,285,475	227.785.509	0 4			5·78 ,,
1897	21,372,030	210 027,748	231,399,778	0 4		...	5·81 ,,
1898	19,512,009	215.902,096	235.414,105	0 4			not available.

Not available. — See next page.

* The importation of Ceylon tea in large quantities commenced in 1883.

Average prices of Indian and Ceylon Teas in bond from 1881 *to* 1894.

Years.	Indian.		Ceylon.	
	s.	*d.*	*s.*	*d.*
1881	1	5	0	11¾
1882	1	3	1	0¾
1883	1	2½	1	3¼
1884	1	1¾	1	2¾
1885	1	2½	1	3¼
1886	1	0	1	1¼
1887	0	11½	1	1
1888	0	10¾	0	11⅛
1889	0	10¼	0	11¼
1890	0	10½	0	11
1891	0	10¼	0	10
1892	0	10	0	9½
1893	0	9¼	0	9
1894	0	9¼	0	8½

The above figures have been extracted from the following sources:—

(1) Professor Leone Levi "On Taxation," p. 73.
(2) A paper on Tea read before the Society of Arts on the 23rd January 1895 by Mr. A. G. Stanton.
(3) Messrs. Gow, Wilson and Stanton's Circulars.

COFFEE PLANTATIONS IN MEXICO.

Five years ago the only coffee grown on the Isthmus of Tehuantepec was that raised by native Indians for their own use. To-day the thing is changed, and in five years more the Isthmus of Tehuantepec will probably be the biggest coffee exporting section in the Republique of Mexico.

There are no less than 25 coffee plantations established there, and as many smaller ones. Some of these are owned by corporations, and are probably the largest coffee plantations in Mexico. Others are owned by private individuals, but they are all doing well. Some of these plantations have their own steam-boats or naphtha launches running on the respective rivers on which they are located. Others are on the line of the railroad All have direct transportation to European and American markets. Large substantial buildings, improved coffee machinery plants, and sometimes saw mills and sugar mills, mark the location of some of these plantations, and, radiating in different directions from their active centres are the villages of peons employed in work.

At first there was some fear about the success of coffee raising on the Isthmus as an investment, but now this is dispelled. The first coffee plantations established there are now bearing coffee and yielding returns, and, from actual tests, the production, per tree, is greater than in other parts of the country, and very much more than it is in Brazil.

The best harmony prevails among the various plantations on the Isthmus, and all seem to be working together to make that the greatest coffee producing section in Mexico. They will likely succeed in this, as the Isthmus is endowed with the proper conditions of soil and climate for growing coffee.

In the Coapiloloya district of the Isthmus there are five large plantations, all connected by telephone, though their distances vary from 3 to 15 miles from each other. One of these plantations "El Remolino," owned by Mr. F. A. Macfarland, of Denver, Colo., was the first American coffee plantation established on the Isthmus of Tehuantepec. This plantation is now harvesting coffee. Mr. Macfarland put in his first coffee machinery last year, but finding it rather small to handle his coming crop, is now adding to its capacity. Two of these plantations belong to large American companies. On one of them they are now erecting a plant that cost $50,000, gold, in the United States. Some of the planters in this section are putting in the rubber as it is now considered even more profitable than coffee.

The well known Cockrill plantation is in the San Juan district of the Isthmus. It is surrounded, at various distances of from 5 to 25 miles, by other flourishing plantations. A hungry *gringo* will not starve if lost in this section of country, as he will be sure to stumble over some fellow countryman's plantation before going very far. Planters here are adding sugar-cane to the crops. One small 40 acre tract of coffee in this district produced last year an average of five pounds of coffee to the tree, one tree producing as much as 37 pounds of green coffee in the pulp.

It is said that Americans are going to do with coffee in the Isthums of Tehuantepec what they have done with fruit in California, that is, improve its quality and increase the production per tree. Their system of planting and manner of cultivating is certainly far ahead of the old local methods, and better results are naturally expected. No such an example as the tree cited above has ever been known there before.

Mexican coffee commands a higher price in New York than all others, except probably the reputed Mochas and Javas, but it is believed that American grown coffee in Mexico will excel even these brands in future.

Probably the most interesting coffee district in the Isthmus to visit is the Santa Lucrecia district. It is the most accessible, and can be reached by rail or river. Where thousands of dollars have gone into the development of plantations in other districts, tens of thousands have gone in here. It is estimated that $2,000,000 have already been spent in the development of coffee and rubber plantations in this district, and there are certainly evidences of it It is here where the famous "Dos Rios" Co. has over 10,000 acres of land under cultivation and development. The town of Dos Rios which is now quite an important little place, with a settlement of American and Mexican inhabitants, was founded by this company four years ago. The business done by the various companies in this district has given Santa Lucrecia its importance as a station on the Tehuantepec Railroad. This station handles more freight and passengers than any other station on the railroad. The Dos Rios plantation has about 2,000,000 coffee trees planted. Their first crop was gathered last year. They are now putting up probably the largest coffee machinery plant in the country to handle their future crops. One would think that he is in the famous "São Paulo" district in Brazil to visit this section of the Isthmus.

The Amate plantation, owned by a St. Louis Co., comes next, in this district, in importance of size and age. It covers an area of 20,000 acres of land, and has fincas, planted in coffee, covering several square miles in extent. The American ambassador's family and the Belgian minister spent a few weeks on the plantation last March, as the guests of the plantation manager. Many interesting horse-back rides, in which the Misses Clayton displayed remarkable courage in horsemanship, were taken over the vast tropical woods and coffee fincas of this plantation. This company has a steamboat and a naphtha launch running on the Coatzacoalcos river for its own private use, and, when pleasure is combined with business, the enjoyment of a trip on this beautiful river is indescribable. Probably the most notable improvements in buildings, &c., going on at present on the Isthmus are right here at this plantation. Besides a large number of modern *peon* houses and a warehouse that they have just put up, they are completing a residential building, which is built on the order of the Southern plantation homes in the United States, and gives the country an appearance of the civilisation and comforts Americans are used to. One does not feel that he is anywhere near the wild jungles and trackless wood of the tropics when he is entertained in some of the homes of those hospitable tropical planters. The Amate is also putting up an American wind-mill and steel tank with sufficient capacity to furnish all its establishment with running water.

In fact Americans are making the Isthmus now a place for re creation and pleasure, as well as the place for getting rich. Comfortable homes are being built in all directions, and coffee fields are filling the air with a fragrance that is refreshing.

Besides the two above mentioned plantations in the district of Santa Lucrecia, there are the "Columbia," the "Las Perlas," the "Oaxaca," the "Tecolotepec," the "La Puerta," the "Ubero," and others, all owned by American companies or private individuals from Chicago, St. Louis, Kansas City, and Indianopolis, and all connected by wire with Santa Lucrecia and the world.

The Hearst estate of California has recently purchased a very large tract of land in this district, and surveyors are now at work dividing it up into small tracts for plantations.

The railroad that is to connect Santa Lucrecia with Cordova, and give this section direct rail communication with Mexico city, is rapidly being built. It is believed that it will be finished in eighteen months.—*Mexican Herald.*

INDIAN AND CEYLON TEA.

We append the Indian Tea Association's Monthly Return of Sailings and Daily Customs Entries of Tea from Calcutta, and Return of Exports of Ceylon Tea for four years up to 10th October 1899 :—

EXPORTS OF INDIAN TEA FROM CALCUTTA.

	1899. Lbs.	1898. Lbs.	1897. Lbs.
Sailings to Great Britain in September.	26,714,347	21,211,572	18.044,720
Sailings to Great Britain from 1st April to 30th September ...	72,732,636	65,450,987	64,184,922
Sailings to Australia and New Zealand in September	314,785	1,191,563	267,777
Sailings to Australia and New Zealand from 1st April to 30th Sept.	3,674,486	2,678,744	2,509,017
Sailings to America in September ...	*1,144,551	772,330	345,837
Sailings to America from 1st April to 30th September	2,088,593	1,112.920	866,412
Sailings to other Places in September. (See below.)	1,482,679	1,568,361	501,682
Sailings to other Places from 1st April to 30th September ...	4,253,172	4,518,744	2,065,616
Total Sailings from 1st April to 30th September	82,748,887	73,761,395	69,625,967

Daily Customs Entries for Export to Great Britain from 1st April to 30th September	1899 lbs.	76,214,930
Do. do. do. do. ...	1898 ,,	69,958,074

EXPORTS OF TEA FROM CEYLON.

Total Exports from 1st January to 10th October 1899 ...	lbs.	98,422,763
Do. do. do. do. 1898 ...	,,	93,494,331
Do. do. do. do. 1897 ...	,,	90,548,295
Do. do. do. do. 1896 ...	,,	82,272,483

Yours faithfully,
J. TAYLOR,
Acting Secretary.

Statement showing the Exports of Tea to Sundry Ports during the month of September 1899.

FOREIGN PORTS.

	Lbs.		Lbs.	
Marseilles ...	1,300	Yokohama ...	100	
Bremerhaven ...	39,563	Bushire ...	22,980	
Hamburg ...	82,354	Bunder Abbas ...	14,650	
Cephalonia ...	50	Penang ...	500	
Naples ...	480	Singapore ...	222	
Constantinople ...	52,748	Bagdad ...	42,485	
Algoa Bay ...	4,160	Caiffa ...	255	
Delagoa Bay ...	228	Bussorah ...	72.773	
Cape Town ...	2,000	Trebizonde ...	307.810	
Zanzibar ...	664			975,909 lbs.
Mombassa ...	360	Bombay ...	480,508	
Port Said ...	200	Kurrachee ...	2,700	
Suez ...	30,820	Other Indian Ports.	23,562	
Natal ...	45			506,770 ,,
Aden ...	1,334			
Jeddah ...	71,775	Total ...		1,482,679 ,,
Hong-Kong ...	226,053			

THE FUTURE OF THE CEYLON TEA INDUSTRY.

The London correspondent of the *Ceylon Observer* has written at considerable length on this subject. We give below copious extracts from his remarks, so that our readers may have a fair idea of the statements made and the opinions expressed. Omitting many remarks, we quote as follows :—

I have had the opportunity of discussing this all-important question during the present week with several representative authorities, all more or less interested in the welfare of our staple industry and the important trade based upon it. First, it is cheering to remark on the general confidence maintained in the future of Ceylon and its "tea." The check given to over-production by t enhanced rupee, and the recent fair supply of labour have und edly strengthened the position; while the disastrous experi in Darjiling, affecting not a few well-known "gardens," has o more attracted attention to the wonderful exemption of the pla ing districts of Ceylon from earthquake, cyclone or hurrica so far tended to enhance the estimation of plantation property our island.

On the other hand, I find myself always asked "What abo these

BLIGHTS,

of which we hear so much in the papers and in correspondence late"? Now my reply has been uniformly and honestly re-assurin for while there was occasion at first to rouse the attention of plant in certain districts to the need of "watching and working" towar checking the evil, I have had placed before me reliable eviden that not a few are inclined to attribute to "blight," injuries or d coloration of their tea-bush leaves, due to the puncturing of insec to climatic, local and temporary causes. Just as some men at t outset refused to recognise the presence of the grey blight, ev when pointed out to them,—so, of late, the other extreme is seen many superintendents discovering blight in every trivial attack minor enemies from which no product is free. I do not for a m ment say that there are not, in some parts of Ceylon, attacks—a serious attacks—of what Dr. Watt points out to be the worst enem of our brethren in Assam; but I do maintain that they are far le widespread than has been recently supposed; that they are oft very temporary and due to causes (such as too long delay pruning) easily overcome; and that the time has come now f planters to be very careful in their observations and cautious reporting "blight," before they are fully convinced that the re "Simon Pure" is amongst them.

The next division of my subject for the present should be t continued progress made in opening

NEW MARKETS

and, in this connection, I am pleased to read Mr. Renton's encou aging *ad interim* report; and no less to remark on the important fa brought out by your Hewaheta correspondent that coffee, even its present unprecedentedly low price, is by no means so econom a drink as tea, if the test be the quantity of enjoyable, or avera beverage got from the same weight of each product. Discussi this point with a tea merchant in the city interested in t American market, he pointed out that good coffee could be sold the United States at one-fourth to one-fifth the price of good t (in view of the duty on the latter and other causes); but I at on replied that, even taking this somewhat extreme comparison, t gave *eight* times the return that coffee did, in a reliable refreshin beverage! This fact must be pressed home on practical American as well as on all careful housekeepers on the Continent of Euro (where their name is legion).

But now I come to another phase of my subject: the arrangemen connected with the receipt, handling and selling of our staple pr duct in this,

THE GREATEST TEA MART IN THE WORLD.

The agitation over the one-pound draft, although it may be thoug by many to have ended abortively, and even disastrously, for t time, has undoubtedly resulted in one great good, by bringing full light of enquiry and criticism to bear on all the arrangemen connected with the importation and selling of tea, and some of t details, I find, were quite unknown to men of not a little experien in the trade. The whole question of warehouse arrangements now under the careful consideration of the Joint Committee Indian and Ceylon tea reprsentatives and not a little novel i formation is likely to be obtained as to the process attendi "overtakers,"—surplus tea not put back in chests—*not*, as alway supposed, because of careless re-packing preventing its admissio but under a regularly adopted system which must have be worked to the great advantage of some unknown parties, neith planters nor merchants. Then, again, the strange fact is likel to be brought out that certain Indian Tea Companies, havi protested, and insisted on a strict account of all their tea, hav not suffered, like the bulk of their brethren, from this overtakin arrangement!

The very considerable decline in values, as compared with, sa ten years ago, is doubtless mainly due to increased productio This increase was induced by the steady fall in the sterling valu of the rupee; and, so long as the fall continued, it compensate

* Exports to United States lbs. 644,495
Do. to Canada ... ,, 500,056

growers for the lower range of values established. But it would be well for producers to consider what other influences may have contributed to this lowering of values. The practice of putting up to public auction all Indian and Ceylon teas, as fast as they arrive, regardless of the immediate requirements of the trade, has undoubtedly (in the opinion of good authorities) had, very frequently, a depressing effect on prices from which recovery has been extremely slow. This it is now sought to overcome by the formation of a Committee to regulate the offerings of Indian teas, which certainly is a step in the right direction; but unless the members of the Regulating Committee are able to gauge fairly closely the extent of the current consumption of the article, and unless the whole of the Indian importers consistently back up the Regulating Committee, it is to be feared that the movement may not prove as full and complete a remedy as is desirable. It is pointed out to me that, during the past ten or twenty years, very important changes have occurred in the methods of the

HOME DISTRIBUTING TRADE.

Formerly, I am told, when the China leaf held the market, the dealer was practically the only purchaser for the home trade, the "Blender to the Trade" being unknown. And it is of importance to bear in mind that nearly the whole of the China tea sold in the London market passed by "*private contract*"—very little, and that only to close up shipments, etc., being offered at auction. The dealers in those days carried very considerable stocks; and as they were able to obtain reasonable profits on the basis of Mincing Lane quotations, they had no inducement to lower market values. With the present-day wholesale blender and packet man the case is quite different. He has his standard blends, with fixed prices so far as his customers are concerned; and inasmuch as his purchases at auction cannot be followed, as can those of the dealer by his grocer clients, his profit is the greater the more he can knock down Mincing Lane values. We have also, apparently, to accept the fact that the blender and packet man have been eminently successful in cutting into the trade of the old-time dealer and family grocer, for whom the grower may be excused for having as great a reverence as has the modern buyer for the old-established "pound draft"! The London Tea Market is dominated by a few—a comparatively very few—large wholesale blenders. There are, of course, numerous other buyers, for the trade of the dealer has not yet been completely wiped out; but the possible operations of these few very large buyers is an additional and hampering element which all others have to take into consideration. The great influence on the market of the large buyers is also felt by sellers of Calcutta or Colombo-bought teas, as also, it is asserted in nine cases out of ten, by growers who do not accept the best bid at auction, and who "take out" any break. The general policy, it is alleged, is, as far as possible, to render the character of the auctions "without reserve" sales, and to discourage all teas not put up on growers' account, presumably because a grower is more squeezable than an importer who has a merchant's cost to cover and profit to fight for. The essence of public auction, of course, is that there should be free and unrestricted competition for the article exposed for sale; and anyone with any knowledge of the subject, I am assured in some quarters, can hardly contend that these conditions apply to the tea auctions in Mincing Lane, except on the rare occasions when any particular grade of tea may be in very short supply.

The great obstacle in the way of reverting to the system of "private contract" is the large number of breaks now put on the market. To some extent this might be improved upon without much trouble on the estates, but not to the extent necessary to admit of the change indicated, unless the whole system of packing teas for the London market be revised. Breaks of *at least* 200 to 300 chests, *i.e.*, of each *grade* of tea, would have to be the *general rule*, and the larger the break the better—especially of the principal grades which might run up to 500 or 600 chests. Such breaks could only be secured by bulking together teas of the same character from different estates, and this could only be undertaken by large companies or combinations of proprietors. Such a change would be very difficult of arrangement, except perhaps gradually.

So long as sales by public auction cannot be avoided, it is undoubtedly to the seller's advantage to place his teas on the market where they are most likely to meet with the greatest competition, and the Calcutta and Colombo markets would seem to answer this requirement. Several of the large London buyers have representatives on these markets, and in addition there are buyers for direct shipment to Australia, America, Russia and other parts of the world; while there are also merchants operating for the Mincing Lane Market. But it is pointed out these latter are at present at considerable disadvantage owing to the action of the large buyers in London. It is, however, not going too far to say that, if the whole of the Indian and Ceylon crops were respectively sold in Calcutta and Colombo, the competitions of merchants prepared to take merchants' risks would be a most important factor in counteracting the overweighting influence of the large London buyers, and that the London stocks of tea, not in grower's hands, would be very much more generally held, which could not fail to have an advantageous effect on prices.

As a means, therefore, of improving the grower's position in the matter of marketing their produce, it is now suggested for consideration:—(1) that a more extended use be made of the Calcutta and Colombo markets, especially by gardens unable to pack large breaks; and (2) that for London very large breaks should be made up wherever possible, and be placed on the market for sale by *private contract*.

SLEEP WHEN WORK IS DONE.

During the late summer (1896) I passed several weeks in a foreign city nearly 700 miles further south than London. We had about ten days intense heat, and for six nights, when it was worst, I do not think I slept as many hours altogether. The resulting nervous collapse was simply awful. My brain reeled, I could neither understand, nor do anything rightly. I walked, as the good Book says, "in a vain show." What a blessed thing is sleep; how destructive, how killing to lose it.

In healthy sleep the nervous system is inactive—more especially that of the brain and spinal cord. The body lies quiet, the muscles relaxed, the pulse slower than when we are awake, and the breathing less frequent but deeper. Then nature—wise keeper of the House of Life—proceeds to renew the energies expended through the day. To miss this renewal, even in part, is to tread the edge of insanity and look into the mouth of death.

"Methought I heard a voice cry, 'Sleep no more; Macbeth doth murder sleep!" So said Macbeth himself; but there is a power which murders more sleep than ever did Duncan's assassin; and to *that* Mrs. Beattie alludes when she says of her daughter, "*She got no sleep.*"

"In May, 1891," writes the lady, "my daughter Letitia fell into a low, weak condition, and could not get up her strength. She had no appetite, and what little food she took gave her great pain at the chest and sides. She *got no sleep at night*, and became very nervous and low-spirited.

"As time passed by she grew weaker and more feeble, and we thought she would never get better. A doctor attended her, but none of his medicines seemed to suit her case, and for two years she continued to suffer.

"One day she read in a book about Mother Seigel's Curative Syrup and what it had done for others. She got a bottle from Mr. Nicholls, chemist, Donegal Place, and after taking it began to improve, being able to eat, and her food agreeing with her. After having used this medicine a short time she was strong and well as ever, and has since been in good health. For a long time I myself suffered from weakness and indigestion, and seeing what good Mother Seigel's Syrup had done I took it and was completely restored to sound health. You may use this statement as you like. (Signed) (Mrs.) Mary Beattie, 23, Trinity Square, Belfast, August 14th, 1896."

"In the early part of 1894," writes another, "I began to suffer from indigestion. I had a poor appetite, and all food gave me pain at my chest and a gnawing feeling at the stomach. No matter how light the food I took I had pain and sick headache.

"For over a year I was tormented like this, when Mr. John Weir, living in this place, told me how he had been cured by Mother Seigel's Syrup, and recommended me to try it. I did so, and soon all pain left me, and I have since enjoyed good health. I know many persons residing in this district who have been benefited by taking the same medicine. Often in my shop I hear persons say what it has done for them. You are at liberty to publish this letter. (Signed) Alexr. Wilson, General Merchant, Castlewella Newcastle, Co. Down Ireland, Aug. 15th, 1896."

Indigestion or dyspepsia destroys the power to sleep by starving, and thus weakening, the nervous system. Indeed the whole body

starves, and is thrown into profound disorder. Food may be taken into the stomach, but, as people constantly say, "It does no good." No; but in a sense it does harm. Fermented, soured, undigested it develops poisons which act upon the system somewhat as a pestilence does upon a community. Flesh is lost, strength gives way to trembling weakness, courage is supplanted by fear, and life is dreary and desolate. That Mother Seigel's Syrup should be able to cure a disease so common and so terrible is reason for gratitude to us all. For the healthy—work and sleep.

MARKET REPORT.

Per Mail Advices of 20th October 1899.

COFFEE.

The London Commercial Record says:—A generally stronger tone prevails in this market, and a considerable proportion of the supplies offered at auction was disposed of. Prices shew much irregularity, and although East India has been more freely taken no improvement in value can be reported. On the other hand, Foreign descriptions have been in good demand, especially at the close, prices shewing an advance of 2s per cwt. "Futures" have been active, and yesterday there was much excitement on the rumour of plague at Santos, and an advance of 2s per cwt. took place, but though part of this improvement was lost in the later hours prices for the week shew a substantial rise. We quote:—

London ...	Santos ...	December delivery ...	29s. 9d.
New York ...	No. 7 Rio...	„ „ ...	5·10 cents.
Hamburg...	Santos ...	„ „	29½ pf.
Havre ...	Santos ...	„ „ ...	35½ francs.
Holland ...	Good ordinary Java ...	...	29 cents.

At the Dutch Trading Company's public sale on Tuesday, in Rotterdam, 20 cases 26,113 bags Java offered and sold at generally higher prices, good ordinary selling at 29c, against 26½c valuation, and 26c last sale. The following are some of the particulars:—

Lying in Rotterdam.

No.	Bags.	Value at, Cents.	Result. Cents.
1 ...	920	26½	29¾ @ —
12 ...	554	26	28¼ „ 28½
13 ...	1,023	26	28¾ „ —
14 ...	173	26	28½ „ —
16 ...	376	44	41⅝ „ 42
19 ...	321	18	18¼ „ 18½
20 ...	188	18	18¼ „ —
25 ...	4,935	40	40½ „ 41¼

Imports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
Tons ...	21,790	18,831	41,884	40,478
	Home Consumption.		Export.	
	1899.	1898	1899.	1898.
Tons ...	13,159	11,297	21,365	20,042

The preceding figures exhibit—

	Tons.
In the Imports an increase this year of ...	1,406
Home Consumption an increase of ...	1,862
Export an increase of...	1,323
Stock an increase of	2,959

Auctions during the week have passed off as under:—

CEYLON.—*Plantation.*—18 packages partly sold—smalls at 46s 6d

EAST INDIA.—3,961 bags partly sold as follows:—*Mysore*, smalls 33s 6d to 40s 6d, low middling 37s 6d to 38s 6d, bold common to bright blue foxy 41s to 61s 6d, pea-berry 43s to 55s, native smalls 43s 6d, medium 48s 6d, bold 50s, pea-berry 45s 6d; *Coorg*, smalls 31s to 37s 6d, low middling to middling 34s to 51s 6d, fair to good bold 63s 6d to 78s, pea-berry 55s to 76s; *Neilgherry*, smalls 32s 6d to 37s, low middling to middling 35s to 42s, bold dull greenish 46s to 64s 6d, pea-berry 40s to 43s 6d; *Nelliampathy*, smalls 33s, pea-berry 50s to 68s; *Naidabatum*, pea-berry 53s; *Wynaad*, smalls 31s, low middling 34s to 40s, pea-berry 42s to 42s 6d.

COSTA RICA.—270 bags sold—ordinary to fine ordinary 30s 6d to 38s, low middling 44s, pea-berry 33s to 40s.

MOCHA.—25 half-barrels retired.

INDIAN JAVA.—13 bags sold at 31s 6d to 33s for yellow.

GUATEMALA.—Of 1,437 bags catalogued 390 bags sold, sma 31s 6d, ordinary mixed dull greenish 32s, middling brownish colo 46s, good bold ditto 67s, pea-berry 57s 6d.

SALVADOR.—1,622 bags mostly sold, ordinary to fine ordinary 3 to 36s 6d, fine fine ordinary to low middling 37s 6d to 40s, middli 42s to 45s, pea-berry 39s to 45s 6d.

NICARAGUA.—383 bags catalogued and mostly sold, good to f ordinary 33s 6d to 36s, middling dull pale greenish 42s, pea-ber 33s 6d.

COLOMBIAN.—Of 1,427 bags offered, 1,140 bags sold, smalls 26s 38s 6d, fair ordinary 37s 6d to 38s, low middling to middling d greenish 42s to 47s 6d, good middling colory 49s to 51s 6d, bold 6 to 75s 6d, pea-berry 45s to 65s 6d.

MEXICAN.—287 bags sold, smalls 29s to 34s, low middling 4 middling 45s, good middling colory 55s 6d, bold 59s 6d, p berry 66s.

VENEZUELAN.—133 bags brought in.

Receipts in Rio and Santos.

Since July 1	1899-1900. Bags.	1898-99. Bags.	1897-98. Bags.	1896-9 Bags
Rio ...	1,441,000	1,252,000	1,766,000	1,354,0
Santos ...	3,325,000	2,636.000	3,105,000	2,283,0
Total ...	4,766,000	3,888,000	4,871,000	3,637,0
Crop ...	—	8,772,000	10,461,000	8.680,0

Rio Exchange 7 7/32d, previous day 7⅜d.

HAVRE, Oct. 19.—Santos good average October opened stea at 35f. and closed steady at 35f., December opened at 35⅛f. and clos at 35⅛f.

HAMBURG, Oct. 19.— Good average Santos October opened stea at 28¾pf. and closed steady at 29¼pf., December opened at 29¼ and closed at 29½pf.

NEW YORK, Oct. 18.—Closing prices of No. 7 Rio were as follow:

	Oct.	Nov.	Dec.	Jan.	Fe
Oct. 18 ...	4·85	4·80	4·95	5·00	5·
Oct. 17 ...	4·70	4·70	4·85	4·95	5·

TEA.

CHINA.—Common and ordinary qualities experience a good d mand and bring fully valuations, but better class grades are poor request. Auctions have comprised 4,920 packages during t week the bulk of which sold as follows:—New season's: Scent Caper 6½d to 8d, Moning 6½d to 8½d, Scented Orange Pekoe 7¼d 11¼d, Pekoe Congou 7d to 8d, Lapseng Congou 6½d to 6¾d, Formo Oolong 8¾d to 10¼d. Old season's Oolong 5½d to 11½d. Scent Gunpowder 6¼d to 1s 4d, Young Hyson 7¼d to 8½d, Foong Mee to 1s 0¾d, Sow Mee 7¾d to 1s 2¾d per lb.

INDIAN.—A similar quantity was offered publicly, viz., 48,3 packages, against 48,500 in the previous week, and 48,300 packag in 1898.

Although not much change in prices was noticeable, a steadi feeling prevailed, partly due to the firmness of some importers w were not disposed to make further concessions in face of the hea duty payments (which indicate that the consumption of Tea gene ally throughout the country is on a satisfactory scale), and co paratively lighter shipments recently advised. On the whole go liquoring invoices were taken up freely at fully prior quotatio but when there is a falling off in strength, as was the case in so of the Assams, competition was not so keen and they went easi particularly Pekoes from 7½d to 10d per lb. Arrivals from Cach and Sylhet, also a few of the Dooars lately to hand, marked impro ment in quality and were of a more useful character than the p ceding consignments from the same gardens, while, on the oth hand, Darjeelings were in many instances inferior.

For 36,000 package on Estate Account 8¾d was obtained, vers 8¼d per lb. for 34,300 packages and 9¼d per lb. for 31,800 packa in the two foregoing seasons.

Telegrams from Calcutta state that entries for export to the Uni Kingdom for the first fortnight of the month were 7,500,000 l while for the corresponding period of 1898 they were 10,300,000 l the totals from 1st April being 83,192,000 lbs. and 80,217,000 l respectively, thus reducing the excess which on the 15th Septem was 6½ million lbs. to about 3 million lbs.

CEYLON.—Lighter sales were held, amounting to 25,200 packag On the 10th instant 29,400 packages were brought forward, a 24,500 packages a year ago.

There was brisk bidding for nearly all common to fair descriptions at slightly reduced range of value current on the Tuesday before, but where flavour was less desirable, lower rates had at times to be accepted. The demand from abroad is somewhat slack at the moment, and in consequence Medium Pekoes and Orange Pekoes were here and there neglected. Choicest lines commanded attention though there was considerable irregularity in the figures paid for them.

The average remains the same, viz., 8d per lb. On the 19th October 1898, it was 8¾d per lb.

Colombo telegrams give shipments to Great Britain from 1st to 15th instant as 4,700,000 lbs., and the estimate for the month 8,250,000 lbs.

JAVA.—In the absence of auctions there is nothing to report. About 2,000 packages, however, are advertised for the 26th instant.

Deliveries —The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns are, viz. :—

	Lbs.
From 1st to 17th Oct., 1899	11,387,195
Do. do. 1898	9,965,622

During the week the following have been printed for sale by public auction :—

	Sold.	Withdrawn.	Total offered.
	Pkgs.	Pkgs.	Pkgs.
India	40,606	7,735	48,341
Ceylon ...	22,625	2,566	25,191
Java	—	—	—
Total ...	63,231	10,301	73,532

Also 152 packages from second hands.

Arrivals—	From Calcutta.	From Colombo.
Ex *Menelaus*	—	865,000
„ *City of Edinburgh* ...	2,728,000	—
„ *Cheshire*	—	1,089,000
„ *Algeria*	84,000	—
„ *Clan McDonald*	2,503,000	88,000
„ *Cuzco*	—	393,000
Totals ...	5,315,000	2,435,000

Erratum.—In our last the export of British grown Tea from London during September, owing to a printer's error, was given at ½ million lbs. instead of 2½ million lbs.

Landings, Deliveries, and Stocks in London.

	Landings in 40 weeks.		Deliveries in 40 weeks.		Stocks, October 7.	
	1899.	1898.	1899.	1898.	1899.	1898.
Coffee tons :						
Home consmptn.	41,850	40,620	13,100	11,230	22,700	19,320
Export ...			20,660	19,900		
Cocoa, pkgs. :						
Home consmptn.	179,000	211,780	108150	130,540	109400	117,880
Export ...			60,220	55,270		
Pepper, Black ...	3,780	5,060	4,515	3,885	6,375	6,965
Pepper, White ...	2,265	2,270	2,460	2,440	2,430	2,160

Messrs. Gow, Wilson & Stanton's Indian, Ceylon, and Java Tea Report, dated October 20th, 1899, says :—

QUANTITY BROUGHT TO AUCTION IN LONDON FROM 1ST JUNE TO DATE.

	Indian.	Ceylon.	Java.
	Pkgs.	Pkgs.	Pkgs.
1899-1900	558,175	466,136	23,757
1898-1899	531,112	486,604	18,649

48,452 *pkgs.* INDIAN
25,368 „ CEYLON
— „ JAVA
} Total 73,820 packages were offered in public auction this week.

An encouraging increase has taken place in the direct exports of Ceylon Tea to markets outside the United Kingdom during the last nine months. For many years past rapid progress has now been made in these shipments, viz. :—

1899.	1898.	1897.	1896.	1895.	1894.
Lbs. 19,194,104	17,037,941	11,911,213	10,053,323	8,813,641	7,006,167

Australia and Russia have each taken about a million lbs. more than during the corresponding period of last year, while America also shows an important increase. The exports to France, although small, have shown steady progress each year.

DISTRIBUTION OF TEA EXPORTS FROM CEYLON FROM 1ST JANUARY TO THE END OF SEPTEMBER.

	1899.	1898.	1897.	1896.
	Lbs.	Lbs.	Lbs.	Lbs.
United Kingdom ...	74,278,984	72,404,989	75,302,106	69,442,510
Austria	7,491	12,633	14,360	29,454
Belgium	12,349	10,540	9,470	30,695
France	74,217	61,419	59,403	44,792
Germany ...	278,036	252,529	189,503	75,721
Holland	22,874	22,631	15,305	3,889
Italy	11,761	3,270	5,071	7,257
Russia	2,719,244	1,634,865	324,612	224,012
Spain	13,800	27,650	21,570	39,010
Sweden	42,494	28,450	35,123	4,925
Turkey	15,177	25,839	7,280	14,905
India	413,493	843,152	729,793	693,332
Australia	11,906,586	10,960,388	9,205,561	7,891,692
America	2,206,213	1,816,009	569,708	439,286
Africa	221,138	294,448	174,685	75,386
China	935,946	852,173	469,468	218,652
Singapore	47,232	46,426	22,601	55,545
Mauritius	73,701	7,300	11,790	91,790
Malta	192,352	138,219	45,910	113,050
Total ...	93,473,088	89,442,930	87,213,319	79,495,833

INDIAN.—Auctions passed without material change on last week's rates, the market as a whole continuing steady; the total up for next week is distinctly smaller, only 39,588 packages being advertised at present. The time of year is now coming on when the work of the Regulating Committee may do much good in alleviating the physical strain upon buyers and the financial pressure upon the trade which has frequently occurred at this period.

The official wire from Calcutta gives exports to U. K. for first half of October as 7,500,000 lbs., against 10,300,000 lbs. same period last year, making the total quantity from 1st April to date 83,192,000 lbs. against 80,217,000. The following averages are worthy of note :—"Margaret's Hope," 1/5½; "Runglee Rungliot," 1/3¾; "Assam Co Doomur Dullong," 1/2¾; Budla Beta TCo K," 1/2.

Week's av. of Tea sold on Garden Account 1899, 36,377 pkgs., av. 8·69d. 1898, 34,382 pkgs., av. 8d.

Total Tea sold on Garden Account 1st June to date 1899, 389,265 pkgs , av. 8·58d. 1898, 367,064 pkgs., av. 8·76d.

CEYLON —The auctions, although still heavy, showed a reduction of over 4,000 packages on the quantity brought forward last week, while 22,446 packages are advertised for next week. The strain placed upon the market by recent heavy supplies has been great, and this week showed again an easier tone, prices giving way fractionally for nearly all grades, except the few choice liquoring descriptions. Private telegraphic advice from Ceylon quotes shipments to United Kingdom for first half of October as 4,700,000 lbs., and the quantity available for the month as 8,250,000 lbs. The following averages may be mentioned :—Nuwara Eliya T Co.'s gardens "Concordia" and "Park" 1/1½ and 1/0½, respectively ; and "Madulseema T Co. Mahadowa," 1/1. Average for week 7·90d., against 8·46d. in 1898.

Ceylon Tea sold on Garden Account 1st January to date 1899, 867,290 pkgs., av. 7·96d. 1898, 921,265 pkgs.. av. 7·67d.

JAVA.—No Java were brought forward, but 2,054 packages are advertised for sale in London next week.

Bank Rate 5 per cent. Exchange on London three months sight : —Calcutta 1/4⅜. Colombo 1/4⅜.

COCOA.

An easier tone prevails in this market, although the difference in values is but small. Auctions on the 17th instant presented 2,436 bags, barely 600 bags selling. Of 496 bags Trinidad, only 20 bags good sold at 72s. 132 bags Grenada were quitted at 64s to 66s for good to fine, being about valuations. 74 bags common Jamaica found buyers at 60s 6d, or about last sales' rates. 2 bags Dominica realised 60s 6d. Of 705 bags Guayaquil, 60 bags pickings and sea-damaged sold at 54s to 57s. 113 bags Bahia, 12 bags Surinam and 36 bags Venezuelan passed the hammer unsold. Of the goodly supply of 1,732 bags Ceylon brought forward, 300 bags sold at rather below expectations—72s for fair bold mixed, 66s for middling greyish, 51s 6d to 63s 6d for common to good red small, and 55s to 61s for common Native.

Private transactions include 50 bags Trinidad—dark at 68s, middling to good 71s to 73s; 100 bags African at 61s, 100 bags Bahia at 60s, and 1,250 bags Guayaquil—part greyish to fair Caraquez at 65s to 68s 6d.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

	1899.	1898.	1897.	1896.
	Bags.	Bags.	Bags.	Bags
Imports, B P. ...	113,982	113,845	105,053	114,695
Foreign ...	68,000	98,234	69,279	58,384
Home Con., B.P. ...	67,205	83,997	70,165	61,776
Foreign ...	43,385	49,424	47,140	44,445
Exports, B.P. ...	38,280	29,993	38,493	34,373
Foreign ...	23,038	25,399	38,743	25,178
Stock, B.P. ...	54,080	59,894	74,270	84,364
Foreign ...	54,151	56,991	43,614	66,302

PEPPER.

BLACK.—The market is firm and dearer, with sales of 200 tons Singapore—at 5 9/16d to 5 5/8d on the spot, at 5 11/16d for parcels near at hand, at 5 11/16d September-November shipment, at 5 3/4d to 5 23/32d October-December, at 5 7/8d January-March, and at 5 27/32d to 5 7/8d February-April. February delivery has been sold at 5 13/16d.

At auction on Wednesday 120 bags Penang were bought in at 5 1/4d, for weight 3 lb. 11 oz., dust 5·11 per cent. per gallon. 29 bags good heavy Singapore character sold at 5 5/8d. 405 bags dust sold "without reserve" at 2 1/2d to 3d per lb.

The shipments of Black Pepper for the first half of October compare as follows:—

	1899. Tons.		1898. Tons.	
U. K.—Singapore	60	80	380	430
„ Penang	20		50	
Continent	...	*nil*		30
United States	...	*nil*		70
Total ...		80		530

WHITE.—Is quiet. Of Penang sales have been made on the spot at 8 7/16d, and January-March shipment at 8 5/8d.

Public sales on the 18th instant presented 43 bags Singapore and 69 bags Penang, which passed the hammer unsold.

The shipments of White Pepper for the first half of October compare as follows—

	Tons. 1899.		Tons. 1898.	
U. K.—Singapore	110	250	140	220
„ Penang	140		80	
Continent	...	60		160
Total ...		310		380

GINGER.

COCHIN.—Persistent reports as to the poor quantity and quality of the new crop have been instrumental in creating a speculative demand, and prices have risen materially. There is little doubt that the drought in India must have had a very bad effect on the growing roots, and from influential sources we hear that digging result in only small and lean Ginger being raised. In addition to the poor return, it follows that the crop will be late, and there are no offers to sell c.i.f.

Privately some 2,000 bags have been sold on the spot. Calicut rough sorts 25s to 27s, small ditto 20s, medium and small washed rough, below f.a q., at 25s, ditto rather mouldy and wormy 22s to 23s; also Calicut rough sorts at 27s 6d for February delivery, and Cochin washed, January delivery, at 26s 6d to 27s, and February at 26s per cwt.

At the auctions, to effect sales in decent quantities, it would have been necessary for holders to shade their asking rates. 471 bags 158 bales were presented for public competition, and 43 bags 15 bales (all the latter being cuttings) sold—good brown rough 22s 6d small washed rough, wormy, 22s, dull bold cuttings 17s to 18s per cwt.

JAMAICA.—Is slow of sale. 109 barrels offered and 12 barrels sold at 52s to 53s for common dull, and 51s per cwt. for mouldy ditto.

CINCHONA.

In reference to the Amsterdam auctions to be held on November 2, particulars of which we announced last week, we learn from our correspondent that the total weight of the bark to be offered is 507,936 kilos., consisting of 351,563 kilos. Ledgeriana. 77,132 kilos Succirubra, and 79,242 kilos. hybrid. Since the above a further 560 bales and 25 cases (53,394 kilos.) have been added, making the total now 6,141 packages (561,330 kilos.). The exports from Ceylon for the week ending September 26 were 31,528 lbs., and from January 1 to September 26 they were—

	1899.	1898.	1897.	1896.
Lbs.	524,944	723,482	530,646	881,743

QUININE.

At the close of last week German makers again raised their quotation 1d per oz. to 1s 1d, and on Monday another 1d was added, now making the official quotation 1s 2d in 1,000 oz. lots. Howards now quote 1s 5d for 1-oz. vials, and 1s 4d for 100-oz. tins; Pelletier 1s 6d, Whiffen 1s 2 1/2d. The reason for the advance is that the "bears," who have oversold for October delivery, will now have to pay the enhanced prices, and a good many of them have been covering at from 1s 1 3/4d to 1s 2d. Immediately after the rise the second-hand market advanced daily to 1s 2d, but on Wednesday a weaker tone prevailed, there being sellers of 1s 1d for December delivery.

(AVERAGE FOR ALL INDIA 8·69d.) October 20th.

GARDEN.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust, and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price.
Neilgherry														
New Hope ...	129 p	7¼	43½ c	9 10½	12	7	24	8	29	6½	21	6¼	...	...
Travancore ...	**1559**	**7·06**												
Arnakal ...	143 p	6¾	...	...	55 p	5¼ 6½	63	7¼ 7½	10	6	2	6¼	13½c	6½
Carady Goody ...	125 p	6½	80 p	6¼ 6¾	15	6	19	6½	1	+5¾	...	...	10½c	5¼
Glenmary ...	34	7	21	7 7¾	7	6¼	...	...	...	...	...	...	6	7¾
„ ...	165	7	118	6¼ 7¼	27	6¼	...	...	...	...	...	...	20	8
Home .	23½c	6	...	...	15½c	6	4½c	6¾	...	...	2½c	5¼	2½c	5¼
Invercauld ...	97 p	6¼	...	..	40 p	6¼	45½c	7¼	...	...	12	6¾	...	...
Isfield T C Isfield...	44	6¼	...	..	25	+6¼	19	7	..	...	...	...	..	...
Kanan Dev Hil M...	132½c	9¼	51¼ c	9¼	45½c	7½	36½c	1/1¼	...	...	...	...	...	...
Penshurst ...	187 p	7	62	7¼ 9¼	49	6¼	...	...	29	6¼	..	...	47 p	6 7½
Travan T Est. BA.	414 p	7	..	..	112	+6¼ 6¾	233	6¼+7¾	13	6¼	...	.	56½c	6
„ „ Pamb.	195 p	7¼	20	9¼	67	7	87	7¼	20	6¼	..	..	1½ c	5¼
Wynaad														
Kanambyle & Cher.	89	9	20	1/1¼	25	7¼	38	8	6	7				

PLANTING OPINION,

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

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ADVERTISEMENTS.—The charge for line advertisements is As. 4 per line for the first, As. 3 for the second, and As. 2 for the third and succeeding insertions. Five-line (or shorter) advertisements from Subscribers will be inserted for three issues for One Rupee; non-Subscribers will be charged Two Rupees.

DOMESTIC OCCURRENCE.—The fee for inserting a domestic occurrence will be *One Rupee* for each insertion, payable in advance.

N.B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," Agra Bank Buildings, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 24th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, 15*th November*.—*Weather*.—Fine and cool at mornings and nights; some fleecy clouds flitting by lately. Very little east wind so far. Dew copious. *Plant-diseases*.—Leaf-disease may be said to be at an end for the season; coffee is a picture of health. *Crop*.—Big pickings not the rule yet. *Labour*.—Ample. *General Health*.—Good.

FRUITS OF "AGITATION."

The Bill to amend the Madras Coffee-stealing Prevention Act (1878) has been read in Council and referred to a Select Committee consisting of the Acting Advocate-General, the Hon'ble Mr. C. Jumbulingam Mudaliar, the Hon'ble Mr. H. P. Hodgson, the Hon'ble Mr. F. A. Nicholson and the Hon'ble Mr. Gabriel Stokes. With, perhaps, some few modifications, it will soon become law; and we have no doubt that planters will welcome it as marking a very distinct advance on the legislation it is to supersede. It is not its merits we propose to discuss here, however. The Bill has been referred to as a portion of the fruits of agitation effected by planters during the last few years. In supporting the Bill, the Hon'ble Mr. Vijiaragava Chariar said that the coffee-planters of Southern India, and the United Planters' Association of Southern India were to be congratulated on the achievement of their success. So far as the latter Association was concerned, he said, the present Bill was its first victory, and the next and a more brilliant one was looming in the distance. He then passed on to a brief review of the history of the Coffee industry in India, touching particularly upon efforts made from time

to time by planters to bring their grievances under the notice of the authority.

Mr. VIJIARAGAVA CHARIAR was certainly fortunate in the instance he selected to show that planters had gained by, what he termed, their "persistent agitation." Act VIII. of 1878, he explained, declared that any cooly, maistry or other labourer employed in a coffee estate found with green-gathered coffee in his possession, and failing to account satisfactorily for such possession, was liable, on conviction by a Magistrate, to pay a fine not exceeding Rs.500. The coffee-planters now desired that this provision should be extended to all coffee, including parchment coffee and cherry-dried coffee, and they also wanted the provisions to be applied to all labourers, and that this Act, with suitable alterations, should be made applicable to the tea industry. The Government of Madras was at first unwilling to concede these points; but the planters eventually succeeded in convincing them, with the result that a Bill was prepared on the lines indicated above. But when it was submitted to the Government of India for sanction, as regards its penal clauses, they vetoed it, saying that the coffee-planters of South India had already exceptional protection. When Lord ELGIN came to Madras on a tour, a deputation of planters waited on him, and there was a committee appointed by the Government of India to enquire into the planters' grievances. Within the scope of that enquiry tea was not included. That committee recommended that provisions of Act VIII. of 1878 should be made applicable to all kinds of coffee; but as regards the question, whether it should be applied only to coolies, maistries or labourers employed in coffee estates, or all labourers, they saw no reason why it should be extended to others. Such is the history of the present legislation before the Council as related by the honourable gentleman whose remarks we bring to the special notice of our readers. To appreciate Mr. VIJIARAGAVA CHARIAR'S remarks fully, we must read a little further. Why did he support the Bill? He candidly asserted that he did so from motives of self-interest. He obviously thought that planters had set Indians (Congress-*wallahs*, to wit.) an admirable example, and offered them a very valuable lesson. Quoting JUNIUS as saying "facts of yesterday are precedents of to-day, and precedents of to-day are doctrines of to-morrow," he expressed the belief that facts, in regard to the relations between Government and European agitators, might one day become precedents of the Indian political reformer, and such precedents might be matured into doctrines in fullness of time. The success of the persistent agitation of the planters was pregnant with lessons for Indians and fraught with hope; but whether the hopes would be realised in the near future, or in the distant dim future, it was totally impossible for him to say.

This is a view of matters that had not hitherto suggested itself to us, and we venture to hope that the form of flattery that shows itself in imitation will not affect Indian agitators when they study the efforts of planters to bring about reforms. Certainly, something might be gained were they to observe planters' loyal, and unsensational, if persistent, *methods*. But for our own part, we should scarcely apply the word "agitation" to the efforts initiated by District Planters' Associations, and subsequently pressed forward with the help of the U. P. A. S. I. It is something, however, to have such a keen observer as Mr. VIJIARAGAVA CHARIAR remark that a "victory" has been won.

THE CAMERON (AFRICA) DISCOVERY.

The secret is out at last, and it may be briefly stated the discovery made by Mr. Kenneth Cameron, with refere to the prevention of leaf-disease in coffee, consists in the that he has proved, by actual observation, that the suspe spotted bug, usually called the "lady-bird," feeds on coffee berries. Mr. Cameron's advice, as to a remedy, catch the bugs and destroy them; though he does not omi suggest also careful cultivation of the coffee-plant. We the discovery will not benefit coffee-planters in India much; but the information received regarding the African is at least interesting as showing how carefully insect—as as plant—life must be studied by all who wish to be succ ful planters. We feel sure that many of our readers take an appreciative interest in the reprint we give on ano page of the report of Mr. Mahon (Scientific Departmen the B. C. African Administration) on the Cameron discover

COFFEE.

Latest Home reports point to a plague scare as a b factor to the Coffee market. A single case of plague reported from Santos, and the news caused quite a little p in the Coffee market. Prices in the terminal market quic rose until an advance of 1s. 9d. per cwt. had been establis in a few hours. The "bulls" set to work, and from Br come accounts of reduced, if not temporarily depleted, sto from London hints that orders have even been booked for crop Indians! The fact is, no doubt, that prices are so now that very little inducement is needed to set the "bu in motion. Purchases cannot be very risky; but still cau is necessary, under ordinary circumstances, as the statis position of Coffee would still seem to favour the "be rather than the "bull." A London contemporary rep that, in the terminal market, bulls having been greatly creased, more confidence prevails, and buyers of actual co also evince an interest in available parcels, and shipme which lately had been painfully conspicuous by t absence. The more current descriptions of coffee natur feel the drift of the improved interest the strongest, but specialities, such as East Indian coloury sorts, have enjoye demand which, coming at the very fag end of the seaso all the more remarkable and welcome. Spot lots of N gherries, Coorgs, etc., principally A and B size, which some months past, have proved absolutely unsaleable, found buyers at last, and even a small business in new for shipment is reported. It is said that estates in the Sh roys have realised 51s. 6d. c.i.f., Neilgherries have been at 52s. 6d. and Salems at 54s. c.i.f. Continental ports. for favourite Coorgs and Neilgherry crops have been sen both by Continental and London buyers. An improve in the state of affairs could hardly have come at a opportune moment, for it enables consignors of East In sorts to dispose of their old stocks just before the new cr beginning to come in, rendering the outlook, which a time appeared almost hopeless, a great deal more promisi

There is perhaps a little promise also in a display of e prise lately made on the part of some Brazilian Coffee-dea Some go-ahead people in Brazil are co-operating with an established Brazilian merchant in London, to run "Mc Brazilian Coffee Company, Limited." The object of th to develop demand. The Company's factory is situat

178, Goswell Road, E. C., where the coffee is roasted and ground. The offices of the Company are at 116, Bishopsgate Street-Without. It is understood that the Santos commissarios will assist the propaganda by contributing a certain percentage of their coffees for advertising purposes; and every effort will be made to secure for coffee in England the popularity that tea has already achieved. We are only sorry that the venture is a *Brazilian* one, and not an Indian; but there is doubtless room for more concerns of a similar kind.

THE MANSION HOUSE WAR FUND.

We trust that South Indian planters "will not be backward in coming forward" with regard to the War Fund that has been opened. One fund was started for Transvaal refugees; but the fund to which we call special attention is that for the relief or support of widows and orphans of soldiers who fall in the course of the war, and of the wounded. Ceylon men have made a start, and it has been suggested that planters should voluntarily tax themselves *Re.1 per acre* in behalf of the fund. We are aware that a good many of the younger generation of planters were ready to render service as "fighting men." Such patriotic souls should not hesitate to deprive themselves of some few rupees for such a cause as that now referred to.

We shall be very pleased to receive and acknowledge subscriptions, and to pass them on, in due course, to the Lord Mayor of London.

THE SEPTEMBER COFFEE MOVEMENT IN THE UNITED STATES.

The *American Grocer* again records a month of heavy deliveries—above the monthly average for the exceptional year 1898-99. The total deliveries of all kinds of coffee in the United States during September were 479,874 bags, against 436,890 bags for same month in 1898, and 473,553 bags as the average per month last year. The visible supply and movement for the month are shown as follows :—

	Bags.	Thousands of Bags.
Stocks, September 1, 1899—		
United States..	1,176,447	
Europe..	3,780,097—	4,950
Receipts during September—		
United States..	494,077	
Europe..	648,313—	1,142
Total supply ..		6,098
Less stocks, October 1—		
United States..	1,190,650	
Europe..	3,705,906—	4,896
Deliveries, September—		
United States..	479,874	
Europe..	722,504—	1,202
Deliveries, September, 1898 ..		1,131

The total visible supply of the world on October 1st was 8,036,566 bags—or a full half-year's production—and receipts at Santos continue large. The capabilities of Brazil as a coffee-producer are enormous, the crop is scarcely likely to shrink for some time to come. Under these circumstances, there is just a crumb of comfort in our American contemporary's statement that "the outlook is for a heavy full demand and record-breaking deliveries." On the other hand, however, as supplies are likely to continue heavy, the chances for cheap coffee are good for another year. If demand could but be stimulated in Europe, as it has been in America, the desired improvement in prices might be hastened; but we fear that hitherto practically all the profit resulting from the fall in prices has gone to the dealer and the retailer—in England, at any rate—and that the consumer is still called upon to pay former prices for a commodity of which the value has fallen considerably.

PACKET TEA AT THE PARIS EXHIBITION.

The following circular, by Mr. J. H. Renton, Tea Representative of Ceylon at the Paris Exhibition, shows how the packet tea difficulty is to be met :—

In addition to the teas which will be received for competition, the Committee are prepared to undertake the exhibit and sale of packet teas under the following conditions :

1. Show cases or stands will be provided; a charge of 100 francs per square metre will be made to cover cost of same.
2. Each exhibitor should furnish a large card giving name in full, Ceylon address, and name of agents in London and Continent.
3. The French authorities have prohibited the sale of packet teas in the Exhibition; but the Committee are prepared to book orders in the Ceylon Court, which will be passed on to the Paris or London Agents of the exhibitors for execution and delivery. A commission of 10 per cent. will be charged on all orders booked and sales made in the Ceylon Court. Exhibitors desirous of availing themselves of this opportunity for sale of their teas must make their own arrangements in Paris for keeping stocks and for supply of packet teas in the Exhibition.
4. The Committee reserve to themselves the right to decline to exhibit any packet teas.
5. Intending exhibitors must send in their applications for space with particulars of their teas, names of their Paris Agents, and prices at which the teas can be sold, by not later than 1st February, 1900.

N.B.—All packet teas for sale in France must be put up in French weights, *viz.*, kilos. and fractions of kilos.

Further information can be obtained on application to—J. H. Renton (Tea Representative, Paris Exhibition).

There is apparently no reason why the U. P. A. S. I. should not take a leaf out of this circular, and arrange similarly about both exhibits and sales.

COFFEE IN DISTANT LANDS.

XI.

Hayti.—Reporting on the Trade and Commerce of the Republic of Hayti for the year 1898, Acting Consul-General Siordet, says :—The year 1898 has not shown any improvement on preceding years as regards commerce and business in Hayti. On the contrary, the present situation is worse than it has ever been before. The reason of this state of things is to be attributed to the persistent fall of prices of coffee on the European and American markets. The actual prices have declined to a point which renders the exportation of the article almost an impossibility, and being the staple produce of the country, a marked depreciation of its value must greatly influence the commercial prosperity of the Republic. The only remedy, *viz.*, an increase of production, is not thought of here. On the contrary, it is to be feared that many small "planters" (as the owners of coffee trees are called) will dig up the coffee plants and raise plantains, yams, bananas, &c., on their soil. The existing export duties on coffee amount to 3 dol. 87 c. (about 16s.) per 100 lbs., and may be considered almost prohibitive. Unfortunately it is not possible for the Govern-

ment to reduce them at the present moment, as they are the security of the various internal debts.

During the past year ordinary Haytian coffee has fetched in the European markets an average price of about 7 dol. 50 c. per 100 lbs. From this 5 dol. have to be deducted, *viz.*, 3 dol. 87 c. for export duties, and about 1 dol. 13 c. for cartage, bags, freight, and other expenses, leaving for the planter just 2 dol. 50 c. per 100 lbs. for his produce, or 2½ c. (1¼d.) per lb. The planter, therefore, only realises enough to provide for his absolute necessities in foreign imports, and turns his attention to the cultivation of other products, on which he has to live ; consequently, imports have diminished to a very large extent, and whilst the planters, cultivators, and the country people have managed to exist, many importing firms have had to suspend payment for want of business.

Dutch Guiana.—Exports in 1898 amounted to 255,571 kilos. valued at £8,576. The crop was on the whole good, but prices were low, owing to large stocks on hand and abundant crops in Brazil. The coffee cultivated in Dutch Guiana, is, with a few exceptions, Liberian, so low prices are to be expected. The crop totalled 383,512 kilos.

French Guiana.—Exports in 1898 amounted to 429,200 kilos. A few immigrants were employed as estate labourers, or ages berry 3 frames a day, with accommodation.

Jamaica.—Consul Dent sends a report on coffee, prepared by a well-known planter in the island, as follows :

I have been coffee planting for the last twenty years, and during that time I have twice seen a fluctuation of prices of 60 per cent. ; and the average prices I have realized have varied from 89*s.* 6*d.* to 42*s.* per hundredweight ($21.78 to $10.22 per 112 pounds). This large difference in values, combined with a very great uncertainty as to crops—these being dependent upon the proper distribution of the rainfall and not upon the cultivation—makes coffee planting difficult. When I say the crop is not dependent on the cultivation, I mean that, however good the cultivation may be, without proper weather there will be no crop. With practically the same acreage as now—*i. e.*, 330 acres—my crops have ranged from 22 casks of 850 pounds to (in one year) 154 casks. The best seasons may be said to be : A dry January and February to rest the trees after the previous crops ; showers to bring out blossoms—the best is a general bloom in April, then good rains in May and a not too hot July and August. If the latter months are hot, the crop is likely to be burnt before it is mature. The low prices are attributable to the immense production of coffee in Brazil.

" When once coffee growing is well establisbed, four hundredweights (448 pounds) per acre may be expected, and this return should last for fifteen years at least. It may vary considerably from year to year ; thus, after a very heavy crop, say, six hundredweights (672 pounds), or even seven hundredweights (784 pounds) per acre, the return would be proportionately small ; still, four hundredweights per acre would be about the return in good land, and without fertilizers would last fifteen years. In this part of the island we expect coffee to bear for twenty years after the first bearing, say, twenty-five years from the time of planting.

" Speaking roughly, the cost of land, fencing, cultivation, and all other charges should come to £15($73) per acre by the end of the fifth year—that is, the year when one may reasonably expect a crop ; a small crop would be reaped possibly the third or fourth year, but it is not good for the trees. I think that a fair estimate of the cultivation, reaping, and curing of the crop per acre, including 10 per cent. f supervision and 10 per cent. for extras, is £5 ($24.33) for return of four hundredweights of clean coffee fit for sale.

" The price of land varies very much, but, generally speak ing, £1 ($4.8665) an acre has been considered fair valu Of course, there are lands to be had at much lower prices the Government lands sell at about 5*s.* ($1.22) per acre. I short, there is no regular price, values being determined b the situation. It would be useless to undertake coffee plant ing unless there is plenty of labour, as much is needed f weeding, pruning, and reaping.

" As to the price of land in coffee, I should imagine tha about £20 ($97.33) an acre for old and £30 ($146) for youn coffee would satisfy most people.

" Rye crops could not be planted between the rows of coffe trees, though orange trees might be planted at this altitud (2,200 feet) in place of other shade trees. During the firs three years some sort of shade is necessary, and it is th custom to plant yams, cassava, cocoa, etc., but this shoul be done sparingly, as undergrowth is not good for the tree

" The climate here has averaged 72 degrees Fahrenheit i the shade for years. In the summer it rarely goes above 8 degrees Fahrenheit. We have two rainy seasons—one in Ma and one in October.

" It is always healthy in the coffee-growing districts, as th best altitude for that industry is between 2,000 and 4,000 feet In this parish (Manchester) we are dependent for our water supply on rain caught in tanks."

TEA FROM SEED TO CUP IN SOUTHERN INDIA.

(By Thomas Brown, Glendale, Coonoor.)

XX.

Withering—is one of the most important of the processes of manufacture. A number of machines for the purpose have been invented ; but none, so far as we are aware of, is of any use whatever. Hot air admitted into a large and lofty room too, does a considerable amount of damage, however carefully regulated. The finest tea is made when a good wither i obtained at 70°F., and so experiments to improve the wither ing had best be tried while that temperature is maintained It will then necessarily be a very long process like the drying of tiles. If the leaf can be kept for three days withou becoming putrid, in a temperature of 70°, a very fine flavoury tea will be the result. Here is the difficulty. I appears to us as if the air must be charged with the right microbe, as in butter-making, to secure definite results, and perhaps, we shall yet see this advertized for sale in bottles as for butter ! Steam from drying tea does a good deal o damage, the leaf undergoing a stewing process not unlike that to which Japanese subject their leaf in the preparation of *green-tea*. Unfortunately, many factories are constructed so as to utilize the exhaust steam from tea driers. It is better to have this steam go clean away into the open air passing in a closed pipe through the withering room, thus using only the heat from radiation. Far better results will then be secured. If leaf on the withering tats comes in contact with steam, the effect is similar to that of the sun upon it, after it is plucked. Its power to absorb oxygen appears to be destroyed. For this reason, great care is needed in the field, the leaf being placed into covered baskets and under the shade of any tree, if it is not carried away at once to the factory. We have always worked our

withering shed to secure a temperature ranging between 70° and 85°. To secure this, not only is the exhaust pipe carried through the withering room, but a flue is also built in, and kept hot night and day. A fairly good wither is thus obtained throughout the year, each day's leaf being always ready for the rollers at 7 A.M. With the kind of rack we have arranged for (a full plan of which will appear later on), the leaf, after being weighed, is carried to the end, where the charging and discharging arrangement is, and thrown down in a heap. A boy of ten to twelve years of age sprinkles it on to the sheet, while another lad, at the other end, draws a cord over a pulley, the sheet gliding in after the cord. The work of laying the leaf to wither is thus most rapidly got through, two boys can finish 1,000 pounds in two hours, and are enough to do all the work connected with 2,000 lbs. of leaf from the time they get it from the women to the time it is delivered to the rollers. The charging and discharging takes them six hours and the cleaning up, &c., two hours. They have at times to work overtime, for which they are separately paid at the rate of three pies per boy per hour. The leaf is laid very thin in wet weather, and thicker in dry. The discharging is easily accomplished by simply drawing the sheet forward, with a shaking motion, odd leaves that adhere to sheets being removed as the sheet is drawn back. Thus the discharging is done in one-half of the time that it takes to charge. All other systems we have so far seen are expensive and unsatisfactory. Rollers to roll the sheets on do not at all answer from their liability to become deranged, and from the fact that leaf does not fall off the sheets quite so easily as is supposed. Fixed tats we do not consider advisable from the difficulty there is in getting the leaf off, and the expense of repairing. Space, too, would not be so economized as with the system we advise.

Sunlight—coming in at any of the windows must be kept off the leaf by cheap blinds that can be let down, or raised at will. If these are not provided, the leaf, in those parts where the light falls, will be found blackened. Staircases should have a trap-door, and must be kept shut, to prevent a rush of heated air up them as, if this takes place, the parts affected will be found to *over-wither and blacken.*

NOTES.

Notes from Brazil. The *Brazilian Review* of 3rd ultimo says :—Rain has fallen at S. José do Rio Pardo and pretty generally over the States of Rio and S. Paulo in some districts of which the drought threatened serious damage to the crops.

Liptonia. Sir Thomas Lipton's "racing colors" have been frequently worn of late. If they are not, they ought to be, green (for Ireland, tea and public), black (tea), silver (tin) and crushed raspberry (*vide* British Court records) arranged in streaks *à la Bacon*, not stripes.

Calcutta Tea Sales. At the Tea Sales on 10th instant, 21,916 packages were sold. A firm tone prevailed throughout the sale Common leaf teas were rather higher. All districts were well represented, except Darjeeling broken pekoes ; and broken orange pekoes are at present out of favour, and sold a trifle lower.

Transition. Thus the *American Grocer* :—"The commercial world seems to be in a transition period. Old business customs and methods are being supplanted by those which are the outgrowth of our modern aggressive and progressive conditions." Have tea and coffee-planters in India fully realised this ? We doubt it.

Ceylon Green Teas. The "Salada" Tea Company state that they have decided to "go into" Ceylon green teas, and believe there is a great future before them. They say :—"We believe, in fact, that instead of climbing a steep hill, as we have done in displacing Japan Teas with Ceylon Blacks, we have a comparatively easy path in Ceylon Greens, and propose to push them for all we are worth."

The London Tea Market. Messrs. Gow, Wilson & Stanton cabled to Colombo, on the 9th instant, that demand was running on low-priced teas. Fair liquoring Ceylon Pekoe Souchong 7d. (¼d. up), average of Ceylon teas for the week 8¼d. (⅛d. down). Reuter reported sales of 26,000 packages Ceylons out of 29,000 offered, and 43,000 Indians out of 48,000 offered. Average of India 8¾d. (¼d. down).

Ceylon's ex-Cryptogamist. A London correspondent writes to a Colombo paper :—"Mr. Carruthers tells me that Mr. Willis has asked him to join the Peradeniya staff as Assistant. He would much prefer to be independent, or at least only under the Agricultural Board ; and I think myself he would be of much more service to planters in that capacity than if a subordinate at Peradeniya, where much of his time might be taken up with routine duties."

An unexplained Discrepancy. We called attention recently to a discrepancy between the estimate (Coffee crop) of the Sao Carlos Club (1,200,000 arrobas) and that of the local Municipality (700,000 arrobas). It is now stated that the Club's estimate was obtained by summing together all the different estimates furnished by the planters themselves. If these gentlemen have overshot the mark, they have been very indiscreet.

Rubber Export from Brazil. During the first six months of 1899, says the *South American Journal*, the total amount of rubber exported from Brazil was 9,441,988 kilogrammes, of which 3,103,452 kilogrammes were sent to Europe, and 6,338,536 kilogrammes to the United States. According to quality there were 5,271,167 kilogrammes of fine rubber ; 733,288 kilogrammes of demi-fine ; 2,599,759 kilogrammes of sernamby, and 897,774 of caucho.

Tea Houses at Balmoral. According to the *Morning Leader*, the Queen intends to add one more to the list of tea-houses on the Balmoral Estate. Each of these retreats is decorated to represent some particular country. For instance, there is "India," which is furnished with bamboo and Indian matting, while "China" is decorated with the celestial emblems in beautiful colourings. The new tea-house is to be "America," and will be put up in readiness for next year. No doubt our American cousins will regard it as a royal recognition of America's claim to be enrolled in the list of tea-producing countries !

A 300 per cent. Duty on Coffee. The following telegram was lately published in New York papers :—

NEW YORK, 12th September.

"A telegram from Rio de Janeiro states that the Permanent Committee on Tariffs of the Chamber of Deputies has reported in favour of an export duty on coffee for France, Germany and Italy three times greater than the value of the article. The Custom House proposes a moveable tariff in favour of nations making concessions to Brazil.

Bolivia has accepted the rectification of the frontier with Brazil, adopting the line of Cunha to Gomez, which will avert complications."—(*Reuter*).

Reuter's service in India is at least a shade more reliable than the above !

Colombo Tea Sales. At the public sales of tea at Colombo on the 8th instant about 7,244 packages = 631,364 lbs. were offered, of which about 6,118 packages = 544,549 lbs. were sold. There was a strong demand for all leaf teas at the auction, and prices were again very firm with a hardening tendency, and other grades remained steady at about previous rates. The *Times of Ceylon* states that good invoices were offered from Agra Ouvah, Glasgow, Annandale, Nillomally, Tonacombe, High Forest, Scrubs, Penrhos, and Dunbar. By the way, the last tea sales in December will be held on Tuesday, the 19th, and the first sale in January on Wednesday, the 10th.

Sales of Brazilian Plantations. The *Jornal do Commercio* lately announced the offer of a plantation in the municipality of Sao José da Boa Vista valued at 150:000$ for the insignificant sum of 16:000$, or little more than one-tenth of its cost price. Cheap as plantations are going at present, observes the *Brazilian Review* on this, any one who expects to yet purchase at rates like these would be sadly disappointed as, in addition to the payment of the 16:000$ cash, he would probably find himself saddled with mortgages up to at least half the valuation, that is, that, in place of 16:000$, he would really have to pay 91:000$ to get a clear and unembarrassed title.

Nyasaland Coffee. The Second Annual Show of the Nyasaland Agri-Horticultural Society was held at Blantyre on Friday, the 15th September. The *Central African Times* remarks :—"Among the more noticeable features, going round the Show casually, were the large number of Coffee Exhibits in which the staple cultivation of the country was well represented. It is also worth noticing that Namasi District took the first prize for hulled Coffee and second prize for the Parchment. The coffee was from Keiller's African Trading Company's place at Namasi and had been cured and prepared by Mr. W. J. Livingstone, to whom great credit is due. Incidentally we may remark that it shows that Namasi district is not to be so lightly despised as some people imagine, and there can be doubt that, with ordinary conditions, Namasi will turn out equal to most of the planting districts of the Shiré Highlands."

Bogus Cinnamon. It was stated some time ago that quantities of a bark somewhat similar to cinnamon were being shipped from Ceylon as the real article. That there was good ground for the complaint is proved by the issue of the following circular by the Collector of Customs :—

CIRCULAR.

It having been brought to notice that wild cinnamon has been entered for export as cinnamon, it is hereby notified that from this date the description "Cinnamon" will not admitted at the Customs, and exporters must declare the b as being either "Plantation Cinnamon" or "Wild Cin mon."

The attention of Ships' Agents is requested to the rule t the description of goods in the "Outward Contents" m correspond with the description in the boat notes.

H. L. MOYSEY,
Principal Collector

H. M. Customs, Colombo, Nov. 9th, 1899.

To make good Coffee. It is about time Indian tea-plant inaugurated classes for the instr tion of the Englishwoman at Home in the art of mak good coffee. Here is a recipe that might form a basis criticism until something better is evolved. Pure coffe necessary—no chicory—either for café noir or café-au-lait. fair allowance is 2 oz. of roasted and ground coffee to a p of water for café noir ; for café-au-lait three parts of hot m may be allowed to one part of coffee. Warm the beans o plate before grinding. When ground put in a warm j and slowly fill with boiling water. Then stir well with enamel spoon for about a minute. Now let it stand, cove with a saucer, for an hour. Dip the strainer in hot wat wring out ; and slowly pour the contents of the jug throu the strainer into an enamel coffee-pot. Let it come just t boil, and it is ready for immediate use, or will keep perfe for several days. Always wash the strainer in very hot wa immediately after use, an leave it to dry hanging on a ho in the larder—never leave in the coffee-pot. Great attent should be paid to this, as a neglected strainer is enough spoil the finest coffee. A nainsook muslin strainer is bes metal should be avoided. Perhaps this may be the cause so many failures in coffee, using a metal strainer or an i perfectly cleaned muslin one.

Malaria Infection. The German Expedition, cons ing of Professor Frasch, Dr. Ko and Staff-Surgeon Ollwig, have issued a report embodying results of their investigations on the means by which mala is propagated and the most effectual methods of combati the disease. For the purpose of their investigation, the co mission, on the advice of Professor Gosio, fixed their hea quarters at Grosseto, in the Tuscan Maremma, and exten their stay from April 25th to August 1st this year. T district is a marshy one, and has long held a bad reputat on account of the prevalence of malaria. The conclusi arrived at by the commission are, says the *British and Colon Druggist*, that the two hosts of the malarial microbe human beings and certain species of gnats (the *Culex pipi* and the *Anepheles maculipennis*). The gnats, however, only active during July, August, and September, and th obtain the infective germs from persons in whose system bacilli have not been annihilated. The commission conclu that, if every person contracting the disease is properly trea by sufficiently prolonged administration of quinine, the dise could be thoroughly stamped out, as no infected persons wo remain to carry the infection over from one summer until gnats make their appearance in the next.

Tea Caravans. Russian tea-traders have recei news, says the *Leisure Hour* October, that the great caravans will shortly start on th

long journey across Siberia. Within recent years much of the tea consumed in Russia has made the sea voyage from Chinese ports to Odessa on the Black Sea, but Russians say that tea transported by sea loses much in flavour and quality. In consequence of this the largest tea merchants still continue to receive the bulk of their stock by the overland route. Early in January the caravans arrived in Tomask. Between the 1st and the 20th of the month, 19,000 sledges full of tea are expected, each sledge containing five packages of about 130 lbs. each. The tea is packed not in cases, but in stiffened ox-hides. Five sledges are tied together and drawn by one horse. The last sledge of each group contains hay and barley, which the horse of the next group quietly munches as he travels. In consequence of this arrangement, the caravans lose no time. The first horse only, who does not feed as he walks, is changed from time to time. The horses are changed in the villages along the road, but as villages are rarely met it often happens that the horses collapse from over-fatigue. The leaders of the caravan, usually Kirghiz, sleep in the sledges, although the thermometer is often 40 degrees below freezing-point. From the Chinese tea-growing districts Tomask is a year's journey by caravan.

Ceylon Tea at Zanzibar.

The following is from the *Zanzibar Gazette* :—We have decided to give this product a trial, because of the healthy appearance of the tea bushes at Miss Thakeray's shamba, Mbweni, planted by Sir John Kirk. These were pruned down in October and flushed well, bearing enough new growth in two months to form a plucking surface and leave 6 inches of pruning wood. Half a maund of Horagalla, Ceylon, Assam Hybrid, has been obtained and planted in the new nursery at Mpapa and is growing well. This should give us enough plants for six acres, planting five by five, and leave a margin for supplies and distribution. I don't think that Zanzibar will ever enter the lists as a tea-producing country, even if low-country varieties are found to flourish here, as the labour-supply is too small and uncertain. The plentiful supply of organised labour in Ceylon is one of the chief reasons why that country has taken the lead in this industry, while Natal is an example where the comparatively adverse conditions of labour have operated unfavourably. In our present unstable condition of labour, we could not do more than grow a few acres for local consumption and perhaps induce Arabs and natives to cultivate a few trees for their own use. Another point to remember is that tea is a declining market and is probably already over-produced.

Rubber Cultivation.

According to the views of Senor Horta, who has recently issued a pamphlet on "Rubber in Guatemala," the climate most appropriate for the growth of the rubber tree is that of the Tierra Caliente, or hot coast lands, at an altitude not exceeding 1,500 feet, and the trees should not be planted in the sun, although the contrary opinion is held, and has been expressed by some authorities. Senor Horta gives as his reasons for this opinion : (1) The nature of the rubber tree ; (2) experiments made in Guatemala ; (3) the fact that by planting in the shade there is complete security and a satisfactory result. Experiments in Guatemala have shown that rubber plantations in the open do not develop nor give a profitable yield, and planters have suffered serious loss on this account, not only in this country, but also in Tobasco, Chiapas (in Mexico), and in British Honduras. By planting in the shade it will always be an easy matter, if special conditions of the soil so require, to remove superfluous shelter. The yield of rubber trees has been estimated by some agriculturists as high as 3 lbs. yearly from the sixth year. Senor Horta does not consider that trees should be tapped before their ninth year, and says that, according to his personal experience, 1 lb. of rubber, say, 2½ lbs. to 3 lbs. of milk, is a good annual yield.

South Indian Teas at Colombo.

The *Times of Ceylon* says :—We have made further inquiries to-day regarding the possibility of the teas from Travancore and elsewhere in Southern India going into the Customs returns at Colombo as Ceylon produce. The teas are put up for sale in our local auctions, and in that way appear in the brokers' lists and in the Chamber of Commerce figures ; but we are assured that they do not go into the Customs returns, the transhipment warehouse figures being kept separate. *Apropos* of this subject, there was an impression abroad to-day that the employees of a local firm had been found, in the transhipment warehouse, obliterating "Travancore" on a number of chests put up for sale last Wednesday, and inserting in their place the word "Ceylon." This would have been an offence under the Merchandise Marks Act, which is embodied in a local Ordinance ; and we made enquiries at the Customs. We learn that the foundation for the rumour was that in South India the net and gross weights on the boxes had been obliterated—for what reason is not known—and that no alteration of the name of the country of production had been attempted. There are rules against the alteration of any marks, and had the Customs authorities at the port of exit in South India done their duty, it is said, the matter would have been righted there ; but this not having taken place it was remedied in Colombo. So far as the Customs authorities here are aware, this is the only case of the kind that has occurred.

GENERAL ARTICLES.

AN INDIAN AUTHORITY ON JAVA CINCHONA.

Reviewing the report of Mr. Standen on his visit to Java, the *British and Colonial Druggist* makes the following remarks *inter alia* :—

What our readers look for in a report of this kind is commercial information or scientific matter closely connected with the botany or chemistry of cinchona.

Dealing with the commercial information first, we might search the report for answers on four or five questions which would really put all the points that business men interested in bark and quinine think to be worth considering as regards Java. We might ask—

(1) Has Java any considerable stock of bark ; if so, how much ?
(2) Does the export of 1898 represent a natural year's yield of bark ; if it does not, what is an average natural crop ?
(3) Is Java extending its cinchona cultivation ; if it is, when will the result begin to be seen in the export figures ; may we expect it shortly and gradually increasing, or will the yield from recently-planted trees come upon us thick in a few years ?
(4) At what unit does it pay to cultivate bark in Java ?
(5) Are the quinine factories in Java a success and likely to grow ?

It would be a remarkable fact if Mr. Standen had supplied direct answers to these questions. Of course he has not, but to one or two his statements furnish immediate replies, whilst to others pretty conclusive answers may be constructed from the material of the report taken together with present knowledge. For instance, nothing is said as to the existence or absence of stocks of bark in Java,

but we may draw a fairly safe inference on comparing certain remarks in the report with well-known facts. In the first place, Mr. Standen tells us that he could not discover precisely what the area under cinchona cultivation is in Java, but "it is generally supposed to be about 20,000 acres." Now, the Government crop of bark, according to recent figures, averages about 300 lbs. per acre. As the Government plantations are worked in such a way that Mr. Standen regards them as a fair basis for commercial calculations, at any rate so far as the cost of bark-production goes, we may say that a crop for the whole of the cinchona district would be about 6,000,000 lbs.

Considering along with this the fact that from beginning of 1893 to the end of 1898 there were over 55,000,000 lbs. of bark exported from Java, we come to the conclusion that the annual average export of the island for these six years is over the present annual crop. Five years ago the report tells us there was a larger acreage under cultivation, and this we can well understand. . . The conclusion we come to is that an export of 1,000,000 lbs. a month is beyond the natural yield of the present crop in Java, and in this belief we are supported by a statement in Mr. Standen's report, which is independent of the present reasoning. Speaking directly of the exports, he says :—

> I am of opinion, however, that these large shipments cannot be kept up without discounting the yield of the plantations in the future, unless new land is opened to counter-balance the lower yield from ground which has been re-planted.

We have now as good an answer as can be given in the present state of our knowledge on this side, to questions (1) and (2) above. In reply to question (3), we also have Mr. Standen's distinct statement that the recent advance in bark has revived interest in cinchona planting and several new clearings have been made. But we do not know of what extent these are, though the date of this report and the period of the great rise in the unit, would fix the early part of this year as the time when planters were encouraged to extend cinchona cultivation again. If that is true, and there are other reports to justify it, the result would not begin to be seen until four years from the commencement of 1899. There is, therefore, good reason to believe that the "natural" result of this year's advance in price would not be seen in the exports of bark from Java until 1903. Even then the new plantations will, of course, not yield to their full extent for another four years. Some interesting data appear on this point.

In what has been already said there is an answer to question (4). On the fifth and last question, nothing precise can be learnt from the report, the only pertinent statement being that "the Bandoeng quinine factory has not met with the support which it deserves." In confirmation of this appears the idea of transferring the Java bark market from Amsterdam to Batavia. This may get rid of the importers as an element in the situation, but it does not go deep into the cause of the planter's weakness, which is and has been for years distrust of each other, and inability to work for anything but immediate needs.

THE CAMERON DISCOVERY.

NOTES ON THE "SPOTTED COFFEE-BUG" AND KINDRED QUESTIONS.

The following report was proposed by Mr. Mahon of the Scientific Department of the B. C. A. Administration :—

When the particulars of Mr. Cameron's discovery were forwarded to me for examination and report, it was suggested that I should write something on the subject as soon as the facts were made public property. There are a few points, perhaps, that may be briefly touched upon to some purpose.

With the descriptions and mode of life of the insect, as set forth in the pamphlet just published, I find no grounds for differing, and it does not seem necessary to repeat them here. When my attention was directed to the matter, our dry season was too far advanced for any very critical observations, as undoubtedly the insects' chief depredations are committed while the coffee berries are young and growing. Careful search in a couple of plantations, where "spotted" and "light" bean are common, failed to reveal the insect, and but little success attended a considerable hunt amongst the flowers and fruits of many native plants. This was during the latter half of July. In Mr. Cameron's company I subsequently saw the creature at work in his gardens wherever green berries were common. That the numbers seen were not great was due, doubtless, to the vigorous measures he was taking for their destruction. I observed the insect a day or so later in greater force on the neighbou Magomero estate, but I did not find it on other Nyasa plantat

At Zomba, early in August, I met with another phase of the c tures' mischievous habits which, although it did not surpri when I found it, is not mentioned by Mr Cameron. Examining beds of seedling *Coffea Arabica* (unshaded) which we raised rece I noticed the terminals and young "primaries" of many droop whilst some were killed. Presently I came on a few of the sucking these parts in other seedlings, proving them to be cause. At the same time I found a relative of theirs, as large longicorn beetle and of a dull brownish colour, who was occu in the same destructive work. He prefers to conduct operat head downwards always and resembles a fragment of dead bra or leaf at the first glance. This indicates that the planter's lance must not only be exercised over plants in bearing, but a ally from the time his Coffee germinates. My observations lead to the same conclusions as Mr. Cameron regarding the "spo bug" and its congeners being the principal cause of "spotted b and to a certain extent, of "empty" or "light" berry also. Conc ing the latter, however, I find so much of it with practically traces of external attack, that I am compelled to repeat the opi hitherto expressed, namely, that "empty berry" is due to def and want of stamina generally in the plant. But that "spo bean" is largely due to the cause mentioned above I have no do As a matter of fact, the Haustellate group of Hemipterous ins are very numerous in this country, as they are in countries pos sing similar climatic conditions, and it is necessary to wage in sant war on all of them. The sub-order *Hemiptera* of the c INSECTA contains, perhaps, the greatest pests that man and o animals, as well as the vegetable world, suffer from, and haustellate (*i.e.* provided with a *haustellum* or sucker) group the worst of an extremely bad lot. The illustration of the rav members of this group can effect in the case of a considerable digenous forest tree (*Bersama*, native name "Sekese") is inst tive. Anyone who has collected seeds of our native plants m have been struck with the very small percentage of good mat obtainable.

This is true in almost every instance. Naturally, in the cas coffee, we spread a plentiful table for the "spotted-bug" and relatives, just as we harbour and foster boring beetles (and growth of fungi) by neglecting to burn or remove every particl dead wood in a garden. For it is a rule that insects prefer to in close proximity to the feeding material they find most suita It is also true that soil constitutionally poor, or impoverished faulty cultivation, and where growth is stunted, are natural br ing grounds for insects. The fact so frequently observed young, or virgin. coffee crops are practically immune from "spo bean" coincides exactly with what entomologists point out, nam that injurious insects select sickly, stunted, or weakly plants their attack; while the preference "bug" shows for green ber is characteristic of the group which lives on green food and wh ravenous propensities are notorious: we see this in the well-kn genus *Thrips*. Planters will recollect how these latter quite foliated coffee gardens in several districts during the last month 1897. Professor Alphens Packard points out that injurious ins become suddenly abundant in newly cultivated tracts where former presence of forests, and their natural enemies, kept th under. The balance of nature appears to be disturbed, and inse multiplying rapidly, become terrible pests. In the course of t however, they seem to decrease in numbers and the former bala is restored. He also remarks that insects often have a metrop where they occur in great abundance, and, judging from the n bers of "spotted-bug" collected by Mr. Cameron this year, his pl ation would seem to be in or near a metropolitan area. Concer remedies for the destruction of this pest, I do not consider means more satisfactory than their collection by children as, fo nately, the creature is extremely easy to catch, and so are o members of the group that came under observation. It would interesting to experiment with the locust serum as it might pr effective. I feel certain, however, hand-picking, with the aid their natural enemies, will suppress them, for we have many their inveterate enemies (the lady-birds) here. I have seen examined the latter myself, while various genera and species named in the list given in Johnston's "British Central Africa."

That Mr. Cameron should have noticed the "spotted-bug" s back as ten years ago at Mandala and suspect its evil-doing is a matter of interest, and while it is to be regretted that the f

were not brought to light earlier, yet this is an instance where the adage "better late than never" is happily *apropos*. Personally, my attention never was drawn to the matter during my visits to coffee estates, and although I learned recently the late Mr. Buchanan wrote about the creature in the "C. A. Planter" of his day, yet that was sometime prior to my arrival in the Protectorate and the question, if ever it excited any local interest, had evidently ceased to be remembered. To Mr. Cameron, therefore, all the more credit is due for so effectively resuscitating it.

INDIAN AND CEYLON TEA.

Mr. Arthur E. Nicholson (an authority on Indian and Ceylon Teas) writes to the *American Grocer* :—

Leaf manipulation and manufacture in Ceylon and India is very dissimilar to the process in vogue in China and Japan. Many of the processes employed by the Chinese are quite superfluous, and several of the manual operations which bulk largely in their manufacture have with advantage been supplanted by mechanical agency. Of these may be instanced rolling. How much is gained in point of cleanliness by the employment of machinery in rolling becomes evident if the effect of the operation upon the leaf is considered. Before it will receive a good twist, the leaf must first be reduced to a soft, mashy state, and to do this the essential oil has to be expressed from the cells with which it is dotted. In Ceylon all this is done by machinery. In China the operation is performed by hand, and it only requires that process to be pictured to see that in it the leaf must derive a considerable amount of dirt and perspiration from the hands of the unwashed Mongolian.

Although it were absurd to imagine that all has been learned that may be learned in tea manufacture, the actual processes are essentially simple, and may be readily understood.

The whole object of the manufacturer is to roll, ferment, and dry the leaf ; and to this end it undergoes withering, rolling, fermenting, and firing. As soon as the leaf arrives at the factory it is taken to the lofts above and spread thinly on tats, or shelves, to wither. Withering is a preliminary to rolling. The object of it is that the leaf may become soft, limp, and flaccid, so that it may be susceptible of receiving a good twist when put into the rolling machine. Tats are usually made either of canvas or wire, through which the air can pass freely. To wither well, leaf requires light, warmth, and a dry atmosphere. In fair weather it will wither naturally in about twenty hours ; but on wet or dull days it becomes necessary to employ mechanical agency, and to act upon the leaf with artificially dried and heated air. If compressed in the hand, withered leaf folds together into a clammy mass without crackling or rebound. It may be mentioned that green leaf loses about one-third of its weight in withering, and rather more than another third in the several other processes through which it passes.

The process of manufacture commences with plucking. The bushes having been pruned and cultivated, throw out vigorous, fresh growths, and these in turn put forth shoots and leaves, called a "flush" by planters.

The plucking is done by gangs of women, who pass down between the lines of bushes, plucking the young leaves and dropping them into the baskets they carry. Their energies are stimulated by their daily pay being regulated by the weight of leaf they bring in, and they are checked from plucking old leaf by minus marks being placed against their names for any large leaf found in their baskets.

The leaf, after gathering, is placed in a withering room, where it is spread in thin layers on lattice-work shelves, and there left until the moisture is evaporated and the leaves left soft and flexible.

After withering, the leaf is run down shoots on to the rolling tables, of which there are various sorts, but the principle is the same in each, viz., two plane surfaces revolving one over the other somewhat after the fashion of millstones, but with a freer swinging action, so as to roll and not grind the leaf. The faces of both the upper and lower tables are of wood, and the leaf is rolled under sufficient pressure to give it the desired twist without breaking it.

FERMENTATON.

The process of rolling having broken open the leaf cells facilitates the chemical change which follow, and which are grouped together and termed "fermentation" by planters for want of a better name. These changes are very obscure, and have not been determined by competent chemists. So far as appearances go, the most important one is oxidization. The leaf on being taken from the rollers is still more green than any other colour. In this stage it is spread out with the rolling machine, and soon assumes a copperish brown colour, due to oxidization. It is then put through the next stage.

FIRING.

The "fermented" leaf is spread upon trays and passed into closed machine, of which there are several patterns. But, as in the rollers, the principle is the same in each, viz., to fire the tea by exposure to a suitably regulated current of hot air drawn through the machine by means of fans. This process corresponds with "pan" and basket firing ; but the firing in modern factories does not allow the leaf to be subjected to the direct heat of the fire, and the temperature can be regulated to a nicety to attain the end without destroying the essential qualities of the leaf.

SORTING.

The final stage has now been reached, the whole process after the leaf is withered occupying less than two hours with modern machinery. Up to this stage, all the leaf, as brought in by the pluckers, has been treated together, but as each of the leaves and the bud represent different qualities and different values, they have now to be separated. This is done by means of graduated sieves made to oscillate by means of a pulley. The "tip," in varying proportions, with some of the leaf nearest to it, makes Orange. or Flowery Pekoe, of proportionately varying values. The small leaf makes Pekoe, with which a small quantity of "tip" remains ; the large leaf makes Souchong, and the mixture makes Pekoe souchong. Broken Orange Pekoe, etc., are simply the broken leaves of their respective qualities, and are preferred by some consumers. In the sorting process some dust and fannings are also separated.

In former years, when Congou tea was made in India, these leaves and the bud used to be plucked, but the Congou leaf is now left on the bush and helps the growth of the more valuable young flush, which spring from its axil.

When sufficient tea has been collected to form a "break," it is re-fired at a low temperature, to get rid of any moisture, absorbed from the atmosphere, and packed at once in lead-lined boxes, when it is ready for the market.

TEA, ETC., COMPANIES.

The Wynaad Tea Company, Ld.—The following is from the report to be presented at the fifth Annual Meeting of shareholders, to be held at No. 20, Eastcheap, at the office of the Ceylon Tea Plantations Company, Limited, on Monday next :—

The directors, in presenting to the shareholders the profit and loss account and balance-sheet for the year ending March 31, 1899, wish to explain that the reason the accounts are for eleven months only, is due to a request made by the managing director in India that the financial year in future shall finish at the end of March, instead of the end of April as heretofore. The working for the past season has resulted in a net profit of £728 2s 9d, after crediting the block account with the proceeds of tea sold from the Cootacovil Estate ; this profit the directors propose to write off the debit balance of last season. The coffee crop turned out fully 51 tons, and was the largest gathered for some years, and the directors were fortunate in having sold it at the high figure of 78s. c. i. f., before the great fall in the value of coffee took place. The pepper crop of about 14 tons was also sold for arrival at the satisfactory price of 45s 6d per cwt., whilst the first pluckings of tea, *viz.*, about 15 lbs., from the Cootacovil estate from the 1895 plantings, realised an average of 7½d. per lb. The net proceeds of tea, coffee, and pepper during the season 1898-99, after deducting proceeds of Cootacovil tea which has been carried to block account, amount to £3,957 2s. 7d. and the expenditure in India to £2,413 11s. 7d., leaving a credit balance of £1,543 11s. on the season's operations in India. The manager in India reports condition of the estates as most satisfactory, and that the tea leaf is coming in so fast that further machinery for rolling and firing is necessary. He expects to obtain more than his estimate of 78,000 lbs. for the current season. According to present appearances, Mr. Walker estimates this season's coffee at 18 to 20 tons, and the pepper crop at about 20 tons.

The prospects for 1900-1 are so promising that the directors confidently look for a yield of about 150,000 lbs. made tea, and a coffee crop of about 40 tons, whilst the pepper crop is likely to be quite equal to this season's yield. but, of course, these are only estimates which may be influenced favourably or otherwise, according to the weather. The directors have much pleasure in stating they have now completed arrangements with Messrs. R. and J. Henderson, of 7, Mincing Lane, E C., to finance the company as from April 1 last. These gentlemen have also undertaken to subscribe for the balance of the £8,000, 6 per cent. debentures not taken by the shareholders. The directors and Mr Walker have subscribed for £500 each. and the shareholders are now given the opportunity of securing a good 6 per cent investment with the option of turning their security into 10 per cent. preference shares any time prior to the date of repayment of the debentures. The acreage under cultivation remains the same as last year. Dr. Inman retired from the direction during the early part of this year, and according to the articles of association, Mr. J. C. Sanderson retires from the Board, and being eligible, offers himself for re-election.—*H. & C. Mail*, Oct. 27.

The Ceylon Land and Produce Company, Ld.—has a profit of £123,000. The directors propose a dividend of 15 per cent., and 5 per cent. bonus, making 20 per cent. for the year, and carrying £4,000 to Reserve.

The Central Tea Company of Ceylon, Ld.—pays 6 per cent.

The Neboda Tea Company of Ceylon—pays an interim dividend of 3 per cent.

The following dividends have been declared :—

Ceylon Land and Produce Co., Ld.—12½ per cent.

Lanka Plantations Co., Ld.—4 per cent.

Central Tea Company of Ceylon, Ld.—6 per cent.

THE PREVENTION OF COFFEE-STEALING.

At a meeting of the Legislative Council of Fort St. George, on the 14th instant, the Hon'ble Mr. Gabriel Stokes introduced a Bill to amend the Madras Coffee-Stealing Prevention Act (VIII. of 1878). We take a report of the proceedings from the *Madras Mail*.

The Hon'ble Mr. G. Stokes said :—

With Your Excellency's permission, I will now move, under Rule 34, that the Coffee-Stealing Act Amendment Act be read in Council. Under the rule the Council must discuss at this stage only the principle and the general provisions of the Bill. The principle of this Bill is the same as that of the Coffee-Stealing Act, and its general provisions merely supplementary to the latter. The Coffee-Stealing Act aims at the repression of coffee stealing by bringing the purchase, possession and removal of coffee under regulation. The present Bill adds nothing to its provisions as to removal, but it supplements them on the other two points. The necessity for this Bill arises in this way: while the original Act of '78 forbids the purchase of coffee or its receipt from any labourer, and in all cases requires that the particulars of purchase be recorded, it leaves the grower who sells coffee entirely uninterfered with. The owner of a coffee estate may sell his coffee and receive it without any question, and it is this freedom which has rendered the Act largely inoperative and it is this lacuna, which this present Act is designed to fill. Under the Act the definition of a coffee estate is "any land on which coffee is growing;" hence the squatter on the side of the road who owns a few coffee bushes is free of all interference. But these men are, and have always been, receivers of stolen coffee. That the Select Committee in the Act of 1878 should have overlooked this result is very surprising; for it is plain from the remarks of the Secretaries of the Planting Associations printed in para 151, Enquiry Committee's Report, that all the receivers in the Wynaad were then as now owners of coffee estates within the definition. It is, therefore, now proposed to amend the Act by applying to the growers of coffee in regard to their sales much the same provisions which already apply to purchasers under the Act. To the honest seller of coffee, as to the honest purchaser, these provisions need cause no anxiety or concern, but they will deprive the dishonest seller of the cover behind which he has largely sheltered himself hitherto. The provisions of the Act as to the purchaser, and of this Bill as to the grower who sells coffee, derive their efficacy from the fact that if a man's transactions are not honest they will not bear scrutiny, and that the honest man will neither fear nor resent effective scrutiny. Experience has shown that to make the machinery for this purpose of the existing Act as well as that of the proposed Bill effective it is necessary to take powers to require the grower who sells coffee as well to keep the books, etc., and to furnish the returns requisite to enable his transactions to be examined and to permit such examination. The necessary powers are given in the 7th Section of the Bill. There remains only one other point to notice. Under the existing Act, the onus of showing how he came by it is imposed on any labourer employed on a coffee estate found in possession of green-gathered coffee. In the Bill it is proposed to extend this provision as to possession to "parchment" and "cherry dried coffee" also. The reasons for this proposal are set out at length in paras. 170—172 of the Report of the Planters' Enquiry Committee which is in the hands of the Members of the Council, and it is unnecessary that I should recapitulate them. This amendment is embodied in Section 6 of the Bill. The motion which I have to make is that the Coffee Stealing Act Amendment Act be read in Council.

The Hon'ble Mr. Hodgson, in seconding the motion, spoke as follows :—

Your Excellency,—Perhaps few Bills to amend existing Acts that come before this Council have been subjected to as careful a preliminary investigation as this Bill to amend Act VIII. of 1878. I do not propose to go into the history of the defective making of the Act, or of the numerous appeals for its amendment. Sufficient to say that, as soon as it was made law, the defects became apparent, and appeals for its amendment have dated from the year 1878, one year after it became law, to the present time. The Madras Government, the District officials, the Police officers and the Planters have been aware of the necessity of amending the Act, and finally the Committee of Enquiry appointed by the Supreme Government have, after taking evidence from every side, advocated the amendments now before the Council and which form the basis of this Bill. The Bill does not introduce any new principle into the Act—the principle of the necessity of special protection for coffee having been thoroughly discovered and proved before the Act was passed in 1878. In the preliminary "interpretations," if you turn to the Act, you will find "coffee" defined as "all coffee not roasted or otherwise prepared for immediate consumption." And this definition is adhered to in the various Sections till we come to Section 9, when, for some quite unexplained reason, we find "coffee," confined to the definition of "green-gathered coffee." Now in the first place what does "green-gathered coffee" mean. Speaking as a planter who ought to know, I could not tell you. Does it mean green in the sense of fresh gathered; in which does it include "parchment" into which form the "cherry" is changed immediately after picking, and which is also therefore fresh gathered, or does it only mean the green, immature berry before it is ripe? In the first place, the definition is unnecessarily vague and in the second case you have the absurdity of protecting the coffee only in its immature stages, when it is of little value and utility to be stolen, and of having it unprotected exactly at the time when from its odour and the nature of the operations required for its curing it is specially liable to theft. This can hardly have been the intention of an Act, the whole sense of which is in the protection of a special product abundantly proved by the opinions of collectors and experts residing in coffee districts to need such protection. Why such an innovation in definition should have been introduced into this particular section, the operation of which is confined by its wording to employees on estates only, it is difficult to understand. It seems to me that in this particular Section, if anywhere in the Act, it was necessary to retain the wide definition given in the interpretation, and that had the words "green-gathered" been entirely omitted from the Section it would have been more consistent with the principle of the Act. I need not say, after what I have already said before, that I entirely support the insertion of the words "parchment or cherry dried" after the word "green gathered," though I cannot help thinking that the omission of the word "green gathered" from this Section would have been a better way of effecting the desired result. The other provisions of the Bill are to impose on sellers on coffee estates the duty of keeping registers of their transactions in the same way

buyers are obliged to do under Sections 5, 6 and 7 of the Act. I presume that owners of estates are the only persons who could possibly object to such extension of the powers of the Act, and the District Planting Associations have unanimously agreed to accept it. In para. 175 of the Enquiry Committee's Report, you will see it stated that there was "evidence to show that receivers of coffee almost always have a few trees, which they use as a screen under cover of which they can carry on illicit trade" and Mr. Fawcett gave an instance. From my own personal experience, extending over many years, I can state that this is only one of hundreds of similar cases, and that receivers nearly always protect themselves as this man in Vayitri did. The extension, therefore, of the powers of Sections 5, 6 and 7 to sellers, as proposed in the Bill, will greatly assist the Police in the detection of fraudulent transactions and will greatly increase the effective working of the Act. These are some of my reasons for supporting the Bill.

The Hon'ble Mr. Vijayaraghava Chariar, in supporting the motion, gave a brief history of the legislation. From feelings of admiration and sympathy and also from motives of dim self-interest, he supported the motion. The success of the persistent agitation to obtain special laws on the part of European planters was pregnant with lessons for Indian politicians and was fraught with hopes; whether the hopes were to be realised in the near future or distant future was another question. He suggested that now that the old law was to be amended, steps might be taken to omit from it two objectionable Sections, *viz.*, the one relating to the infliction of corporal punishment, and the second relating to the awards of rewards to informants. It was desirable to expunge the first Section inasmuch as corporal punishment had come to be looked upon as a barbarous thing in itself, and, with the advance of enlightened ideas, they had ceased to use it as an instrument of discipline even in the Army. It was very doubtful whether in the interests of planters and coolies the provision relating to flogging should be retained. As to award of rewards to informants the system had been condemned as demoralising.

The motion was then put and carried.

The Secretary then read the title of the Bill which, on the motion of the Hon'ble Mr. Stokes, was unanimously referred to the following Select Committee:—The Hon'ble the Acting Advocate-General, the Hon'ble Mr. C. Jambulingam Moodelliar, the Hon'ble Mr. H. P. Hodgson, the Hon'ble Mr. F. A. Nicholson and the Hon'ble mover of the Bill.

TEA IN NEW SOUTH WALES.

Referring to the store of Mr. James Inglis, of Sydney, whose business has lately been converted into a Joint Stock Company, the *Clarence and Richmond Examiner* says :—

During a recent trip to Sydney we were privileged to be piloted through the extensive works by the genial ex-Minister himself. We were astounded to find such a busy hive of industry in such unpretentious-looking quarters. Down below in the extensive cellars are casks, and bins, and hogsheds, and cases full of the rarest wines and the most matured liquors. On the various floors are piled huge stacks of chests and half-chests and boxes of the fragrant teas of China, the strong aromatic growths of India, and the rich golden-tipped leaf from the far famed isle of spices.

The largest distribution of tea in Australia is directed from this enormous and well-selected stock.

The spacious tasting room, with its burnished brass kettles merrily steaming all the day; its rows of natty little tasting cups and pots; its tiny heaps of tea samples, spread on the black tables in seeming disorder, yet all of which undergo a most careful scrutiny by a trained staff of experts; and the walls hung all round with the most beautiful and complete collection of photographs, showing every detail of tea growth and preparation, forms a complete object lesson in itself, and is of surpassing interest from a commercial education point of view. The bustling din from the packing rooms mingles with the merry chatter of pleasant voices, as the girls deftly pack the fragrant blends into the well-known packages that are everywhere the delight of tea drinkers throughout Australia.

A busy hum comes from the machinery upstairs, where all day long many operations necessary to prepare the enormous daily output of the business are conducted. On the various blending floors as much as from two to three tons of tea are frequently spread out at one time, and the flashing shovels of the blenders gleam, as one may have seen in a great malting house. Here, too, driven by machinery, we come on the familiar printing press, for the firm does all its own printing, and turns out monthly publications, advertising sheets, labels and wrappers, amounting to some millions in the course of a year.

On the opposite side of the lane three or four American mills revolve with a merry rattle, and here the operations of coffee roasting and grinding. In another large apartment are stacked large shipments of shooks of Japanese boards, cut into the proper lengths in Japan, and brought down from there swathed in bandages of rice straw, and here several carpenters are engaged in making the myriads of boxes and crates that carry the popular preparations of the company to all parts of the compass. This is the only instance in which local products are not used, the local timber not being suitable for tea-packing.

The whole place is indeed what we have called it, "a typical hive of industry," and it is with more than ordinary pleasure that we commend the busy firm to the suffrages of our readers and wish long success and still wider demand for

THE FAMOUS BILLY TEA.

THE TEA INDUSTRY.

The social power of a cup of tea finds its highest expression in the Cha-no-yu of the Japanese, its reflection in the 5 o'clock tea of the English, and a suggestion in the dull ceremonial visits of Americans. The magic influence of the infusion of the famous plant has spread from the East across seas and land in spite of edicts, anathemas and taxes and ingratiated itself, first, with kings and queens, then, by royal favour, with the nobility, slowly, as its cost was lessened, with the people, until to-day it is a favourite beverage in the United States, Great Britain and Russia, where admiration for the leaf is almost as much of a passion as in China and Japan. The Samovar and the tea-pot are as typical of life under the Czar and the Queen of England as the tea-kettle is indicative of life under Japan's Emperor or the Empress of China.

Somehow the earlier generations of New Englanders and Virginians were greater devotees of tea than their descendants, whose per capita consumption has been less during the past thirty years than it was when the wrath of the colonists over a century ago, at being taxed without representation, led them to toss tea into the Atlantic, or in other ways destroy the leaf.

The total tea trade of the United States does not amount at wholesale to $20,000,000. And yet few articles engage greater attention or have a more marked interest for the purveyor than tea. The average net imports into the United States during the five years ending June 30, 1899, was 88,642,849 pounds, of which China supplied 54.22 per cent., Japan 39.82 per cent., India, Ceylon and all other countries the balance.

Thirteen years prior to the advent of the *American Grocer*, in 1869, the first invoice of Japan tea arrived in the United States. Its popularity grew amazingly fast until now it equals three-fourths the quantity received from China. To-day, however, the machine-made tea of India and Ceylon bids fair to repeat the history of Japan tea. In 1892 the first of these teas was received, and slowly but surely the demand has grown until now 14,000,000 pounds reach the United States and Canada.

Across the Atlantic our English cousins have about driven out China tea, which in 1837 constituted the entire supply. In 1887 India and Ceylon furnished 51 per cent. of English requirements, while in 1898, out of a total import of 235,414,105 pounds, India and Ceylon furnished 215,902,096 pounds. During the last ten years Australia has displaced 50 per cent. of the imports from China.

In March, 1869, the bark *Formosa* landed 7,800 half chests of Formosa Oolong tea, the first ever received. They were shipped by Mr John Dodd, an Englishman, who was the pioneer in the Formosa tea trade. The island at that time was almost entirely in the hands of savages. Mr. Dodd first visited the island in 1862 and found the tea plant growing wild—the trees from eight to ten feet high with leaves about four inches long. He carried the leaves to Amoy, China, where the tea factors ridiculed the idea of making tea from such plants.

Mr. Dodd, however, had faith in his ability to succeed in cultivating the plant and in 1866 he sent to this country sample lots of the most delicious Oolong tea ever received here. The tea was

cultivated on virgin soil and was very different in flavour from that produced in the old gardens of China. The entire first cargo was sold to the trade for from 85 cents to $1·00 per pound. The next year the finest Formosa brought $1·30, the importers realizing a profit of 60 per cent. on their venture.

From the plant *Thea sinensis* are derived all the various sorts of tea known to commerce. The illustrations tell better than words the appearance of the leaf and the appearance of a tea plantation during the picking season; the characteristics of the pickings. Peasants in picturesque dress are adepts in plucking the tender leaves from the ends of the shoots, which are conveyed from the field in baskets. The field master, tally book in hand, keeps record of each picker's work. The leaves are taken from the field by the natives, who carry a poke on the left shoulder with a basket of leaves suspended from each arm.

TEA—ITS COMMERCIAL VALUE.

The price of tea in primary markets is determined by flavour, aroma, style of leaf, the strength, body and colour of the infusion. Differences in leaf are due to either natural or artificial causes, or both. Natural causes influence flavour rather than style or appearance. Variations in the character of soil and climate cause variations in the character of the tea leaf, and it is these differences which lead to the distinction between teas grown in different sections of the same country.

Artificial causes change the appearance or style of the leaf, and affect flavour. These are curing, firing, colouring and manipulation, whereby colour is changed or artificial flavours imparted by the use of other sorts of tea upon some one distinctive sort. As consumers are influenced wholly by appearance or flavour, dealers waive the consideration of the physiological value of the leaf as determined by chemical analysis.

The aroma of tea is due to the presence of a minute quantity of essential oil, which is more or less affected by the curing process, and which also causes change in the quantity of tannin. It is volatile, so that great care is necessary in order to preserve aroma. Fermented or black teas, such as the Oolong, Souchong and Congou of China growth, have less of tannin than unfermented leaf. It is also claimed by chemists that fermentation retards the solution of tannin and other extractive matters.

There is no relation between the commercial and chemical estimate of tea, as is proven in the elaborate tables of analysis of the teas of commerce, made by Joseph F. Geisler, Ph. D., published in the *American Grocer* (October 23, 1884), and in Prescott's "Organic Analysis," (pages 504—512).

Artificial flavour is given to the leaf by the use of aromatic flowers, such as the blossoms of the orange tree, jasmines, *Gardenia florida*, *olea fragrans*, *Magnolia fuscata*, *Chloranthus inconspicuous*, *Illicium anisatum*, *Prunus mume*, *Daphne odora* and various sorts of roses.

The scenting of tea is quite an art, and one at which the Chinese are adepts. The flowers to be used are mixed with the prepared leaf, and left for a day, when they are removed by sifting, fanning or picking, after which any acquired moisture is removed by drying. The scent grows stronger after the tea has been packed, and is retained by the leaf for a year or longer.

The distinctive character of teas having an obnoxious natural flavour cannot be hidden or removed by the use of scented tea, the addition of which would probably make an inferior tea worse rather than better. The leaf is also very susceptible to moisture, and is very sensitive to foreign odours, which are readily absorbed.

The tea of China is divided into two sorts, viz., black and green, they, in turn, divided into a general classification of sorts or grades, and again sub-divided as to their place of growth and manner of curing.

Taking green, we find them designated after the districts as Moyune, Tien-Kai, Fychow, Taiping, Pingsuey, and formerly, Canton, which latter designation has fallen into disuse in this country. These sorts are again divided as to their quality and appearance, into Gunpowder, Hyson, Young Hyson, Imperial Hyson-Skin and Twankay.

The black is a general designation for three classes—Congou, Souchong, Oolong. The Congou family is a large one, but little used in the United States, and less to-day in England than a few years since, being displaced by India and Ceylon teas.

Adopting an English classification we have the Congou divided into three sorts—Black Leaf, Red Leaf, and Tayshan, or new make. The Black Leaf are again divided into Moning, Ningchow, Oopack, Oonfa, Siangtam, Kiukiang, Cheong-sowkie, Hokow.

Red Leaf is designated as Kaisow, Chingwo, Pakling, Ank Saryune, Amoy, Flowery Pokoe. The Oolongs are known as F mosa, Amoy, Ning-Yong, Koken, Padre, Foochow.

We might class the Pekoe with Oolong, but many put them i group as scented tea, and classify as Scented Orange Fooch Scented Orange Cantons. There is also Scented Caper.

We have only outlined the general or common names, becau they have changed greatly and are liable to change.

As an instance of the great variety, let us take the Oonams belonging to the black leaf sorts, and they are called Oonfa, Cheo Sow-Kie, Siangtam, Li-ling, Low Yong, Pon-Kiang, Nip-Kar S Wunki, Yang-low-see, etc.—*American Grocer.*

RECIPES.

To Destroy American Blight and other Plant Lice.—The use carbon disulphide is recommended, the affected places being da ed with a rag tied to the end of a long stick. The application m be repeated every eight days. A simple method is to sprinkle t affected parts with diluted petroleum. No ill-effects have, so f been noticed from this treatment. A dilution of 1 litre of pet leum to 4 or 5 litres of water may be used as long as it is conti ally shaken up. The process of extinction can only be consider complete, when every trace of the bluish-white web, in which t insects are enveloped, has been destroyed. Autumn is the b season for waging the campaign, when the trees are bare; later, spring, the bluish-white web disappears, and the pests are th scarcely discernible. It is useless to attempt their destructi unless it can be done thoroughly, as the smallest remnant l multiplies to an alarming extent.

Destruction of Phylloxera—Bordeaux mixture is rapidly prep ed as follows:—Water, 90 litres, is put into a wooden or earth ware vessel, and copper sulphate, 2 kilos., dissolved in it; 700 g to 1 kilo. of freshly-slaked lime is mixed carefully with 10 litres water. This is gradually added with continual agitation to the c per solution; a turbid blue mixture results, which becomes clear standing. If still blue, more milk of lime should be added until t solution is quite colourless. Sprinkle the vine with this solutio The solution destroys the phylloxera, but has no lasting effect, that the application must be repeated several times during t summer.

Petroleum Emulsion.—Train-oil soap, 2·25 kilos, is dissolved 45·4 litres of boiling water, petroleum, 2·25 litres, is added, and t mixture diluted to 227 litres with hot water. Wash or spray wi the lukewarm solution.

Krueger's Petroleum Emulsion.—Black soap, 250 gm., is dissol ed by boiling in 4·5 litres of water, and petroleum, 9 litres, is add when the soap solution is removed from the fire. The fluid is th agitated well for 10 to 15 minutes.

Nessler's Remedies for American Blight.—(1) Soft soap, 40 gm amyl alcohol, 50 gm.; methylated spirit, 20 gm.; water, 1 litre. Soft soap, 30 gm.; sulphurated potash, 2 gm.; amyl alcohol, 3 g to water, 1 litre. (3) Soft soap, 15 gm.; sulphurated potash, 29 g to 1 litre of water.

Destruction of Rats.—(1) Precipitated barium carbonate, 100 g and tartar emetic, 1 gm., are mixed with baked flour and glycer in 2 gm. into boluses, which are fried brown in hot fat. (2) Gypsu 2; oatmeal 750; flavoured with anise oil. (3) Plaster of Paris a sugar, equal parts. The mixture is spread on a plate, and expos near a vessel of water. (4) Crushed bitter almonds, 60; lard; tre squill bulbs, equal parts, (5) powdered almonds mixed with arse answer well.

Rat Cakes.—A bulb of squill is cut into thin slices, dried a mixed with sugar, flour, and a little salicylic acid. Make i cakes with glycerin and with sugar, and expose them by the side the water.

Moth and Caterpillar Lime.—Venice turpentine, 200; resin, 1,0 turpentine, 140; tar, 80; lard, 500; rape oil, 240; tallow, 200. Resin, 50; lard, 40; stearine oil, 40. (3) Resin, 3; rape oil, 4; la 2; soft soap, 1; wood tar, 1. (4) Resin, 36, rape oil, 36; Veni turpentine, 20; wood tar, 5; turpentine, 3 parts. Paint the mixtu while warm on strips of paper laid smoothly on the tree-trunk abo a yard above the ground. This should be done at the end October, or the end of November, to prevent the females of t winter moth from climbing up the trees. (5) Instead of abo mixture, cart-grease may be used. (6) Mix melted resin with cru rape oil to form a mass of sticky consistence.

INDIARUBBER IN QUEENSLAND.

The following, from the *Brisbane Courier*, will be of interest to some of our readers :—

"The news from Cairns that a number of local men are arranging to begin operations in the manufacture of indiarubber is important. The raw article can be obtained from indigenous trees in the shrub, and is said to be of first-class quality. What is perhaps more important, the supply is inexhaustible. One of the chief values attaching to the recent New Guinea concession was the practically unlimited quantity of rubber there obtainable. To find, therefore, that a similar condition of affairs exists within easy distance of a port like Cairns is to say the least encouraging. Then, as regards the industry itself, its outlook is as bright as it possibly could be. The marvellous demand for bicycles of late years has given an immense impetus to the rubber trade. Indiarubber being also a highly perishable article is another important factor in the question of supply and demand. The demand will always exist, so the supply must be kept going. There is one consideration, however, which these Cairns men will find obtruding on their notice sooner or later. That is the question of chief labour in collecting the article. This must be considered when it comes to competing with others. In New Guinea, for instance, labour is cheap and on the spot. Here in Australia we have practically none of this native labour. The nearness to a port for shipment may counterbalance this advantage which New Guinea rubber traders would derive from a handy labour supply. Our Department of Agriculture has during the year been trying by a series of articles to direct attention to this industry. Its progress will be watched with much interest. It will also place another string on the Cairns bow in raising that town into a place of much importance in the future."

A NEW PACKING MATERIAL FOR FRUITS.

The *Gardeners' Chronicle* says :—

An interesting experiment has just taken place in the matter of packing fruits in the colony of Victoria for shipment to England.

As is pretty generally known, apples and pears are now brought from the Cape of Good Hope and from the Australian colonies in boxes holding a bushel, which are stored on boardship in cool chambers. These chambers, or refrigerators, have been provided by the steamship companies at a considerable outlay of money. The fruits are merely wrapped in tissue, and placed in the boxes.

Under this system, apples have for the most part come very successfully; but pears have been less satisfactory. Occasionally, there have been pears from the Antipodes that have reached this country in a sound condition, but numerous consignments have proved to be of little value, and the commission-agent is never able to speak of such fruits or to gauge their value until they have been unpacked. The freight per bushel from Victoria to London for apples or pears so packed and stored on boardship in cool chambers is 3*s*. 9*d*.

Such are the circumstances of the present system, and the amount of freight paid for passage.

And now for the experiment, for intelligence of which we are indebted to Mr. J. B. Thomas, a well-known fruit salesman in Covent Garden, to whom the fruits, which have been the subjects of experiment, were addressed.

Instead of packing the apples wrapped in tissue only, in the case of several bushels that have recently arrived in London by the S.S. *Wakood*, a quantity of asbestos or a preparation of this substance has been used. The fruits were wrapped in tissue as formerly, and afterwards embedded in the asbestos, each fruit being perfectly surrounded by this substance. Upon unpacking the case, the asbestos appeared to be caked, but it was easily broken up, and then appeared almost like flour. We should suppose, therefore, that the fruits would be airtight under such conditions, and this will account for the fact that as we saw them they were perfectly sound, and in excellent condition, although five months had elapsed since they were packed in the boxes. The apples were grown by Mr. J. R. Warren, Mount Alexander Orchard, Harcourt, and Mr. J. M Ely, Rosehill Gardens, Harcourt, both large Victorian fruit-growers. They were packed and brought to this country under the direction of Mr. Geo. Pontin, Church House, Yapton, Sussex. The apples were gathered and packed previous to May 5 last; but, owing to some objection, we believe, on the part of the steamship companies, there was a delay of two months or more before shipment, and even then they travelled by the Cape route. The companies, naturally perhaps, object to the introduction of a new system of packing fruits that may render unnecessary the cool chambers that have cost so much money to provide. But such objections will, no doubt, be overcome, and if a syndicate be formed, as is now proposed, the system will be given a conclusive trial. The new system, should it answer to expectations, will possess several advantages. The fruit may then be stored in the "hold" of the ship, and the freight per bushel-case will be 6d. instead of 3s. 9d.; but as the packing material will displace a quantity of the fruits in each package, it may be well for present purposes to describe the future freight of the fruit a 1s. per bushel.

It must be remembered also that the asbestos is a valuable material in England, and it will be sold here to as much advantage as will the apples. The result will be that the asbestos and fruit would be brought to England for less money than is now paid for the fruits alone. The apples will travel as well or better, and it is thought they may be preserved after arrival here for weeks if necessary, providing that the cases be not opened in the meantime. And, beyond the other considerations, it is hoped also that Victorian pears by this system may be placed on the English market without much risk of loss by decay.

REFORM IN THE TEA TRADE.

When a well-known dealers' organ, such as *The Produce Markets' Review*, attacks current London charges on tea, and urges dealers and importers to bring about a reduction, its words must be of considerable interest to planters. Our contemporary's criticism is severe, and, though its arguments are somewhat lengthy, we make no apology for quoting the whole of its remarks in full, for there is food in them for very careful thought, especially at a time like the present, when the subject dealt with is prominently under the notice of the various Associations that represent the tea industries of India and Ceylon.

The *P. M. R.* says :—

DOCK CHARGES.

Some time back we printed a short comparison of the charges made by the London Docks and Wharves upon Tea, especially upon Indian Tea as compared with Indian Coffee. We now append a fuller table of the charges on each, calculated so far as possible upon the same basis, and it will be seen that a ton of Tea costs £4 0s 2d, and the same weight of Coffee costs only 17s 2d, or less than a quarter of the charge on Tea.

DOCK AND WHARF CHARGES ON INDIAN TEA IN LONDON.

Charges on one ton of Indian Tea landed and sold at public sale, taking 20 chests to a ton :—

	£	s	d
Landing and Housing Rate, 1s 6d per chest ...	1	10	0
Public Sale Charges, 4d per chest	0	6	8
Bulking and Taring each chest, 2s per chest ...	2	0	0
Thirteen weeks' rent, ½d per chest	0	10	10
	4	7	6
Less 10 per cent. ...	0	8	9
	3	18	9
Weight Notes	0	0	8
Warrant Stamps	0	0	9
	£4	0	2

NOTE.—The Landing and Housing Rate comprises: Landing, wharfage, housing, separating into chops, weighing, average taring, furnishing landing weights, examining and turning out and in for damage, mending, laying down for private inspection, lotting, nailing down, placing in delivery pile, and delivery by land.

DOCK AND WHARF CHARGES ON COFFEE IN LONDON.

Charges on one ton (16 bags) Indian Coffee, for the same period as Tea, sold at public sale.

There are no charges for arranging Coffee for public sale.

	s.	d.
Consolidated Rate, including bulking and sampling, 8½d. per cwt.	14	2
Sorting and Lotting, 1¼d. per bag	1	8
* Seven weeks' rent, 6d. per ton ...	3	6
	19	4
Less 12½ per cent. ...	2	5
	16	11
Warrant Stamp ...	0	3
	17	2

If there is no bulking done the consolidated rate is 6d. per cwt.

The Consolidated Rate includes: Landing, wharfage, weighing, gross, mending, housing, or piling, accounts of landing weights, original warrants, * six weeks' rent free; weighing on delivery, and delivery.

Lest it should be thought that the comparison with Coffee is of an exceptional nature, we have compiled the following table, showing what the charges are for the consolidated rate on other articles of grocery produce, and it will be seen from this how enormous is the surcharge upon Tea:—

CONSOLIDATED RATES PER TON ON VARIOUS GOODS COMPARED.

	s.	d.
Indian Tea (placed on about the same basis) ...	56	0
Coffee	14	2
Refined Sugar	4	6
Currants	7	6
Valencias (½-boxes)	12	0
Tapioca	8	6
Rice	3	9
Salmon (in tins)	4	0
Sardines	5	6

It seems to us impossible to account for the extraordinary difference in the charges upon tea, except on the supposition that an antiquated system of business has lasted longer than in any other goods, owing to the absence of competition, and of modern methods of trading in tea. Thirty years ago, the wholesale price of tea in bond, on the average, exceeded 1s. 9d. per lb, while it is now less than 8d.; and, probably, if we went back sixty years, the difference would be still more striking. Yet, as compared with the charges of a generation ago, we believe the dock and wharf rates on tea in London to be, if anything, higher than they were then.

TEA BONDED WAREHOUSES.

It is always said that competition is the life-blood of business; but if so, the tea warehouses are in a bad way, for there is no competition whatever between them. A good many years back the system of secret discounts to importers was introduced, which was responsible to a very great extent for the cutting down of the wages, which led to the great Dock Strike of ten years ago. The system of discounts is in itself a most objectionable one, for there can be no object in sending a bill for £100 and on a subsequent occasion returning £10 or £25 out of it, unless it be that the original invoice is intended to be forwarded to some one who is not to receive the discount. After the Dock Strike, the dishonest nature of the system became so apparent that the Dock Companies felt themselves obliged to publish their discounts in their rate books, so that the Tea growers, when they sent Tea to this market, could have an opportunity of seeing that only the proper prices were charged to them. The publication of the discount, however, was with the condition that it should not be given away, so that beyond the Tea planters knowing that they are charged 10 per cent. more than their agents really pay, there is no gain to them in the publication, as is the case with similar pickings in freights and insurance charges.

TEA CLEARING HOUSE.

In order to bring about greater fixity in the charges on Tea a sort of Trade Union was formed, at the time we speak of, between the importers, the warehouse-keepers and the wholesale trade. By this arrangement a Clearing House was established, which somewhat facilitated the daily work of getting Tea through the Customs, and the members agreed, first, that they would only buy Teas lying at specified warehouses, and secondly, the warehouse-keepers agreed that they would only charge certain rates, allowing a discount, first, off the importers' charges, and secondly, off the dealers' charges in both cases on the conditions that these discounts should n given away. The Board of Customs was also brought upo scene, and has since practically refused to fully license new Tea warehouses, so that, as a matter of fact, it is practically i sible at the present moment to obtain a new bond for the ware ing of Tea in London.

The result has been unsatisfactory, though at the time we tended, because the object was to protect the minimum wag the dock labourers. This combination has now clearly be injurious owing to the changed circumstances of the case. distributor can no longer afford the enormous charges made, the whole trade, whether importers or wholesale or retail d butors, recognise that the cost of distributing Tea is enorm out of proportion to that of distributing any other article of gr produce. After carefully considering this question, we can arrive at the conclusion that this state of things is due simp tradition, and that simplification and much greater cheapnes possible in dealing with tea.

CUSTOMS RESTRICTIONS AND SUPPORT OF THE COMBINE.

The first step towards modernising the tea trade is to ob greater elasticity in the Customs regulations. In the first p what reason exists for insisting that the duty on tea shall on payable at bonded warehouses? It is obvious that this at limits the trade to those happy warehouse-keepers who were parties to the tea-clearing warehouse scheme. So far as we judge, there is no reason whatever why the Customs should gladly welcome the payment of duty on tea over the ship's sid is (we are told, but we do not know) the practice with other g A covering amount should be paid as the cargo was put over lighters, and an officer should then attend at the destination o tea (at the cost of the owner, of course) and collect the balan any be due, or return it if the duty be overpaid. To the com cial mind it appears that this would be an obvious gain to Revenue; but the authorities, on the other hand, appear hith to have thought it more advantageous to insist on tea being w housed—to take charge of it in detail, and to look after each p cular chest for months and years at a time. It is quite clear until our present restricted tea warehouse system is broken thro our Indian and Ceylon planters will not have a fair chance in matter of charges. They should at once bring pressure public bear on the Customs, to insist on sufficient new bonds being gra to ensure free competition in tea warehousing—at prese highly profitable monopoly.

The *Investors' Review* has lately shown in a series of articles largely the planters' agents in this country are interested as ow or shareholders in tea warehouses, and therefore in the mainten of the present system. The matter will thus be a difficult on fight, more especially as the wholesale tea trade have also bec interested, through the discount system, in the maintenance o existing plan. We think, however, they are open to reason on matter, for their gain from this source is absolutely trivial w compared with the complications and high cost of the syste selling tea, which are rendering the wholesale tea trade so diffi

WEIGHT NOTES AND WARRANTS.

Apart from warehouse charges in themselves, there are m details in the working of the trade which are quite of an except and unnecessary character. There has been no change in number of packages entered upon a warrant since the time that was three times its present price, and this seems simply abs The old system was to have six chests upon a warrant, and present proportionate document, therefore, should have placed it eighteen chests or thirty-six half-chests, as representing the mer value of a much smaller number of packages. The warra Tea is still accompanied by a weight note, a system which has given up in every important branch of the grocery trade, thou is still kept up in some minor commodities such as spices. issuing of a weight note, of course, means that the work in con tion with Tea is done twice over, for which there can never been any reason that we can see, but which is, at any rate, a si waste of time and of money at the present moment. We are a that the weight note in its present form is considered to be ne sary as a security for the deposit paid on the purchase of We are not, however, aware that any particular sanctity is atta to the deposit system in itself, as it also has been abandone the large grocery trades. Supposing it, however, to be contin security might readily be given by a coupon attached to the

rant. The weight notes are not only unnecessary in themselves, but they embody an immense number of equally futile details. For instance, they give full import particulars in excessive detail, either in writing or printing, which also appear on the warrants. In addition to this, the weight note is supposed to bear three separate signatures, and often does so, and it then forms a separate contract for the sale and purchase of each six chests, being signed by all the parties. In addition to this, each weight note works out, in detail, for every six chests of Tea, the weight and price at so much per pound. From this result the deposit is deducted separately, and the lot money, 4d., is then separately added to the total. The weight notes give the particulars of the country of origin of the Tea, the name of the importer, the date of importation, the variety of Tea, the name of the ship, the name of the captain, the port of origin, the name of the selling broker, the date of sale, to whom the warrant is issued, the date of the prompt and of the commencement of rent. Several of these particulars are repeated twice over upon this valuable document—the weight note—though they all appear on the warrant also. What could be more childish and absurd than all this? There is no doubt that a very considerable economy in money may be effected by enlarging the number of packages on the warrant and by abolishing the weight note altogether. This is a simplification which forms, in our opinion, the initial step towards the cheapening of the distribution of Tea. To those accustomed to modern systems of trading, the weight note appears simply a farcical, though unfortunately a costly, absurdity. If the Coffee trade can be conducted with the utmost ease without such documents, why cannot the same be done with Tea?

DELIVERY ORDERS FOR CLEARING.

Further great simplification might be caused by using delivery orders for clearing and delivering Tea, as is done in other trades. There is, however, a considerable practical difficulty in this matter in the case of Tea. Many years ago Mr. Gladstone, as Chancellor of the Exchequer, in one of his great Budgets freeing trade from Customs imports, unfortunately made a detailed change which has worked a great deal of mischief, by imposing a penny stamp on delivery orders for goods issued on warehouses where rent is taken. Tea at that time was delivered in great detail to the retail buyers, who kept stock in bond in London, often for long periods, in the charge of the wholesale dealers. This system still continues, and the quantities in which Tea is cleared are proportionately smaller than is the case with other articles of grocery produce. Representations were made to Mr. Gladstone as to the injurious bearing of the penny stamp on delivery orders in the case of Tea, and it was agreed that the warrant stamp of 3d. should, as a compromise, cover all deliveries made on the face of that document. It has been argued over and over again at the Board of Inland Revenue, that the stamp having been paid on the warrant as a compromise for separate deliveries, a penny stamp should not be required when separate pieces of paper are used for delivery orders, instead of the deliveries being written off on the warrants themselves. The authorities at Somerset House, however, held a different opinion, and it has not been considered worth while to go to law to test their right to make the charge, though it appears to be very doubtful. The result of this is the maintenance of an extremely complicated system in the clearing of Tea. The warrant, with the order to deliver, written upon it, has to be lodged at the Clearing House, from whence it is sent on to the wharf, and subsequent to the delivery of the Tea, the warrant is returned to the Clearing House, from whence, in due course, the wholesale dealer fetches it back. The delays and expense caused by this little obstacle to business, devised by the perverse ingenuity of our Revenue departments, are inconceivable to those who have been accustomed to the broader, easier, and far cheaper system used with all other grocery goods. If it were not for this stupid piece of obstruction on the part of our Government to a rational system of delivery, there would be no necessity whatever for such an institution as the Clearing House, and the home trade would not only move as smoothly again but be conducted at much less cost.

DELAYS IN GETTING WARRANTS.

The warrants and weight notes are not only obsolete and obstructive in themselves, but there is a quite objectless delay in obtaining them. In all other trades that we know of payments for warrants as they are required are made to the actual holders of the documents. A notice is sent them in the morning that such-and-such warrants are required. They are at once sent on by hand to the applicant, and handed over in exchange for a cheque. In Tea, this is not the case, and endless loss of time and temper results. The importers should do one of two things: either trust their brokers with their warrants if they cannot manage the details themselves, or else accept direct payments. There can be no doubt that the second is the proper plan to adopt, and it is surprising that the wholesale Tea trade have not long since insisted on the removal of this great hindrance to business. It is true that a poor compromise was adopted some years back, by which it was arranged that, when payments were made to the brokers before noon, the brokers would procure the warrants from the merchants by 2 P.M. This plan constantly leads to a day being lost in the delivery of Tea, to the loss of both the wholesale and the retail buyers. We are, of course, fully aware that one cause of these delays is the fact that such a large proportion of warrants are pawned by their holders. When they are their own property there is no more objection to this than to any other legitimate pawnbroking operation. But when the pawners are not the owners of the goods other considerations arise, and after the sale of Tea, the original owners have no more right to leave it in pawn than they have to mortgage some one else's house.

THE PUBLIC SALE SYSTEM.

The system of disposing of Tea almost exclusively by public sale lends itself to much criticism. It will be seen above that the cost of arranging Teas for public sale is no less than 4d. per chest, so far as the docks and wharves are concerned. For the work done, the charge is not out of the way, but the question is whether the whole system might not be greatly simplified and more closely approximated to other cognate trades. First, there is the payment to the brokers for the hire of rooms, and for the printing of the catalogues, and for their distribution, often to a very unnecessary extent. Tea catalogues are printed in a different way to those current with other groceries. We do not know whether the system of printing and the sort of paper is more or less costly, but this deserves looking into. There is one very obvious source of waste in Tea catalogues, which are often very small documents, but in which two pages are always given, first for the names of the brokers and rough particulars, and next for the conditions of sale, which are given in full in every catalogue. These particulars it is surely unnecessary to print in every catalogue in detail, especially when, as they often do, they take up from 20 to 50 per cent. of the paper used. The catalogues are not, it is true, in such minute details as was the case years ago; but it is questionable whether this does not still admit of a great deal of simplification.

The brokers' charge for public sales, in addition to their brokerage, is 9d. per lot of six chests. It would be interesting to compare this with the public sale charges on other Mincing-lane produce, and the materials could easily be collected. On 2,00,000 chests a year sold publicly, 9d. for six chests represents a cost of £11,000.

A great deal of the work connected with catalogues is due to the separation of the Teas into miserable little lots, which are supposed to be of different qualities, though the Teas are very frequently all plucked at the same time, from the same bushes, and on the same gardens. Owing to the inefficient appliances in India, Indian Teas have, as a rule, to be rebulked in London, and while this operation is being conducted, we feel sure it would be in the interests of everyone concerned—planters, importers, and dealers alike—to put an end to these separations, and to make larger breaks for one average sort of Tea. The cost to the wholesale trade of distributing these trifling lots is out of all proportion to the profit to be obtained upon them. Probably the old days when China Teas reached us in breaks of 300 to 600 chests, which could be judged of by a single small sample, will never return, but the Indian Tea trade will never be in a satisfactory condition until a minimum parcel of one quality should be represented by quite 100 chests. This cannot be done till Teas are bulked at the gardens, and so tared that each chest does not require to be turned out here for separate taring, at an enormous cost to the grower, which only entails unnecessary labour on the home trade, with no advantage in return.

HUGGER-MUGGER AUCTIONS.

The system of sampling the public sales on the part of the trade is a very cumbrous one. In other businesses the samples are on show in the broker's sale rooms, but that is mostly in the case of commodities where elaborate tasting is not so essential as it is in the case of Tea. It has been suggested that it would be more convenient if the public sale samples were sent

round to the trade in time for the sales, by the bonded warehouse-keepers and payment taken for them at some average price, or so many pounds of "returns" given. At present the whole number of the representatives of the wholesale dealers attend at the different bonded warehouses, and the supply of the separate samples to them creates an immense amount of expense and of waste of time We do not suggest this as a definite solution, but only as one that might be considered, now that the new Tea Buyers' Association is engaged in going into all such questions As it is, the time allowed the trade for valuing is quite insufficient, and only the largest houses can cope with the samples, and then only hurriedly. The interests of growers must often be seriously affected by this excessive haste.

As we pointed out some time back, it appears certain that much of the present great depreciation in the value of Tea, as compared with former years, is due to the system of unrestricted public sales. Whether the Teas are or are not wanted, they are pushed upon the market in constantly increasing quantities, and fall to a dead level in price in consequence, because it is not worth while for anyone in this country to stock more Tea than they can possibly help. It is our firm conviction that what the Indian Tea planters have been long trying to do, that is abolishing what they erroneously call the Mincing-lane monopoly, is the source of half their troubles. In former days, when the varieties and qualities of Tea were far less than they are now, it was worth the while of an intermediate class, acting as merchants here, to buy up suitable Teas, and to wait for markets, so that the prices were equalised At present this class of dealers practically confine themselves to hand-to-mouth purchases, for they can always get plenty of supplies at auction, and there is no reward whatever for holding larger stocks than are sufficient for a few days' trade. So far as we know, there is no other article whatever, which taste and fancy so largely enter into, which is sacrificed in the same way as Tea is, in this hugger-mugger without reserve system. In years past we have strongly advocated public sales for Tea, as the only way to fix values, and to this we fully adhere, if they are supplemented by large private transactions, conducted in a more leisurely way. The Indian and Ceylon trade can never be on a satisfactory basis until the public sale system is largely supplemented in this fashion.

BULKING AND TARING IN INDIA.

We alluded above to the great cost inflicted upon the Indian planters, through the necessity for bulking and for separately taring their Teas in this country. Some progress has been made with regard to bulking abroad, but it is inconceivable here why the system has not become universal Years ago we heard the old excuse about the dampness of the climate and the difficulty of keeping Teas; but if the facts are as alleged, the difficulty can easily be remedied by such simple appliances as hot water pipes. Then again as regards the taring of the Teas, the smaller gardens no doubt have to rely on rough native labour, and this is given as an excuse for the chests not being cut to scale The excuse seems to us totally insufficient, and we can only ascribe the continuance of the existing system to ignorance. In these days when metal chests can so easily be obtained, as well as the beautifully made "Venesta" and other artificial wood chests, uneven tares seem simply inexcusable. It pays our Sugar refiners to import ready-cut wood for such a cheap commodity as theirs, and when a single manufacturer requires 40,000 or 50,000 cases a week of the size of a tea chest, it surely would be worth the while of Indian planters to import either the "Venesta" packages or wood cut in proper shooks from other countries, in places where the native labour and the appliances are so defficient as they appear to be in a vast number of cases The planters also go far to necessitate rebulking in this country by the excessive subdivision of their Teas into different sized leaves. This can only be effected by a costly system of sifting, in addition to the exposure of the Tea to friction, which breaks a large portion of the leaves, and turns them into comparatively waste dust or broken leaf. We have long held that the planters would do far better to buy a reasonable-sized grocers' bulking and cutting machine, and then make much larger breaks of an average quality. The cost would be less, and, we believe in the long run, the relative price would be higher

INCREASING PRODUCTION, LOWER PRICES, AND THE ARTIFICIAL RUPEE.

The production in India, Ceylon and Java, is consequently increasing, for the fresh plantings are year by year coming into bearing. Even if another Tea plant were not planted for the next five years, the increase would still continue from previous sowings. The consumption of Tea in this country has reached its limit, s the next great consuming country—the United States—uses o something like one-sixth of what we use, and is at present grea wedded to the flavoury China Teas. The same is the case Russia, and, although we hope and believe, that Indian and Cey Teas will really make their way in both these countries, demand cannot be important for years; its progress is not qui and the increasing supplies must therefore continue to deluge t market. The action of the Indian Government in artificially fixi the exchange value of the rupee at the rate of 1s. 4d, when intrinsic value of the coin is something about 11d. is also m injurious to the Indian Tea planters. In these depressing time must to a large extent tend to ruin our own growers, or to div the trade to the common Tea of China, because China, owing to unrestricted exchange for the dollar, enjoys an advantage of 2d every pound of Tea. While the possibilities of economies in trade are great, we fear that the possibilities of decreasing pri are even greater, so that the question should be actively taken hand. It is, therefore, obviously to the interest of the whole tr to take up Tea reform in earnest It is possible that the result the coming depression will be the extension of something like Central Factory system. If so, the small gardens would cease manufacture Tea, and would sell the green leaf to the larg operators, who can work better and more economically than small growers. This is the system which long usage has est lished in China, and it is already beginning in India. These lat changes, however, are matters for the future, and the pres necessity is for a simplification and modernisation of the Tea tra such as will greatly reduce the present unnecessarily high cost distribution.

CONCLUSION.

In the above remarks we have given a short outline of the m changes required whether at home or abroad, for it matters lit which section of the trade is benefited so long as expenses can lessened. The necessity for reform must come home very forci to the producer, in consequence of the present great depression values. It is true that, for temporary reasons, very common T have recently very considerably advanced, but we do not thi that this can possibly last for long with the supplies coming f ward. If it do so, and the price of common Indian Tea is ma tained, we shall shortly be swamped with common China Cong which will bring prices once more down to a lower level. If th is no hope for a rise in the price of Tea, but rather a strong prosp of a further fall in it, the only way to save the planters from r is economy in production and distribution. The mixture of two branches of the trade in the above remarks is apparent and real, for we hold that the whole Tea trade is organised far expensively, for the present scale of prices, and that economies cost in any direction will benefit all sections alike.

DISTRICT ASSOCIATIONS.

SHEVAROY.

PROCEEDINGS OF A MEETING of the Committee of the Shevaroy Pla ers' Association held in the Victoria Rooms, Yercaud, at 1 p. m., Monday, the 6th November, 1899. PRESENT:—Messrs. W. J. Lech Thurston Short, Rev. M. Anderson, Messrs. C. Rahm, C. G. Lech S. B. Nicholson, Rev. J. M. Kempf, and Mr. R. Gompertz (*Chairm and Honorary Secretary*).

1. Notice calling the meeting was taken as read.

2. Read circular 89/99 from the Secretary, U. P. A. S. I., *re* exhil ing and selling Indian Coffee at the Paris Exhibition, and enquir what our Association is prepared to contribute towards the expense

Resolved, that the Secretary, U. P. A. S. I., be informed that t Association is prepared to subscribe Rs.200 towards the expenses advertising and dispensing Indian Coffee at the Paris Exhibition, p vided that other Associations will subscribe in proportion

3. *Read* letter from Mr. Leeming returning £4-8-0 from the s sent home to him to purchase books.

Resolved, that the best thanks of the Association be conveyed Mr. Leeming for the trouble he has taken and for the excellent sel tion he has made of books likely to be useful to members.

4. *Read* letter No. 6426 of 30th ultimo, from the Surgeon-Gene of Madras, saying that Assistant Surgeon Pope was not likely to

moved from Yercaud, except under great emergency, and suggesting that the President of the Local Board should be addressed with a view to obtaining, in addition, the services of a hospital assistant and compounder.

Resolved, that this letter should be discussed at the next meeting.

Read and *Recorded* the following letter:—

73/U. W. Circular from the Secretary, U. P. A. S. I., forwarding copy of a letter from the Vice-Chairman of the U. P. A. S. I., urging that Government should be requested to grant some assistance to Coffee at the Paris Exhibition, as it has acted so liberally with regard to Tea.

74/U. W. Letter from Dr. Geo. Watt regarding his method of travelling during his tour through the Wynaad Coffee District.

76/U. W. Circular from the Secretary, U. P. A. S. I., forwarding copies of letters from the Secretary, London Chamber of Commerce, regarding the "*Adulteration of Coffee*"

78/U. W Circular from the Secretary, U. P. A. S. I., forwarding letter from Mr. Ralph Tatham of Tellicherry, regarding "*The Improvement of Coffee.*"

79/U. W. Circular from the Secretary, U. P. A. S. I., forwarding letter from the Secretary of the Indian Tea Association, regarding "*Tea Statistics.*"

9/B Letter from Rev. Father Bruyere resigning the S. P. A., but stating that his successor will join in his stead.

80/U. W. Circular from the Secretary, U. P. A. S. I, forwarding for the information of the S. P. A. an extract from "*Dr. Watt's Tour.*"

The following papers were laid on the table:—

Planting Opinion (4 copies), dated 7th, 14th, 21st and 28th October 1899.

Produce World (2 copies), dated 4th August and 1st September 1899.

Agricultural Ledger No. 8 (Oxon).

Supplementary Report on some "corundum" localities in the Salem District (2 copies).

Proceedings of the Nelliampathy Planters' Association.

Do. Travancore do.

YERCAUD, *7th November*, 1899. } (Signed) R. GOMPERTZ, *Chairman and Honorary Secretary.*

INDIAN TEA ASSOCIATION.

ABSTRACT OF PROCEEDINGS OF A MEETING of the General Committee, Calcutta, 31st October 1899.

Letters of 22nd and 29th September and 6th and 13th October, from Mr. Ernest Tye, Secretary, Indian Tea Association, London, were brought up, after previous circulation, for final consideration. The principal matters to which Mr. Tye referred in these letters were:—

(*a*) *Bonded Warehouse charges in London.*—With his letter of 22nd September, Mr. Tye enclosed copy of a letter, dated 21st September, addressed by the London Committee, to the Tea Clearing House Committee, in reference to this question. In this letter the London Committee laid stress on the onerous nature of the charges levied upon teas by the Warehouse Proprietors, and strongly urged that substantial reductions should be made. In his letters of 6th and 13th October, Mr. Tye referred at length to the General Committee's letter No. 561-O. of 13th September, in which the whole question of the warehouse charges was fully discussed. He stated that a Special Sub-Committee of the London Branch of the Association had been appointed for the purpose of negotiating with the Tea Clearing House Committee with a view to a reduction of charges. The London Committee had also considered the question of the organization of opposition warehouses on the principle of co-operation. It was pointed out that this principle had been adopted for some years by several of the largest London Tea Companies, who had subscribed capital for the purchase of Butler's wharf. Other warehouses might be established on the same principle; and possibly a license might be granted by the Customs' Authorities if the combination were sufficiently strong to guarantee, say, two hundred, or two hundred and fifty thousand chests. If the warehouse were not in a position to offer the facilities provided by the Tea Clearing House, there would be a difficulty with the tea trade; but this might be met by either purchasing or hiring one of the existing Bonded Warehouses. If, in raising the requisite capital, the amount subscribed by each shareholder was approximately in proportion to the quantity of tea sent by him to the warehouse, the rates could be fixed on any scale, because it would be the same thing to the shareholders whether they received the benefit of their co-operative working in the shape of low charges, or as a return in the shape of profits. Companies selling their teas in Calcutta would, however, be unable to control the warehousing of their produce on arrival in London. Precautions similar to those taken on boardship to prevent contact with other produce have to be taken in the warehouses. This necessitates separate buildings; consequently a warehouse which could depend upon a full supply of tea would be at a considerable advantage compared with one which could only utilise a portion of its tea space and could get no return from the balance. For this reason the London Committee believed that some of the existing warehouses had difficulty in working to a profit.

The question was considered by the Committee and the Secretary was directed to address the London Committee again in regard to it, urging them to bring matters to a definite issue. In this letter attention was to be drawn to the suggestion made in the General Committee's letter of 13th September that a scheme for establishing co-operative warehouses should be formulated in London, an enquiry was to be made as to whether it was proposed to devise such a scheme, and it was to be recommended that this should be done.

The Secretary was also directed to write (in continuation of his letter No 569-O. of 14th September) to the twenty-six Calcutta Tea Companies named in the proceedings of the meeting held on 5th September. In this lettter the remarks made in the letters from the London Committee were to be incorporated, and it was also to be stated that they were again being addressed on the subject in further reference to the establishment of co-operative warehouses.

Considered letter No. 4491-T., of 27th October, from the Director General of Telegraphs, in reply to the Committee's letter No. 611-O., of 10th idem, in regard to telegraphic news for the mofussil. With the last named letter, the Committee forwarded a letter of 2nd October, from Mr. J. Buckingham, C.I.E., the chairman of the Assam Branch, suggesting the establishment of a regular system of wiring the latest telegraphic news to Assam. Mr. Buckingham estimated that at least 40 stations in the Assam Valley alone would be only too glad to avail themselves of the opportunity of getting the latest telegraphic communication provided they had not to pay deferred rates. He proposed that for all telegrams conveying English or Indian news, "press" rates only should be charged This proposal was supported by the Committee in their covering letter.

In his reply the Director-General of Telegraphs stated that he was not empowered to grant the concession asked for. He, however, drew attention to rule 109 and footnote, Section II. of the Telegraph Guide. He pointed out that under that rule if in any district served by a telegraph office, whether by hand or postal delivery, four subscribers combined, and desired each to be provided with a copy of a private telegram containing a summary of news, the cost to each subscriber would be practically the same as that of a telegram addressed to each subscriber at press rates. If more than four subscribers desired copies, the cost to each would be less than press rates. Such telegrams would have to be drawn up and sent by an agent independent of the Telegraph Department.

The Secretary was instructed to forward a copy of this letter to Mr. Buckingham with a request for his opinion upon the proposal referred to by the Director-General of Telegraphs and asking whether the Committee could do anything more in the matter.

MARKET REPORT.

[*Per Mail Advices of 27th October* 1899.]

COFFEE.

The London Commercial Record says:—The improved demand reported last week has been maintained, the market closing with a firm tone Larger supplies of East India have been offered than for some time past, and with a good general competition nearly all was disposed of at full to rather higher rates, notwithstanding that the bulk consisted of faded qualities Nyasaland sold in holders' favor. Other descriptions have also been in demand at prices in favor of sellers, Guatemala appreciating 1s per cwt. A large

business has been transacted in "futures" at fluctuating rates, and at the close December Santos shews a decline of 1s per cwt for the week *viz.*:—

London ...	Santos ...	December delivery ...	28s. 9d
New York ...	No. 7 Rio...	„ „ ...	5·10 cents.
Hamburg ..	... Santos ..	„ „	29½ pf.
Havre ...	... Santos ...	„ „	... 35 francs.
Holland ...	... Good ordinary Java ...	...	... 29 cents.

Imports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899	1898.
Tons ...	20,743	18,374	42,059	40,853
	Home Consumption.		Export.	
	1899.	1898	1899.	1898.
Tons	13,515	11,559	22,231	20,611

	Tons.
The preceding figures exhibit—	
In the Imports an increase this year of	1,206
Home Consumption an increase of ...	... 1,956
Export an increase of...	1,620
Stock an increase of	... 2,369

Auctions this week have passed off as follows:—

CEYLON.—*Plantation.*—Of 14 casks 1 barrel offered only 1 lot bold blue sold at 89s.

EAST INDIA.—4,354 bags partly sold as under: *Coorg*, smalls 33s 6d to 41s, low middling to middling 41s to 51s, foxy to fair colory bold 51s to 64s, good blue bold 74s to 80s, pea-berry 54s to 87s; *Mysore*, smalls 33s to 39s. low middling to middling 38s 6d to 49s 6d, bold 50s to 62s 6d, pea-berry 44s to 66s 6d; *Naidoobatum*. smalls 37s, low middling 42s to 44s 6d bold 47s 6d to 50s, pea-berry 49s; *Neilgherry*, smalls 38s, common bold greenish 40s, pea-berry 50s; *Nilliampathy*. low middling brownish 41s to 41s 6d, pea-berry 57s; *Wynaad*, common bold 48s, fair colory 54s to 65s, bea-berry 52s 6d.

MOCHA.—23 half-bales withdrawn.

NYASALAND.—56 bags sold—smalls 36s, middling 45s 6d, bold 58s 6d, pea-berry 56s.

AFRICAN.—*Liberian.*—16 bags good bold bright yellow sold at 33s.

JAMAICA.—16 barrels sold—fine fine ordinary greenish 39s.

COSTA RICA.—Of 701 bags offered 270 bags sold ordinary to good ordinary greenish 31s to 37. fine fine ordinary to low middling 39s to 46s, middling grayish 52s 6d, pea-berry 32s 6d to 49s 6d.

GUATEMALA.—1,215 bags sold—smalls 24s 6d to 37s. low middling 41s 6d to 43s 6d, middling 48s, good middling 50s to 51s, good bold blue 68s to 70s, pea-berry 46s to 68s.

NICARAGUA.—280 bags sold, fine ordinary to low middling 38s 6d to 41s, pea-berry 43s to 46s.

SALVADOR.—1,035 bags sold—good to fine ordinary 35s 6d to 38s 6d fine fine ordinary 39s to 39s 6d, low middling to middling 41s to 44s 6d, bold 48s 6d to 52s 6d, pea-berry 33s 6d to 35s 6d.

MEXICAN.—263 bags partly sold—smalls 30s.

COLOMBIAN.—1,952 bags mostly sold—smalls 28s to 41s, good ordinary dull pale 34s, low middling to middling 42s to 48s, good middling 49s to 57s 6d, fair to good bold 59s 6d to 75s 6d, fine to extra fine 81s 6d to 95s 6d, pea-berry 46s 6d to 69s 6d.

Receipts in Rio and Santos.

Since July 1	1899-1900. Bags.	1898-99. Bags.	1897-98. Bags.	1896-97 Bags.
Rio ...	1,506,000	1,331,000	1,864,000	1,442,000
Santos ...	3,494,000	2,807,000	3,301,000	2,423,000
Total ...	5,000,000	4,138,000	5,165,000	3,865,000
Crop	—	8,772,000	10,461,000	8,680,000

Rio Exchange 7 3/16d, previous day 7 7/32d.

HAVRE, Oct. 26.—Santos good average October opened quiet at 35f and closed steady at 34½f.. December opened at 35½f. and closed at 35f.

HAMBURG, Oct. 26.—Good average Santos October opened quiet at 29¼pf. and closed barely steady at 29pf.. December opened at 29¼pf. and closed at 29¼pf.

NEW YORK, Oct. 25.—Closing prices of No. 7 Rio were as follo

	Oct.	Nov.	Dec.	Jan.
Oct. 25 ...	4·95	4·95	5·15	5·20
Oct. 24 ...	4·95	4·95	5·10	5·15

Prices realized at auctions for some of the principal mark

East India:—

COORG.

	1	2	3	PB
Mangles Santagherry	71-6	43-6		—
Mountain do. Allicutty ...		43-0	—	53-0
Do. Santagherry	51-0	38-6	—	44-0
Kadambile Estate Coorg	57-0	42-0	31-6	53-6
	bid			bid
Matheson's Coorg Cotta Betta .	63-0	43-6	37-6	73-0
Do. Wos Margoli	58-0	43-0	39 0	65-0
Do. Savira Butty	51-0	42-0	36-6	55-6
		41-6		
Do. Woshully	57-0	43-0	37-6	66-0
Do. Kanambaddy	57-6	43-0	36-6	61-0
		42-6		
Do. Dodda Betta	74 0	49-0	41-0	77-0
Do. Kembety Cadu ...	64-0	46-0	39-6	68-0
		45-6		
Do. No. 1 Chickenhully	64-0	45 6	38-6	78 0
Do. Pala Kerry	62-0	42-6	35-0	67 0
Hamilton's Peramboo Betta Coorg	60-0	43-6		58-6
N Monappa ◇ Betta Kerry Coorg ...	59-0	42-0	33 6	55-0
	A	B	C	PB
CS Moornaad Coorg	50-0	41-0	—	—
	bid	bid		
Colvondra Silverhill Coorg ...	50-0	39-6	—	—
Santi Coopa IM	76-0	49-0	38-6	81-0
Do. do.	80-0	51-0	40-6	87-0
	79-6			

MYSORE.

	0	1	2	PB
Cannon C◇ Mysore	50-0	38-6	33-6	50-0
5◇ Channahadloo Mysore... ...	46-0	—	—	—
Yester Mysore	44-0	38 0	—	—
	43-6	37-6		
Merthi Cannally Mysore	46-0	38-0	—	—
	46-6			
Leslies Mysore	47-0	34-0	—	—
	46 6			
Norvayhegude Mysore	60-0	43-0	—	—
	A	B	C	PB
Mysore $\frac{T}{P}$◇ WC	43-0	38-0	30-0	48 0
	bid			
Kathlikhan Mysore (Cherry) ...	—	42-6	—	43-6
Rungiahs Mysore	61-0	45 0	39-0	66-6
	bid		38 6	
			37-0	
MECo. Kelagoor Mysore (Cherry) ...	46-6	39-0	34-0	44-0

NEILGHERRY.

	A	B	C	PP
Louisiana Nilgiris . ..	57-6	43-0	39-0	51 0
AGN◇ Glenburn Nilgiris...	44 0	37-6	32-6	43-0
Do. Hallacarry Nilgiris ...	42-6	38-0	33-0	40-0
Do. do. do. ...	46-0	41-6	35-6	43-6
Craig Lamont	—	45-0	—	—
		bid		

NELLIAMPATHY.

	1	2	3	PB
OCC Victoria	51-0	40-6	—	56-0
	bid			
Do. (cherry) ...	40-0	—	—	—
	42-6	—	35 0	41-6
Wallia Warum	61-0	—	41-0	57-0
	bid		bid	

WYNAAD.

	1	2	3	PB
Arbuthnot	40-0	34-0	31-0	—
Walker's Estates Touramulla Cherry...	26 0	25-6	—	
Nedikarna Liberian	30-0	16-0		
Avondale Nellakotta	50 0	41-6	—	
	bid			
Clifton do.	48-0	41-0	—	—
	bid	bid		

		1	2	3	PB	T
Prospect		48-0 bid	42-0 bid	38-0	45-0 bid	—
Muslicoodie		51-0 bid	39-6 bid	—	—	—

NAIDOOBATUM.

	1	2	3	PB	T
Seaforth Naidoobatum	54-0	40-6	—	52-6	30-6
		B			
Tulloes WPC		41-6			

TEA.

CHINA.—A steady trade at recent values is experienced. At auction 3,126 packages have been offered and mostly sold as follows:—Old season's: Formoso Oolong 6½d to 6¾d; new season's: Moning 6½d to 7d, Pekoe Congou 6¾d, Lapseng Souchong 6½d to 6¾d, Penyong 6¾d, Foochow Scented Orange Pekoe 9¼d, Scented Caper 6½d to 7d per lb. Green Tea:—Gunpowder 8¼d to 1s 1d, Imperial 3⅝d to 7½d, Foong Mee 10d to 1s 0¼d, Hyson 3⅝d to 6¾d, Young Hyson 4½d to 5d per lb.

INDIAN.—The quantity offered was slightly under that of the previous week, totalling 46,200 packages *versus* 48,300 packages, while for the corresponding period of last year the amount was much heavier, *viz.*, 53,400 packages.

An improved tone apparent for desirable liquoring teas of most descriptions, which as a rule sold fully up to former rates. For common kinds there was also a brisk demand, very little Pekoe Souchong selling under 6¼d per lb. Medium grades seemed to be in over-supply, as bidding for them was somewhat languid and a large portion (particularly from Calcutta purchases) was withdrawn. Finest tippy parcels continued to be in request, and some high figures were paid for them. Among the results for the best invoices were, Assam:—Budla Beta Estate, BBTCo., 145 packages, 1s 2d; Hattialli Estate, J(A)TCo., 137 packages, 1s 1¼d; Nahor Toli Estate, AADTTCo., 87 packages, 1s 0¾d; Pabbojan Co., 116 packages, and Hokungoorie Estate, AFTCo., 149 packages, 11¾d; Powai Estate, OT&LCo., 117 packages, 11¼d per lb. Darjeeling:—Risheehot Estate, 52 packages, 1s 3¼d; Poobong Estate, 151 packages, 1s 2¾d; Monteviot Esate, 44 packages, 1s 2¼d; Balasun Estate, DCTCo., 100 packages, 1s 0¼d; Cedars Estate, 70 packages. 1s; Gopaldhara Estate, 90 packages, 11½d per lb.

For 36,300 packages on estate account 8⅜d per lb. was obtained, contrasted with 8⅜d per lb. for 37,500 packages, and 9⅛d per lb. for 34,500 packages in the two preceding seasons respectively.

Total printed for the month (including what is declared for Monday, 30th instant):—

1899.	1898.	1897.
230,300 pkgs.	238,600 pkgs.	187,300 pkgs.

making in all 572,000 packages, or, say, 50 million lbs. of the crop disposed of, being almost identically the same as to the end of October a year ago.

Telegrams from Calcutta state that at the auction held there on Tuesday 24,000 packages passed easier, except for common, which was firm. Broken Pekoes declined ½d per lb., and good Pekoes ¼d to ½d per lb.

CEYLON.—Rather less was brought forward, the sales aggregating 21,900 packages, against 25,200 packages in the week before, and 20,000 packages at this time in 1898. Prices ruled on the parity of recent quotations for nearly all sorts, common and finest being especially enquired for. Medium, both Leafy and Broken, were not so much sought after and occasionally went in favour of buyers. Choicest Broken Orange Pekoes again received attention, the following being noticeable:—Talawakelle, 1s 8½d; Ingestre, 1s 6¼d; Troup, 1s 5d; Cranley and Venture, 1s 4¼d; Yoxford, 1s 3½d; Lippakelle, 1s 3¼d per lb.

The average is the same as the 19th instant, *viz.*, 8d per lb. At this date in 1898 it was 8½d per lb.

JAVA.—A varied selection from some of the favourite gardens, comprising a little over 2,000 packages, were included in the catalogues and met with spirited competition, the tendency on the whole being dearer. At present nothing further is advertised.

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns are, *viz.*:—

	Lbs.
From 1st to 24th Oct., 1899	16,208,091
Do. do. 1898	14,580,124

During the week the following have been printed for sale by public auction:—

	Sold.	Withdrawn.	Total offered.
	Pkgs.	Pkgs.	Pkgs.
India	39,862	6,363	46,225
Ceylon ...	20,317	1,534	21,851
Java	1,865	151	2,016
Total ...	62,044	8,048	70,092

Also 751 packages from second hands.

Messrs. Gow, Wilson & Stanton's Indian, Ceylon, and Java Tea Report, dated October 27th, 1899, says:—

QUANTITY BROUGHT TO AUCTION IN LONDON FROM 1ST JUNE TO DATE.

	Indian.	Ceylon.	Java.
	Pkgs.	Pkgs.	Pkgs.
1899-1900	605,327	488,582	25,811
1898-1899	584,745	507,172	19,783

47,152 *pkgs.* INDIAN
22,446 „ CEYLON
2,054 „ JAVA
} Total 71,652 packages were offered in public auction this week.

Duty payments for the first four months of the season would, at first sight, appear to indicate a falling off in the use of Indian Tea and a gain in that of Ceylon, but if figures are taken from 1st January to 30th September it is seen that a gain has taken place in the use of both descriptions, the fluctations in duty payments being merely due to temporary influences. Clearances during October have been exceptionally heavy.

Quantity of Tea (in lbs.) on which Duty was paid at all Bonded Warehouses in the Kingdom from 1st June to end of September.

	1899.	1898.	1897.	1896.
	Lbs.	Lbs.	Lbs.	Lbs.
Indian	35,851,866	39,716,805	38,556,868	35,425,392
Ceylon	30,746,726	27,935,968	32,264,250	30,057,421
China	5,448,108	4,953,854	5,443,604	6,613,993
Other Countries ...	2,529,852	1,689,176	1,619,286	2,190,948
Total ...	74,576,552	74,295,803	77,884,008	74,287,754

Indian and Ceylon Tea (in lbs.) exported from Great Britain, from 1st June to end of September.

	1899.	1898.	1897.	1896.
	Lbs.	Lbs.	Lbs.	Lbs.
Indian	2,303,955	2,205,974	1,339,421	982,415
Ceylon	4,551,831	4,227,788	3,452,758	2,719,275
China	4,031,098	5,032,214	7,544,545	6,055,533
Other Countries ...	249,722	436,040	442,683	364,519

INDIAN.—Very little change has taken place in the market. Although Monday's auction passed off somewhat slowly the tone improved during later sales, and at the close of the week bidding was slightly more animated. The following averages are worthy of note:—"Risheehot," 1/3¼; "Poobong," 1/2¾; "Monteviot," 1/2¼; "Budla Beta" and "Oaklands," 1/1¾.

Week's av. of Tea sold on Garden Account 1899, 36,773 pkgs., av. 8·34d. 1898, 40,392 pkgs., av. 8·25d.

Total Tea sold on Garden Account 1st June to date 1899, 426,038 pkgs., av. 8·54d. 1898, 407,456 pkgs., av. 8·71d. Comparative prices of Indian Tea in London.

CEYLON.—This week's sale was the smallest that has been held since early in August. The Gradually-reduced offerings have had a beneficial effect resulting in improved competition and slightly firmer prices for all descriptions.

Average for week 8·02d., against 8·50d. in 1898.

Ceylon Tea sold on Garden Account 1st January to date 1899, 888,215 pkgs., av. 7·96d. 1898, 939,175 pkgs., av. 7·69d.

JAVA.—2,054 packages were brought forward comprising selections from 14 gardens; demand on the whole was good, the Teas selling fully up to recent prices. 108 pkgs. from "Goalpara" avg. 9¾d.

IN SYDNEY.

The tea markets have made another step in importers' favor, and the week's (ending October 21) business distinctly shows an advance in Indians, while holders of Ceylon and Chinas have maintained a firmer front. High prices have been productive of increased difficulty in doing business, but for teas with quality at moderate prices, there has been a better disposition shown by buyers to operate. Despite the excited tone of the markets of the East, buyers have not seemed inclined to take advantage of recent low

quotations for local stocks, and not until the arrival of later shipments showing an increase of something like ten per cent. on values of a month ago, has the trade been aroused to a sense of the actual high coast of the small supplies coming to hand.—*Sydney D. Telegraph*, Oct. 23.

COCOA.

A rather better tone is manifested, and of the fair supply of 5,191 bags offered at auction on Tuesday last 2,450 bags sold, at here and there some slight advance. 641 bags Trinidad practically all found buyers at 71s to 76s 6d for middling to fine red, or 1s to 2s over valuations. Of 334 bags Grenada 240 bags were placed at 63s to 65s for full rates. 17 bags fair Jamaica brought 62s to 63s. Of 50 bags Surinam 20 bags fine realised 66s. Guayaquil met a good demand, but at barely anticipations as regards prices; 2,238 bags were catalogued and rather more than half sold at 67s to 71s 6d for ordinary to good Arriba, 67s for Tenguel, and 63s to 67s for gray to fine red Caraquez. 103 bags Colombian, 81 bags Samana, and 270 bags Carupano retired unsold. Of 109 bags African 30 bags found buyers at 61s for bold grayish red. Ceylon, of the quality chiefly offering now, does not attract bids, and these are generally pitched in a rather lower key than of late; 1,328 bags brought forward and 280 bags sold bold dullish red 74s. middling ditto 70s, good small red 70s, dull 66s, and common Native 58s to 59s per cwt. Privately 850 bags fine African have been sold at 63s to 63s 6d, good at 61s to 62s; also 500 bags Guayaquil—Caraquez at 64s to 65s, 400 bags Trinidad at auction rates, 150 bags Grenada at 66s for fine, 1 0 bags Samana at 58s to 58s, and 100 bags Bahia at 61s per cwt.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

	1899.	1898.	1897.	1896.
	Bags.	Bags.	Bags.	Bags
Imports, B P. ...	114,299	114,126	105,341	115,061
Foreign ...	72,069	99,340	72,402	59,615
Home Con., B.P. ...	68,432	85,750	72,216	63,581
Foreign ...	45,955	51,482	48,170	45,922
Exports, B.P. ...	38,697	30,190	39,139	34,913
Foreign ...	23,477	25,548	40,664	26,145
Stock, B P. ...	52,754	58,225	71,861	82,385
Foreign ...	55,211	55,810	43,786	65,080

PEPPER.

BLACK.—The market is very firm, and prices are dearer in all positions. A considerable business has been done, including 250 to 300 tons Singapore—at 5⅝d to 5¾d on the spot, at 5¾d near at hand, at 5 13/16d October-December shipment, at 5 31/32d January-March, and at 6d February-April. Some Tellicherry sold on the spot at 5 11/16d, and fair Aleppi at 5 9/16d to 5⅝d.

At public sale on Wednesday 100 bags Penang bought in at 5⅜d, 5½d bid. 16 bags Ceylon partly sold at 5⅝d per lb. for good heavy. Of 778 bags dust and shells 147 bags sold at 2¼d, two lots 1 7/8d to 1¾d per lb

WHITE.—Is firm, but quiet About 100 tons have been sold, viz., fair Singapore on the spot at 8 1/16d to 8¾d, near at hand at 8 September-November shipment at 8¾d, and January-March at Siam near at hand at 8 1/16d, and Penang October-December at 8 and January-March at 8 1/16d.

At auction on the 25th instant, 20 bags fair Ceylon sold at 8 and 8¼d per lb. was taken for an odd lot of 3 bags Penang.

GINGER.

COCHIN.—Sincere belief here in the report of a poor crop gi great firmness to Ginger, and prices have improved a little both spot and for forward delivery. In the former position about 2, bags of medium and small washed rough have been sold at 26s 26s 6d, mouldy and wormy ditto at 23s to 24s, and brown pickin 22s 6d; Calicut rough Sorts 27s, wormy ditto 26s, small ditto 20s also 100 tons washed for February delivery have been done at and March at 28s 6d. Cut kinds are very strong, as if the cro poor it stands to reason that the quality will be unfit for cutti Auctions offered 98 cases 1,656 bags, 15 cases 289 bags selling very full rates—good medium and bold roughly cut and scra limed 76s, very bold but very roughly cut, heavily limed 73s mouldy ditto 70s, fair medium and small washed rough 25s, mou and wormy ditto 23s 6d to 24s 6d, medium and small brown rough 24s 6d, small lean and wormy rough, mixed shrivelled 21s per cwt.

JAMAICA.—Quiet, but steady. 76 barrels. &c., offered, but on barrels sold—dull 55s, Rhatoon 48s per cwt.

CINCHONA.

The average percentage of sulphate of quinine in the bark t offered at Amsterdam on November 2, is 5·32 per cent. aga 5·25 per cent. in the September auctions, 5·60 per cent. Aug and 5·21 per cent. for the ten auctions of 1898. The 6,141 packa to be offered contain 561,330 kilos. of Java bark, with a tota 26,850 kilos. (939,750 oz.). The only offering in auction was a pa of 6 bales red bark, dull broken quill, for which 4¾d. was refuse

QUININE.

There has been an absence of excitement this week, although second-hand market is fractionally higher than when we closed last report. In second hands very little business has been don to Wednesday, and on that day December delivery was quote 1s. 1¾d, and March at 1s. 2d per oz., with few sellers. To-d business is in December 1s. 1¼d. and March 1s. 1½d. There is likely to be any development until after the Amsterdam sales week.

In regard to the fire which occurred in the Bandong Quin factory last month. and to which we have previously referred now learn that the samples for sale on January 31, 190 0, had l sent out to Batavia, Samarang. and Sourabaya, and there is a s of about a ton of sulphate of quinine on hand; but the sale is li to be delayed for a month. Owing to the increase of the busi and the want of working capital the company have just ma further issue of shares to the amount of about 4,000*l*.

(AVERAGE FOR ALL INDIA 8·69d.) October 27th.

GARDEN.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, D and Variou	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Pr
Neilgherry ...	**148**	**6·73**												
Brooklands ...	25½c	7½	25½c	7½	...	...	...	...	...	...	...	...	...	
Coa ...	58 p	6¾	...	...	37	6¾ 7	11½c	7 7¼	...	...	...	...	10½c	
Curzon ...	65 p	6¼	...	...	26	6¼	16½c	6¾	9	6	14½c	8	...	
Travancore ...	**542**	**7·07**												
Bon Accord ...	74 p	6¾	...	...	25	6½	23	7¼	12	6½	3	6	11½c	5½
Fairfield ...	87	7¼	29	6¾	21	6¾	24	9½	11	6¼	...	...	2	
Kinmylies ...	30½c	6¼	8½c	6¾	17½c	6¼	...		3½c	6	11c	5½	1½c	
Mahandrargherry ...	50½c	6½	17½c	7¼	26½c	6¼	...	...	5½c	6	1½c	5½	1½c	
Sth Travancore Co Ven ...	116	7¼	...	...	63	7	29	8¼	24	6¾	...		...	
Vembenard	185	7	41	6½	45	6¾	72	7¼ 7½	2	6¼	22	6½	...	
Wynaad	309	6·99												
	149 p	7¼	31½c	7¾	36½c	7	33½c	9	15	6¾			14½c	
Perrindotty	160 c	6¼	16½c	7	80	6¼ 6¾	25c	7¼	25	9 6¼			9	5

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

VOL. IV.] MADRAS, SATURDAY, NOVEMBER 25, 1899. [No. 47.

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ADVERTISEMENTS.—The charge for line advertisements is As. 4 per line for the first, As. 3 for the second, and As. 2 for the third and succeeding insertions. Five-line (or shorter) advertisements from Subscribers will be inserted for three issues for One Rupee; non-Subscribers will be charged Two Rupees.

DOMESTIC OCCURRENCE.—The fee for inserting a domestic occurrence will be *One Rupee* for each insertion, payable in advance.

N.B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," Agra Bank Buildings, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 1st proximo. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, 21*st November.*—*Weather.*—Bright cold weather continues. Much more East wind this week. *Crops.*—In full picking nearly everywhere. *Plant-diseases.*—Leaf-disease has mostly passed off. Trees are looking splendid, carrying a profusion of healthy foliage, and appearances everywhere point to a bumper season next year. *Labour.*—Continues plentiful. *General Health.*—The sudden change in the weather has given rise to colds, coughs and fever. *Interesting Item.*—Don't know whether it is quite so; but shower of Leonids was a disappointment in these parts.

LAND AND AGRICULTURAL BANKS.

In 1892 Mr. J. A. Nicholson was placed "on special duty for the purpose of enquiring into the possibility of introducing into this Presidency a system of agricultural or other land banks." After most laborious and painstaking investigations he published a voluminous report and "studies" on the subject. These were duly reviewed by the Board of Revenue, and now the Government has passed orders. Unfortunately, the report is far too lengthy to be reprinted by us in full, even the Board's review would occupy more space than we are prepared to give it, and the Government Order, while it summarises the report and touches upon the review in such manner as to convey a very fair idea of the trend of both, also runs to great length. The subject is one that should have a very special interest for our readers, as they are numbered among the ranks of agriculturists. It was not with them particularly that Mr. Nicholson was called upon to deal, but every recommendation he made, and every decision arrived at by Government after consideration of his recommendations, might be applied as much to the so-called planting industry "as to that which is more generally understood as embraced under the term 'agriculture.'" Though Government appears to favour village banks, or institutions to

assist the villager, the planter of coffee and the cultivator of paddy may, for all practical purposes, be regarded as capable of bringing themselves equally within the scope of any special arrangements that may be eventually made for the improvement of the economic position of agriculture in the Madras Presidency. It will depend upon the planter, rather than upon the Government, whether the former does or does not bring himself within the sphere to be affected by any such arrangement.

Both the Board and the Government point out contradictory sentences in Mr. NICHOLSON'S report, though both do full justice to the fact that such contradictions are but natural where a vast and extremely intricate subject is considered. The Board's review is more adverse than the Government's Order. It gives an abstract of Mr. NICHOLSON'S views as follows :— After making a bulky survey of the treatment which the question of the relief of agricultural indebtedness has received in Europe and in America, Mr. NICHOLSON declares that State banks are out of the question ; that for the several classes of rural borrowers it is not land banks or great institutions that are required, but small local societies corresponding to the popular banks and credit associations of Germany, Austria and Italy, and to the building societies of England and the United States ; and that small societies giving small credit to small folk are the desiderata for Madras. He cites the existence in this Presidency of some hundred and forty Friendly Societies or *Nidhis*, which have their nucleus in those Building Societies, as presenting a prospect of the successful solution of the problem, although he is not oblivious of their defects. He advocates, therefore, the inauguration of a huge system of village banks on the co-operative system, and on the basis of self-help, under the supervision of Government, carried out by a Commissioner of Rural Credit. It is not quite clear whether he originally proposed to do altogether without State aid. In the various passages in which the point is referred to, there is some want of desirable clearness and consistency. There are signs here of mutations of opinion, which were to be expected from protracted and intermittent study, and are natural in a lengthy compilation, which has been under preparation during several years. But, on the principle that supervision connotes the grant of privileges, he eventually provides for " fiscal, legal and executive privileges," as well as for State subventions. The boon to be provided is, the reduction of the current rate of interest by one-half. This object is to be obtained, first, by the elimination of working expenses. All service is to be rendered gratuitously. In the second place, the borrower and the lender, as individuals, are to disappear. Credit and capital are both to be pooled, in so far as the members of the Co-operative Society are concerned. Business with the outside is, however, contemplated ; the capital for this department of the operations, as well as, to a certain extent, for transactions in the Co-operative branch, being obtained from the public by means of debentures. He very properly disclaims the task of bringing into existence from the very commencement, a complete system of village banking. He relies on the motto *Solvitur ambulando*. Nor is he blind to the results of suddenly introducing a system of cheap credit amongst a people, ignorant of the most elementary principles of banking, and amongst the large mass of whom, thrift, prudence and self-restraint are unknown. Mr. NICHOLSON is therefore hopeless of success within any period which can be described as the near future. He commits the fate of what he terms " educative credit " to labours of villagers of " apostolic fervour " who will be e tent and proud to toil in person, without fee or reward, the regeneration of those around them, as Schulze-Delitz Raiffeisen, Luzzatti and Wollemborg did in Austria, G many and Italy.

Government's view is amply shown in G. O., No. 7 Revenue, dated 13th October 1899, and is in favour a trial being made within somewhat narrow limits. NICHOLSON will doubtless give effect to this order. Agric tural Banks are under trial in Mysore. Something deserv a similar title will now perhaps be tried in this Presiden and though there are likely to be many differences in reg to points of detail, the Presidency may certainly learn a g deal from the experiences of the Province. In so far the scheme will affect rural cultivators, we confess to gr doubts as to its efficacy or utility. The plan is admirab the machinery for carrying it into execution is cumberso and is bound to prove faulty. Practice will be fou to falsify theory, for the one will unquestionally be perva with dishonesty, and will depart from the high ideal of other. Government has already attempted much in beh of the ryot ; in the light of what has actually occurred, judge that its attempts have largely resulted in failur here complete, there partial. The same thing will oc again. If planters can be induced to give the new sch a trial, if they will endeavour to avail themselves of the h of the State to raise the financial assistance that so many them require to tide them over a season of grave depress then the scheme will have a trial under the most favour auspices possible, for the possibility of dishonest applica of rules and principles will be reduced to a minimum. the planter, there is hope in the scheme ; for the agric turist, we fear, but too little. This is our view of the matt but whatever initiative Government officials may take, almost certainly aim at benefitting the agriculturist ra than the planter. Unless, therefore, the latter moves in own behalf, the planting industry will, in all probabil be regarded as a thing apart. It is obviously Governme aim to form *village* co-operative banks alone.

DISORDINATE VARIATIONS IN HYBRIDS.

Mr. C. Naudin gave in the *Revue Horticole* some ago the conclusions he has arrived at after a long experi with hybrids between a considerable number of specie plants. The conclusions are in part as follows :—The n nearly congeneric species resemble each other, the n certain and easy is their hybridization. The resemblan however, are physiological and do not always appea external characters. Certain plants, which are very diff in general appearance, cross very readily and produce fe hybrids. This is the case with *Linaria vulgaris*, a p having large yellow flowers, and *L. purpurea*, which small dark-purple flowers. This is also true of *Nicot tabacum* and *N. glauca ;* the first an annual, with large l and pink flowers, and the second a small tree, with comp tively small leaves and small yellow flowers. That ext resemblances are not a sure indication of physiolo affinities is well shown in the case of squashes. *Cucu maxima, C. pepo, and C. moschata*, in spite of their resemblances in habit, foliage, and flowers, do not hybri while *C. melonosperma*, though very different from the

species of the genus, is influenced by their pollen and produces fruits which, however, contains seeds with imperfect embryos. Either from imperfections of the ovules, or more frequently of the pollen, or of both these, hybrids are often sterile ; but, as a compensation for this inferiority, they are often large and apparently more vigorous than the parent species. The sterility of hybrids is far from general. A considerable number of them are in some degree fertile to their own pollen, and more certainly so to the pollen of one or other of the parent species. Moreover, some are as fertile with themselves as are the parent species. External resemblances of the species do not warrant a conjecture as to the degree of fertility of their hybrids.

There is some truth in statements commonly made that hybrids soon revert to the specific types from which they came, or become extinct on account of the increasing imperfection of their reproductive organs ; but the exceptions are numerous. In experiments in hybridization, the successive generations were watched for many years. In the first generation, that which results directly from hybridization, the products is in general very uniform, the dissimilarity of the individuals not being very marked. The majority are intermediate between the two parent species, some inclining more than others toward one of the two species. In the second generation, the case is wholly different, the rule being dissimilarity. Among 100 individuals, possibly a dozen approach more or less to the parent species without reverting entirely. The remainder are an aggregation of anomalous forms, no two of which are alike. This capriciousness resulting from hybridization, the author terms disordinate variation (*variation desordonnée*).

INDIAN TEA AND COFFEE.

We publish to-day some very interesting comments from Canada, the United States and France. All are more or less encouraging. The *Canadian Grocer*, treating of Tea alone, says that, though Indian and Ceylon tea average 4c (say, 2*d*.) per lb. more than the Japan leaf, the flavour of the former evidently pleases the popular palate. As, moreover, the Indian "is heavier, with more in it for less money, than the China black, it is ousting both the latter and Japan from the Canadian market." Well-informed men in the trade are of opinion that the importation of Indians and Ceylons into Canada during 1899 will show an improvement over that of 1898. As regards the United States, the *American Grocer* points out that legislative measures have excluded very low priced Chinas, so that in regard to price these are now on about a level with Indians and Ceylons, "and, at the same price, the more desirable for blending or any purpose is the machine-made tea of Ceylon and India." Our contemporary alludes to the consumption of these as *increasing*. In France, an improvement of quality and a reduction of cost are sadly needed. With an earnest effort on the part of the Associations interested, this should be easily brought about, especially with the Paris Exhibition to serve as a base of operations.

To all who are in doubt as to the desirability of taking every possible advantage of the opportunity this Exhibition will afford with respect to Indian Coffee, we would specially commend the remarks on "Tea and Coffee in Paris" that are quoted to-day from the *Grocer*. There is a great deal conveyed in very few words. It remains for planters to avail themselves of the hints given.

THE SAN JOSÉ SCALE.

There appears to be room for hope in regard to the insect pests that afflict plant life in India. What has been done with reference to the San José scale pest in California affords an indication of what can be effected. It is but a couple of years since fears were entertained that the San José terror would overrun the United States. Restrictive legislation was talked of as a preventive of ruin to orchards. A draft Bill was actually prepared ; but, in the meantime, scientists set to work to try to stamp out the pest, cultivators were exhorted to be vigilant, cheering reminders were circulated that the San José scale was not a new creation, and that, as it had been kept in check in the past, it was but reasonable to hope that pessimistic prophecies would be falsified. To judge from the latest reports, it is now no worse than other pests, and has ceased to cause any special uneasiness. The basis of one series of precautions adopted in the State of New Jersey was —be it said—the following resolution of the State Board of Agriculture :—

That this Board request of the Legislature the appropriation of the sum of one thousand (1,000) dollars, to be expended under the direction of the Director of the State Experiment Station for the purpose of studying the habits of the San José scale, its natural parasites and enemies, and the best methods of exterminating the same.

Also for the purpose of importing into the State of New Jersey such natural enemies and parasites from other States or countries as may offer a chance of lessening or exterminating this most formidable pest. That the appropriation be made available immediately, that effective work may be accomplished during the present year of 1896.

Professor John B. Smith, the State Entomologist, was appointed to carry out the purpose of the resolution, and, after studying the life-history of the pest and the measures adopted in California for its extermination, he found that some 50 or 60 species of "natural enemies" of the scale had been imported from Australia. Of these, the only ones that maintained themselves for even a short time were three species of *Rhizobins*, two species of *Orcus*, and one or two others which were not specifically scale-feeders. Subsequently, the *Orcus* almost died out, and Professor Smith concluded that the Australian insects had nothing to do with keeping the scale in check ! Of indigenous lady-birds, however, he speaks much more appreciatively ; but he expresses a firm belief in artificial measures, such as spraying, and evidently holds it to be useless to plan a line of defence consisting solely of "natural enemies" of the scale.

COFFEE IN DISTANT LANDS.

XII.

Guatemala.—Mr. Consul Trayner reports :—The coffee crops for the financial year ending September 30, 1898, were not so successful as had been hoped, and the reports of the managers of various German companies owning large estates in the country almost all show a deficit. In most cases the reasons assigned for this unsatisfactory state of affairs are the smallness of the crops, the extraordinary fall in prices, and the large outlays required for improved machinery, &c. The reports issued by one or two of these companies may be briefly noticed.

The Plantagen Gesellschaft Concepcion in Hamburg—This company was formed in February 1897. The company has issued for the purchase of estates, &c., a debenture stock

of 1,500,000 marks. Its share capital amounts to 2,000,000 marks, divided into 2,000 shares of 1,000 marks each. The company's business is to cultivate coffee, manufacture sugar, and to breed cattle. Its first business year, ending September 30, 1898, was, on the whole, not to be accounted satisfactory, as the accounts show a deficit of 94,000 marks attributed in the report to low prices. The sugar-cane crop amounted to about 25,000 quintals. The coffee crop yielded about 5,100 quintals; 8,500 new coffee trees have been planted in the place of old trees this year, and since the formation of the company the trees planted number some 27,800, making the total number of coffee trees on the estates about 547,000, many of which will bear fruit next year for the first time. About 264,300 bottles of brandy were distilled up till June 30, 1898, which, notwithstanding the considerably lower prices obtainable, yielded some profit.

The Hanseatische Plantagen Gesellschaft, Guatemala-Hamburg.—This company, founded in 1889, owns the three estates: "Los Diamantes," "Las Vinas," and "El Zapote." The average dividend declared for several years reached 7 per cent., but the year ending September 30, 1898, was most unsatisfactory, the shareholders not only receiving no dividend, but the balance-sheet showing a loss of 22,000 marks. This loss is also attributed to the smaller crops, the lower prices, expense of putting in new machinery, higher wages, &c. The coffee crop yielded 13,507 quintals, the three estates producing the following respective amounts:—

	Quantity. Quintals.
"Las Vinas"	8,425
"Los Diamantes"	2,637
"El Zapote"	2,445
Total ..	13,507

In the case of *the Osuna-Rochela Plantagen Gesellschaft, in Hamburg*, a great falling-off in crops and a large deficit for the year is reported, and the same causes, as in the preceding reports, are given for the shortage. The estates of "San Andres Osuna" and "La Rochela" had a crop of—

Year.	Quantity. Quintals.
In 1895-96..	15,003
1896-97..	22,100
1897-98..	12,300

In the first two years the company paid dividends of 7½ and 5 per cent., respectively, but last year a loss has been suffered amounting to 330,000 marks.

The "Guatemala Plantagen Gesellschaft in Hamburg," whose principal estate in this country is the "Hacienda el Porvenir," reported a very successful year in 1896, owing to an extraordinarily large crop, and paid a dividend of 12½ per cent. The succeeding year this dividend fell off to 10 per cent.; in 1898, notwithstanding the heavy fall in the price of coffee, the books of the company show a profit of 80,000 marks, and a dividend of 4 per cent. was paid. The crop yielded 15,500 quintals.

The "Chocola Plantagen Gesellschaft in Hamburg"—has also to report a small surplus for the year ending September, 1898, and instead of paying a dividend of 20 per cent. as in three previous years, one of only 4 per cent. has been declared. The reasons assigned are again small crops, low coffee and sugar prices, and insufficient demand for cattle, and partly because the working expenses at Chocola could not be covered as in previous years out of the proceeds of the cattle and sugar.

It will thus be seen that in all these representative co plantations the same falling-off of crops and profits has to place, and that in every case the same reasons are assig Whether the price of coffee will again rise in Europ markets is a point on which I am unable to speak, b seems probable, from all accounts, that there will be a siderable improvement in the crops of this in-coming har in Guatemala, and this prospect, together with a repo decrease in the Brazilian crops, makes the coffee-plan sanguine as to the future.

The export of coffee has slightly increased in bulk, but again fallen in value.

The total value of exports for this year is estimate 15,377,460 dol. (silver) equal £1,098,390, as compared 19,775,860 dol. (silver) equal £1,582,068, in 1897. The thus a general decrease of over 4,000,000 dol. (silver).

The amount of coffee exported in 1897 was 824,755 q tals 85 lbs., valued roughly at £1,510,056, while this the amount increased to 826,032 quintals 83 lbs., value £1,004,471, showing a falling-off in value of more £500,000 sterling. This must probably be the result of development of new fields of coffee cultivation in Africa elsewhere. A table is annexed showing the proportion which different countries bought the Guatemalan coffee.

	1898. Quintal.	slbs.	1897 Quintals.
United Kingdom	179 999	13	123.277
Germany	499,270	11½	543.806
United States	128 373	23½	137,055
Other countries	18.390	35	20,616
Total	826,032	83	824,755

NOTES.

The Planters' Association of Ceylon. The General Meeting of this ciation will open at Kandy on day, the 5th proximo.

Mr. Kelway Bamber's Report. Mr. Bamber has handed t "Thirty Committee" a long sy of his report. The report w printed at once and circulated.

Cinchona. The average price per unit Amsterdam sales of 2nd instan 6 8c. = 1⅛d., an advance of about 25% on the figure re at the last previous sale.

Planters and Coolies. For the convenience of our re we give to-day the text of the Bill for the Regulation of Labour on Coffee and Tea P (Madras), which is now under consideration.

The London Coffee Market. Mysore, average (B) size, i quoted 48s. Stock, 17,581 tons night's landings in the United dom, 900 tons; fortnight's deliveries, 2,700 tons.

The Maturing of Shoots—Tea. A correspondent of the P says that we may safely take fifty days is about the time that

matures ready for plucking in the Sibsagar district, Assam, in the early part of the year,—after pruning to the first plucking.

The Paris Exhibition. It is stated that the French Government are spending £4,000,000 on the Exhibition and foreign nations £2,000,000 ; that nothing like it has ever been seen, and that 150 millions of people will visit it.

Coffee. We publish to-day an interesting letter from Messrs. W. H. Crossman & Brother, of New York, and an article from the *Brazilian Review*, both dealing with the prospects of Coffee. Pressure on our space and time compels us to defer comment.

The Poor Cooly. "Producer's" remarks quoted from *Capital* deserve perusal. They point to the Currency Policy of the Government of India as meaning —for the Government, financial equilibrium ; for the planter, ruin ; for the cooly, starvation.

Molta's Brazilian Coffee. In continuation of our recent remarks about this article, we are now able to state that the Coffee is packed in tins retailable at 9-pence, and the edge of the tin cover is overlapped by an air-tight label, so that all the aroma and strength of the coffee is retained.

The London Tea Market. Cabling on 16th instant, Messrs. Gow, Wilson & Stanton reported a steady market for Ceylon teas, medium sorts weak. Fair liquoring Ceylon Pekoe Souchong 7d. ; average 8⅛d. (⅛d. down). According to Reuter, 22,000 packages Ceylons were sold out of 23,000 offered, and 45,000 Indians out of 51,000 offered. The average of Indian was 8⅝d. (⅛d. down).

Calcutta Tea Sales. The average price at the sales held on 10th instant was 6 annas 3 pies. At the auction on 17th instant 23,421 packages were sold. An easier tone prevailed throughout the sale. All common to medium teas were three to four pies lower. Bombay buyers bought freely at the lower rates. A few parcels of Darjeelings fetched full prices. There was good competition all round.

Ceylon Tea at the Paris Exhibition. Mr. J. H. Renton, Ceylon's representative at the Paris Exhibition, invites tenders for the supply of tea to be used in the Ceylon tea-house, at the Exhibition. Orange Pekoe (fine flavoury, high grown) will be required and 5,000 lbs. are to be delivered in France by March, while, 5,000 lbs. more may be required. Particulars of the conditions will be found advertised elsewhere.

Tea at the London Customs. With the approval of the Treasury, the London Customs authorities have decided to issue an order taring to the half-pound, to take effect on the 1st December, the number of tarers being increased. In view of the difference of opinion on the subject, they decline to abrogate their order of 1894 authorising average tares as an alternative to the separate taring of each chest.

Colombo Tea Sales. At the public sales of tea at Colombo on the 15th instant, about 8,314 pkgs. = 675,391 lbs. were offered, of which about 6,000 pkgs. = 482,365 lbs. were sold. The sale passed off with active competition for all leaf teas. Broken pekoes of all grades were somewhat easier. The *Times of Ceylon* states that good invoices were offered from Gonapitia, Hayes, Harrington, Queensland, Monkswood, Middleton, Ireby, Agra Ouvah, and Glassaugh.

Tea-Ette. The following is from the advertisement columns of a leading New York paper :—

Tea-Ette.—Tea-Ette is the greatest discovery of the 19th Century. What is Tea-Ette? It is Tea of the best qualities, with the Tannin modified, *i.e.*, bitterness extracted. Tea irritates the nervous system; while Tea-Ette builds it up. Nothing can equal Tea-Ette in building up the nervous system. Tea-Ette is also a sure cure for Dyspepsia. Physicians recommend it. A fair trial will soon demonstrate these facts. Tea-Ette is better and cheaper than Tea. Why not try it. If your grocer has not got it, tell him to get it. Or send to the Royal Tea-Ette Co., 43 Wallabout Market, Brooklyn, N. Y.

Ahem !.

"Salada" Tea. The Manager for Eastern Canada of the "Salada" Tea Company writes :—This place is in the Province of Quebec, in which province there is a population of one million five hundred thousand souls, 80 per cent. of these being French, who use almost exclusively China and Japan teas. "Salada," our our own specialty, is being pushed on this ground vigorously, and has been very kindly received by the English-speaking portion of the population, and we are gradually—though very gradually—getting some support from the French element.

A good Advertisement. A Colombo contemporary cities, as "an effective tea advertisement" the page in a recent *Canadian Grocer*, devoted to the official Ceylon and Indian advertisement, has a very effective woodcut. The "Columbia" and the "Shamrock" are racing level, with the words "Ceylon" and "India" on their respective pennons ; and away astern are square junks, with lateen sails, and flying the flags of Japan and China. Below appears the following letter-press :—

There's as much difference between the "Shamrock" and "Columbia" and the old-fashioned junk as there is between the delicate well-flavored machine-made Ceylon and Indian Teas and the hand-rolled, lead-colored, Japanese and Chinese article. The comparison is striking. Test the teas and be assured of the statement. Insist on your wholesaler supplying you with Ceylon and Indian Teas.

The Mansion House War Fund. A proprietary planter in Ceylon has suggested contributions from planters on a scale of R.1 per acre, and has paid up his own donation to the fund on that basis, *viz.*, Rs.277. We note that the *Madras Mail* thinks that subscriptions ought to be sent to Messrs. Arbuthnot and Co. as local agents for Messrs. King, King & Co., of Bombay, who have the authority of the Lord Mayor of London to collect moneys. This is an erroneous idea. Any newspaper is as much authorised to open a fund for any public purpose, as is a citizen to send in his subscription to this particular fund directly or indirectly to the Lord Mayor.

Cinchonine Isomers. The *Monatshefte f. Chem.*, xx., 425, says :—By the action of concentrated hydrochloric acid on cinchonine, there are obtained several isomers, of which the chief are pseudocinchonine and *a*-isocin-

chonine. Arlt has taken up the investigation of these bodies, which were originally discovered by Hesse, and claims that he has obtained pseudocinchonine in the pure state, melting at 267° C. In the mother-liquor from the crystallisation of its hydrochloride, he found two bases, which he considers are allocinchonine and δ-cinchonine. A β-isocinchonine is said also to exist, but it appears to us that the evidence of the individuality of these isomers requires to be somewhat strengthened.

Exports of Ceylon Tea. The Ceylon Customs and Shipping returns for the half-year from January to June, with a memorandum on the trade of the island for that period, by the Hon. H. L. Moysey, Principal Collector of Customs, show that in 1899 of Tea there were exported 64,329,419½ lbs. against 65,236,220 lbs. in 1898 the value per lb. in 1899 being 42½ cents against 38½ cents in 1898. Of Cinchona the quantity exported fell from 563,986 lbs. in 1898 to 42,196, in 1899 and of Cacao from 29,454 cwts. to 26,043 cwts. There was an increase in the shipments of Plumbago, the quantity rising from 220,523 cwts. in 1898 to 297,577 cwts. in 1899. There was an increase of 153,440 lbs. in the shipments of Cinnamon, the quantity shipped being 1,909,266 lbs. in 1899 against 1,755,826 lbs. in 1898.

The Labour Question in Brazil. A great many complaints have been heard lately about excessive emigration of labourers from Brazil, and apprehensions have been persistently expressed that a severe want of hands will be felt during this season, which will bring about the abandoning of plantations, and consequently a much smaller yield. A correspondent remarks:—There are rumours that our Italian labourers will go to Venezuela to help coffee-planters there. We are only afraid they will change bad for worse and come back again. To ascertain to a nicety whether these fears are well founded is extremely difficult. It is true that many planters have tried to put the wages for certain work down, and it is most likely that labourers have left them; but whether they will emigrate not to return again is another question.

Coffee in Queensland. The Sydney *Daily Telegraph* lately stated in a leading article that in 1896 Queensland put 138 acres under coffee, and last year this was increased to 432 acres, while in 1899 a further considerable extension has been notified. Queensland is already in a fair way to supply her own market, and with similar duties on imports into Australia she may look forward to supplying a very much larger one. The *Sydney Mail* states that in North Queensland, a proof of the super-excellence of local conditions is seen in the fact that the trees will bear full crops at their fourth year, with no harm to the quality of the coffee or the life of the tree. Mr. Newport is said to have become exceedingly hopeful for the prospects of coffee in Queensland. £50 profit per acre is not looked upon as at all an impossible return after four or five years' work.

Tea and Coffee Taxes. Thus the *Central African Times*:—Owing to the fineness with which the profits on the tea-growing industry are cut, the planters are trying to abolish the trade tax called the one-pound "draft." This is a trade custom which benefits the tea-dealers, but seriously affects the pockets of the producers. A similar tax in the coffee trade could well be done away with; but, un there was an exceptionally strong combination, the prospe of success are not bright. The tea trade are fighting producers hard, and it will be interesting to see on which the victory will rest. If the tea-planters are successful, it pave the way for coffee-planters. In these times of depres prices, every unnecessary tax ought to be removed and in connection we think H. M. Commissioner would be cons ing the best interests of the country if he would abolish wharfage charges on coffee.

Tea in B. C. Africa. A correspondent, writing on 2 ultimo, says that the crop is just ov and is apparently a large one, but whether he alludes to or Coffee is not quite clear. However, he says about tea "I have not had much experience of tea-making. In early days of hand-work, I got some lessons from the A. Cameron when on his rounds and turned out fairly g tea, which sold at 50 cts. per lb. in Colombo. But w puzzles me here is, I sometimes make a break of tea wh is quite better; and if any of your experienced planters your worthy self would tell me what is the cause of be tea I would be much obliged. I see nothing in T. C. Ow book about it, and never remember turning out better te Ceylon. I have an idea that it is the withering or ferment that has to do with the bitterness as it is only occasion it turns out better."

Indian Tea Companies' Results for 1898. Mr. George Seton has issue table showing the results for 189 the 45 leading Indian compan They have a total capital of £7,047,885 and a cultiva acreage of 175,427. The average cost per acre is £40, the crop per mature acre 457 lbs. The cost of produc works out at 7·27d. and the profit per lb. 1·43d. This d not leave a very large margin, but the profit on capit 5·56 per cent., and the average dividend (inclusive of Pre ence Dividend) is 5¾ per cent. The total Reserve is £534, equal to 7·59 per cent. of the capital. The average p per mature acre is £2-14-7, and the average ratio of expe to receipts 84 per cent. Comparing these results with Ce one is struck by the high cost of production; but this is certain extent counterbalanced by the average price obtai 8·70d. per lb. The Reserve Funds are comparatively la all but four companies having an entry of this sort, b would not be fair to compare India and Ceylon in this resp the Ceylon industry being of so much shorter growth.

Hybrid Coffee in B. C. Africa. "H. B." writes from Mlanji to *Ceylon Observer*:—I have freque read in the columns of your *Trop Agriculturist* about hybrid coffee. Why, it is as commo anything here. From some Orange coffee imported by Church of Scotland Mission by Garden or some other son, we have got it hybridised on, I suppose, every esta British Central Africa. At all events Mlanji has got every shade from the real Orange to nearly approaching dark green of our Coffee Arabica. I have often wond whether this variety would resist the attack of leaf-dis I could send some seed to any one in Ceylon who may to try it. From a small-leafed West African coffee we several hybrids. The narrow-leafed coffee that my P.I Dimbula used to point out as a mail (? male) coffee, and

orders to reject when counting the plants, is also here, and has got hybridised with the Arabian variety. I got some Liberian coffee seed from the Blantyre Mission in 1892 and and put it into a nursery, and remember a few of the seeds came up; but what became of the plants I never found out from my assistant who did not know much about coffee. After some years I discovered several of the Maragogipe or hybrid variety of coffee trees in a field of about 140 acres; but how they came there I do not know, for I never got any seed or plants of Maragogipe from anywhere, and can only surmise that a Liberian plant must have existed somewhere and got hybridized with the Arabica.

The Vanilla-crops. Mr. J. S. Simon, of Paris, has issued his annual report on the vanilla-crops for 1898-99, and, as foreseen by him, the returns have been—

	Kilos.
Seychelles	24.500
Madagascar, &c.	13,000
Bourbon	77,500
Total ...	115,000

In 1897-98 the crops amounted to 180,000 kilos. (including 125,000 from Bourbon), so that there has been a shortage of 6,500 kilos. As to the 1899-1900 crop, competent judges are not agreed, and it is difficult to say anything with regard to Bourbon before the end of the year. The persistent drought of last year has had a bad effect upon the vanilla-plantations, and the cyclone in March has much modified the expected production after the dropping and death of the trees. Some planters say that the production will not exceed that of last year; others foresee a crop of from 90,000 to 110,000 kilos., but an average figure would be 100,000 kilos. The Seychelles Islands are estimated to produce 5,000 kilos. less than last year. On the other hand, Comores is expected to yield a better return. In admitting 100,000 kilos. from Bourbon, there will be an increase of only 2,000 kilos. on the total production. In Mexico the crop has been good, but quality is not satisfactory. In Europe, Mexican beans are of little account, first quality being quoted from 150f. to 200f. per kilo., according to quality. The last crop from Tahiti has been very large, and prices have declined owing to the special flavour that can be used only by a limited number of buyers. The actual stocks in Paris and Bordeaux of Bourbon beans are 20,000 kilos. against 45,000 kilos. at the same time last year. The selection offered is not complete, and the cheap, short, common, and split sorts are not to be had. Hamburg has an insignificant stock, and London has very little. Prices have been advancing throughout the year from 55f. to 75f. net per kilo. for first quality, middle length 17 cm. The first lots prepared were sold at 60f. for Bourbon, and a few days since 62·50f. was paid, representing the parity of the net quotations in Europe. Seychelles vanilla is inquired for more than ever, and has reached hitherto unknown prices. The present stocks are not sufficient to last until the end of the year, and the first arrivals of the new crop will be quickly dealt with. At the London auctions prices have been constantly advancing and the demand has been good. Concluding, present quotations are likely to be well maintained, the prospects for the second part of the season depending on the amount of the Bourbon crop, prospects on the future crop, and, lastly, the general demand for consumption. The flowering of Seychelles vanilla is very short, and, as already stated, the next crop will be a small one.

LETTERS TO THE EDITOR.

COFFEE.

New York, *October* 21*st*, 1899.

Dear Sir,—The conditions which led to the lower values of Coffee in Brazil were primarily the high prices in the National currency there, which showed such an alluring profit to the planters that they increased the area under coffee cultivation to such an extent as to make a crop of 10,000,000 bags in Rio and Santos a natural result. Even this is not considered a *very* large crop under existing circumstances.

The high currency prices in Brazil were the natural result of the continued decline in the rate of sterling exchange there, commencing with the overthrow of Dom Pedro in 1889, when the value of the Milreis was above 27 pence, while now it is only SEVEN pence.

Over-production of Coffee differs considerably from over-production or surplus of almost every other kind of staple. Outside speculators probably do not realize that while wheat, corn and cotton have to be planted every season, the Coffee tree after the first four or five years bears fruit and continues to do so season after season for many years. They also do not realize that surplus Coffee cannot be diverted into other channels of consumption, like corn and cotton are liable to when prices are very low. Even at very low prices, the consumption of Coffee cannot be increased to anything like the extent of the present enormous production, and there is absolutely no way to improve values permanently, except by curtailment of production. This latter can be brought about in Brazil by doubling up the present sterling value of the Milreis and consequent relative reduction in the currency price. Now, in view of financial conditions in Brazil, when no tangible improvement has resulted from the three years' moratorium in the payment of their coupons, it is too much to expect that Brazilian finances can be improved sufficiently to double up the present sterling rate for the Milreis; the more so, as the entire element of planters and agriculturalists are stubbornly opposed to an advance in the sterling rate. Therefore, a curtailment of production is now contingent upon constant lower prices for Coffee in consuming countries until same reach a basis that would force the Milreis value in Brazil down from its present range of about 40 Milreis per bag, to 30 Milreis or less per bag.

From experienced Coffee merchants in Brazil we understand that a price of 30 Milreis or less, per bag, might seriously interfere with further cultivation and actually tend to a neglect of plantations now existing to an appreciable extent.

Unfortunately, for the achievement of such results, consuming markets have persistently encouraged Brazil to keep up the increased production of Coffee by repeated efforts to raise values in the face of continued accumulations of stocks, lower rates of exchange and high Milreis prices for the Coffee in Brazil. Every effort of this nature has postponed the possibility of reaching a sound market, or in other words getting down to a price where curtailment of production would naturally follow. Advances based upon anything else can be only temporary and ultimately cause more disaster and lower prices than would otherwise occur.

The world's visible supply of Coffee on October 1st was 8,036,556 bags, as against the highest figures of the world's visible two years ago—November 1st, 1897, 6,246,999 bags

(in a crop which turned out 10½ million bags in Rio and Santos). During that month of November the lowest figures were reached, and in Havre and Hamburg they were several francs and pfennigs, respectively, lower than they are to-day, notwithstanding that in the meantime an enormous addition has been made to the visible supply, and a very large increase taken place in the stocks in the interior (invisible supply); in addition to which a financial weakening has been in process among the Coffee trade in all the seaports of Europe and the United States, which certainly has not tended to increase the carrying capacity.

Reports from Brazil are uniform in stating that the prospects of the next crop are as favourable as can possibly be expected, so far as the season has advanced.

To illustrate how great the desire is to create higher values for Coffee, reasonably or otherwise, we need only to refer to the advance which was made in the Coffee markets on Thursday last on the reports of the appearance of the Bubonic plague at Santos. Only the wildest imagination could construe such a feature into a bull argument, as isolated cases of this disease have appeared in seaports elsewhere, without interfering with commerce in the least, and certainly cannot cause any disturbance in the cultivation or movement of Coffee in the interior. It may, however, add to the demoralization in exchange in Brazil, which is a decided bear argument. Such unhealthy speculative experiments like the one we refer to have been attempted, unfortunately, several times before, but they have always resulted in disastrous failures, rendering conditions finally so much weaker.

It has been claimed by Brazilian merchants that many large planters wish to continue raising large crops at low prices, as it is their desire to try and kill the competition of other Coffee-growing countries and thus acquire a monopoly for Brazil Coffee. This idea is entirely impracticable, as other countries will learn how to practice economy if Brazil can succeed on that principle.

We understand Brazilian planters are now raising their necessary cereals again, like Corn, Rice, Beans, etc. This is truly the first step towards successfully raising large crops of Coffee at low prices for the product.

Necessity is a good teacher to all mankind, and Brazilians have no monopoly of that experience. Planters in Venezuela, Central America, West Indies and elsewhere can learn and profit by it the same as Brazil, and in spite of continued talk of decreased plantations or smaller production of Coffee in other countries than Brazil, the total exports from such countries last year were in excess of the previous season, notwithstanding the small crop in Java. While a shortage may occur in one section, district or country, there is a compensating increase elsewhere, so that the total of one year is as large as another, if not larger. Economic achievements of raising large crops at low prices have been well demonstrated in respect to Sugar, Cotton, Corn, etc. Low prices resulting from over-production may remain more or less permanent, and Brazil as well as other Coffee countries will learn the lesson to produce Coffee at a price which heretofore has been considered unprofitable.

We can see no way out of present conditions, except by patiently waiting until the production shows signs of decrease —until natural causes bring about a reduction of supplies, and from all appearances such results are a long way off.

W. H. GROSSMAN & BRO.

GENERAL ARTICLES.

PLANTERS AND COOLIES.

We give, for the information of our readers, and wit view to criticism, the text of the Draft Bill to amend the relating to contracts between planters and labourers, dra in accordance with the resolution of the Government of In on the Report of the South of India Planters' Enquiry C mittee :—

PLANTERS' LABOUR BILL.

Whereas it is expedient to regulate the conditions of lab in the planting districts of the Presidency of Fort St. Geo and to provide for the enforcement of contracts entered i with labourers by planters or on their behalf: It is her enacted as follows :—

(1) This Act may be called the "Planters' Labour A 189 ."

(2) It extends to the whole of the Presidency of F St. George and it shall come into force at once.

2. In this Act, unless there is something repugn in the subject of context,—

(1) "*Employer*" means the planter for whom a labou has contracted to work, and, when such contract is made means of an agent or maistry, includes such agent or mais

(2) "*Estate*" means a tea, coffee, pepper, cardamom cinchona plantation.

(3) "*Labour Contract*" means an agreement to work an estate, or to bring labourers to work on an estate.

(4) "*Labourer*" means any person bound by a lab contract to work with his own hands upon an estate.

(5) "*Maistry*" means any person entering into an dertaking with a planter for the supply of labourers to w on an estate.

(6) "*Planter*" means the owner or manager of an es

3. And all words defined in the Indian Contract Act, of 1872, and used in this Act shall have the meanings resp ively assigned to them by that Act.

4. No contract under this Act shall be made for a t exceeding one year.

5. No contract made otherwise than in accordance the provisions of this Act shall be enforceable under this as a labour contract.

6. Notwithstanding anything to the contrary in the In Contract Act, 1872, it shall be lawful for any person ov age of sixteen and upwards to enter into a labour contra

7. Every labour contract under this Act shall be in w ing and shall be signed in the presence of a Magistrate an officer of the Registration Department, not inferio grade to a Sub-Registrar, or of the head of a village, some other person expressly authorised by Governmen name or in virtue of his office. It shall be the duty o officer or person before whom the contract is executed t that the contract is fully explained to the parties, and they understand its terms, and are desirous to fulfil the s

8. If any labourer shall, by reason of illness or acci be disabled from completing his contract, and the parties unable to agree as to the terms upon which the contract be determined, the employer may, and if the labourer desire, shall, send the labourer, or, if the labourer is u to travel, shall send notice to the nearest Magistrate, wh on inquiry he finds the labourer to be permanently dis

from completing the contract, shall declare the contract to be determined and such order shall be final. The Magistrate making such declaration shall likewise make such order regarding the repayment of the advance, if any, received by the labourer, as he shall deem fit.

9. Any labour contract under this Act may be determined by either party thereto on his giving two months' notice of his intention to do so. Provided that any labourer who desires so to determine his contract shall be bound, before quitting the estate to which the contract refers, to complete repayment to his employer of any advance of money which he has received in consideration of his engagement to work during the unexpired period of his contract.

10. Any labourer working under a contract made under this Act may determine his contract at any time on completing repayment to his employer of any advance which he has received in consideration of his engagement to work during the unexpired period of the contract, and on payment to his employer of a sum of annas three for each day of the unexpired period of the contract.

PROVISIONS AS TO ESTATES.

11. The District Magistrate, the Sub-Divisional Magistrate, the District Surgeon, and any other officer specially empowered by Government in this behalf, by name or in virtue of his office, shall have power to inspect any estate upon which labourers are working under labour contracts under this Act, and to enquire into the health and condition of the labourers and into the accommodation provided for them.

12. If it appears to the Government upon the report of a District Magistrate or Medical officer that any estate or portion of an estate is unfit for the residence of labourers or for any class of labourers, by reason of any sanitary defects which can be remedied, it may call upon the planter to remedy such defects within a period to be stated. If the planter neglects or omits to remedy such defects within the period so stated or if the estate is unfit for residence from causes which it is impossible to remedy, the Government may declare the estate to be unfit for the residence of labourers or of any class of labourers as the case may be. After such declaration has been made and so long as it remains in force no labourer, or no labourer of the particular class to which such declaration relates, as the case may be, shall be bound by any labour on such estate, or portion of such estate, as the case may be.

13. Every planter shall be bound to provide for the labourers employed upon his estate such house accommodation, water-supply, sanitary arrangements, and medical attendance as the Government may by rule direct.

14. Any labourer who shall be incapacitated by illness or accident from labour, shall, during such incapacity, be entitled to lodging and food, as well as medical care, at the expense of the planter upon whose estate he is employed.

Provided that such labourer shall not be entitled to receive, during such period his wages in addition.

Provided further that nothing herein contained shall prevent the employer from taking steps for the determination of the contract under section 8.

15. If any labourer states to the planter upon whose estate he is bound by contract to work that he desires to make a complaint to a Magistrate of personal ill-usage, or breach of any of the provisions of this Act or of any rule made thereunder the planter shall forthwith send such labourer to the nearest Magistrate who shall enquire into the complaint.

16. If, upon such enquiry the Magistrate is of opinion that the complaint is untrue or vexatious he shall dismiss the complaint, and shall specify in his order the number of days during which the complainant has been absent from his work in consequence of such complaint, and the labourer shall forfeit double the amount of his wages for those days.

17. If, upon such enquiry, the Magistrate finds that there is sufficient ground for proceeding with the case, he shall dispose of the case according to law.

18. If, upon the complaint of any labourer, it is proved to the satisfaction of a Magistrate that the wages of such labourer are in arrears for two months, or if wages due to any person whose labour contract has determined are proved to the satisfaction of a Magistrate to have been withheld after such determination, the Magistrate may award to such labourer or person the amout which appears to be then due to him; and also, by way of compensation, such further sum, not exceeding that amount, as to such Magistrate seems just; and the amount so awarded shall be recoverable from the employer in accordance with the provisions of the Criminal Procedure Code as if it were a fine.

If the amounts so awarded are not paid within a reasonable period or if it appears to the Magistrate that such amounts are unlikely to be recovered within a reasonable period by the distraint of the property of the person against whom the order is made, the Magistrate may, if the contract has not already determined, declare it to be cancelled.

19. Whenever it is proved to the satisfaction of a Magistrate—

(*a*) that any employer has been convicted of any offence causing injury to the person or loss or damage to the property of any labourer working under a labour contract for such employer, and under the Code of Criminal Procedure, 1898, triable exclusively by the Court of Sessions, or

(*b*) that any employer has been twice convicted of any such offence against such labourer and under the said Code triable by a Magistrate, or

(*c*) that any such labourer has been compelled by his employer to perform any labour while he was unfit for it, or has been subjected to ill-usuage by such employer,

such Magistrate may, if he thinks fit, on the application of the labourer aggrieved, cancel the labour contract of such labourer, and award to him compensation not exceeding thirty rupees.

PENALTIES AND PROCEDURE.

20. Whoever, being a maistry, fails without sufficient cause to present himself within the time specified in his agreement, with the labourers whom he has agreed to provide, shall be punished with imprisonment which may extend to six months or with a fine which may amount to five hundred rupees or with both, and the Magistrate may award to the planter out of the fine such compensation as he may deem fit.

21. Any maistry who, having contracted to supply labourers to work on an estate, without sufficient cause fails to supply, during the whole of the period to which his contract relates, the number of labourers whom he has contracted to supply shall be punished with imprisonment which may extend to six months or with a fine which may amount to five hundred rupees or with both, and the Magistrate may award to the planter out of the fine such compensation as he may deem fit.

22. Any planter, or any person acting under his orders, or on his behalf who wilfully obstructs any inspection or enquiry made under this Act shall be punished with fine which may extend to one hundred rupees.

23. Any planter, or employer, who compels any labourer to perform any labour knowing that he is at the time unfit to perform such labour shall be punished with fine which may extend to one hundred rupees.

24. Any planter who wilfully omits to provide house accommodation, water-supply, medical attendance, or sanitary arrangements in accordance with the provisions of this Act, or of any rule made hereunder shall be punished with fine which may extend to five hundred rupees.

25. Any labourer who, without sufficient cause, absents himself from his labour, or neglects or refuses to work, shall be liable to forfeit his wages for the days during which he has been absent or has refused to work and to pay to his employer a sum not exceeding four annas for each such day, and shall also be liable to imprisonment for a term not exceeding fourteen days.

EXPLANATION.

Ill-treatment of such labourer or failure of the employer to fulfil any condition of the labour contract is sufficient cause within the meaning of this section.

26. Whenever an employer or a person acting on his behalf complains to a Magistrate that a labourer has deserted from his estate, such Magistrate may, without previously examining the complainant, issue summons for the attendance of such labourer, or a warrant for his arrest, and fix a day for hearing the complaint.

27. Every labourer who deserts from an estate upon which he has contracted to labour, shall be punished with imprisonment for a term which may extend to one month or with fine which may extend to twenty rupees, or with both. For a second conviction for a like offence he shall be punished with imprisonment for a term which may extend to two months or with fine which may extend to fifty rupees, or with both. For a third and every subsequent conviction for a like offence he shall be punished with imprisonment for a term which may extend to three months or with fine which may extend to one hundred rupees, or with both.

28. If it appears to the Magistrate trying a labourer for deserting from an estate that such labourer was arrested without sufficient cause, such Magistrate may impose a fine, which may extend to fifty rupees, on the person by whom, or at whose instance, such labourer was arrested. The Magistrate may in his sentence direct that the whole or any part of such fine be paid by way of compensation to the labourer so arrested.

29. Any labourer guilty of drunkenness, or wilfully disregarding any sanitary regulation duly notified for the guidance of the labourers on the estate on which such labourer is employed, shall be punished with fine which may extend to five rupees, or with imprisonment for a term which may extend to one week.

30. The employer of any labourer sentenced to imprisonment for any offence under this Act may apply to the Magistrate, at any time previous to the expiry of such sentence, that such labourer be made over to him for the purpose of completing his labour-contract. On such application being made, the Magistrate may, if he thinks fit, order that such labourer be made over or forwarded to his employer.

31. Every employer who obtains an order of a Magistrate for the making over or forwarding of any labourer shall liable to defray the expense (if any) incurred in such mak over or forwarding; and shall, before the order is issu deposit with the Magistrate such sum as in the Magistra opinion necessary to defray such expense.

32. Whoever, knowing that any labourer is bound by labour-contract to labour for any employer, entices, or attem to entice such labourer to leave such employer, or harbo or employs any such labourer who has, in contravention the terms of his labour-contract left his employer shall punished with fine which may extend to two hundred rup or with imprisonment for a term which may extend to month, or with both.

The convicting Magistrate may in his discretion award the employer with whom such labourer has contracted whole or any part of any fine levied under this section.

33. Whoever, being bound under sections 8 and 15 cause any labourer to appear before a Magistrate wilfu omits or neglects so to do within a reasonable time, shall punished with a fine which may extend to two hundred rup

34. Whoever abets within the meaning of the Indian P Code any offence against this Act shall be punishable with punishment provided for such offence.

35. Whoever commits any offence against this Act shal triable for such offence in any place in which he may found, as well as in any other place in which he might tried under any law for the time being in force.

36. Nothing in this Act shall be deemed to prevent person from being prosecuted under any other law for act or omission which constitutes an offence against Act, or the rules made hereunder, or from being liable u any other law to any penalty higher than that provided this Act for such offence. Provided that no person shall punished twice for the same offence.

37. The Governor in Council may, at any time after date upon which this Act comes into force, by notificatio the *Fort St. George Gazette*, direct that processes issued u any Act for the enforcement of labour contracts in forc any Native State shall be executed within the Presidenc Fort St. George as if they were processes issued u this Act.

TEA AND COFFEE IN PARIS.

[FROM AN OCCASIONAL CORRESPONDENT.]

During the past few months there has been increased atte paid to the sale of tea in Paris. Many tea-rooms have been op which announce the sale of tea in liquor and in leaf, and m them advertise themselves as "Five o'Clock Tea Rooms" I c at one of the newest of these—a very small shop—the other and found that the business was being run by two young la daughters of an English clergyman. I tried their tea, and confess that if the same article were served in Regent-stre Piccadilly the trade done by that shop would be very small. tea was of a very thin and flavourless description, especially mixed with milk and sugar. I purchased one of their packe tea, which was sold to me at the rate of 4s. per lb., and on exa ing it I found the tea was such as would not find a very r market in England. I submitted it to an expert, who assure that it would be worth about 7d per lb. on the English ma to that has to be added about 2s. 3d. for duty and "octroi," b ing the cost of the article up to about 2s 10d. a lb. Curi enough it bore the name of a Swiss merchant, from whom I u stand it had been obtained. It is a pity that the French tas tea should not be educated with something better than this, b there can be little doubt that if the French consumers were t how to make tea properly, and were taught how to appreci

good cup of tea, a very great trade might be done in this article in France. There is, I am informed, to be an attempt to popularise tea in connection with the Indian and Ceylon sections of the Exhibition, but the restriction which has been laid down by the authorities that it shall not be sold within the precincts of the Exhibition is one which will very greatly handicap exhibitors. No doubt many of your English merchants have turned their attention to France as a country into which tea might be profitably introduced, but the failure which has attended their efforts in the past doubtless accounts for the slowness of English merchants at the present day to make a fresh attempt. As, however, there will be a great number of English-speaking tea-drinkers in Paris next year, no doubt a good opportunity will afford itself of making a fresh attempt. In the Exhibition year of 1889 some Englishmen did make the experiment of providing tea served in the English fashion, which met with a limited amount of success; but the numbers of English-speaking visitors next year, it is expected, will be greater than ever, and so it must be for the consideration of English merchants how far they will make another experiment in this direction.

I was agreeably surprised a few days ago to meet two or three well-known English grocers over here on the look-out for novelties for their home trade. It is evident that you have members of your trade in England who are enterprising and desirous of learning everything from personal observation which can be picked up here. There are many ways in which English grocers might well copy their French brethren—for example, something might be done to improve the sale of coffee in England if the French methods of roasting and blending coffees were employed. Hitherto the term "French coffee" in your country has been one of reproach, because, generally speaking, I believe "French coffee" as sold in England is an article which contains a small proportion of coffee with a large admixture of chicory. In a French home chicory would not be thought of; indeed, even the poorest amongst the French working classes appreciate a good cup of coffee. Whilst walking through the grounds of the Exhibition the other day I saw a boy grinding coffee to have it in readiness for the *déjeuner* of the workmen. One can hardly understand the English working classes being so careful in preparing coffee as to have it ground within half an hour of the time it was made, and there is no doubt that it is the fresh-roasting and grinding of the coffee, together with the skilful blending of various kinds of coffee, which produces the beverage which is so much admired by Englishmen when they come over to this country.—*The Grocer.*

INDIAN AND CEYLON TEA *vs.* OTHERS IN CANADA.

The steady expansion in the consumption of Ceylon and Indian teas in Canada; in fact, on the entire North American continent, has, says *The Canadian Grocer*, been one of the most notable circumstances of the tea market during recent years.

The increase in the inquiry for these teas first became important in Canada in 1896, and since then the gain has been steady. In fact, not a few traders contend that in the near future British-grown tea, that is, tea produced within the Empire, will take the premier position in Canada, to the detriment of Japans, which now hold the lead. As everyone in the trade knows, the latter drove China tea out of the average consumer's market, and now, if present indications are any criterion, it, in its turn, will have to succumb to new competitors.

Leading commission men assert that three years ago their turnover of Indian and Ceylon tea was a trifle, but that since then they have quadrupled their sales, so that the business is assuming large dimensions.

Previous to 1898 the Canadian Customs Department did not classify the imports of tea, but last year they commenced to do so, and the figures of the year afford reliable data for the question under consideration.

From these figures it is ascertained that the Canadian importations during 1898 were almost equally divided between blacks and greens, 9,841,976 lbs. of the latter and 9,494,587 lbs. of the former being brought into the country, a difference of 347,389 lbs. in favor of the former.

Ceylon and India's contribution in green tea was a trifling 120,128 lbs., but in blacks the two dependencies held the leading position. India sent us 1,992,919 lb., of a value of $313,220, and Ceylon 3,349,376 lbs., valued at $518,319, a total of 5,342,295 lbs., representing $831,539.

Contrasted with these figures, China supplied 3,323,335 lbs. or $427,895 worth, and Japan 828,957 lbs. or $100,588 worth of black tea, making a total of 4,152,292 lbs. or $528,483 worth.

Ceylon and India, therefore, sold us during 1898, 1,190,000 lbs. more black tea than the other two competing countries.

When green teas are turned to, however, it is at once seen where Japan holds the advantage. During the last year Japan sent us 8,378,520 lbs. of green tea, valued at $1,092,220, 3,035,225 lbs. more than both India and Ceylon's contributions of black, the excess of value in favor of Japan being $260,681. China only sent us 1,343,328 lbs. of green during 1898, valued at $150,000.

These figures show the standing last year, and, though no official data for the present year is yet to hand, well-informed men in the trade contend that the importation of Indians and Ceylons this year will show an improvement over that of last year.

It is worthy of note also that the cost of the average Indian or Ceylon tea is 4c. per pound higher than the Japan, that is to say, the Indian or Ceylon tea in most general consumption here ranges from 17c. and 18c., as against 14c. and 15c. for Japan.

The flavor of the former, however, evidently pleases the popular palate, and as it is heavier, with more in it for less money, than the China black, it is ousting both the latter and Japan from the Canadian market.

LONDON TEA CHARGES, ETC.

A London correspondent of a Colombo paper writes *inter alia*:—

THE TEA WEIGHMENT NEGOTIATIONS.

Though the clash of arms echoes from South Africa the daily round of business in the City goes on all the same, and the weighment negotiations drag their slow length along. The importers not being in a position to go to the Customs and unite in urging the carrying out of the agreement in full, the tea buyers went alone. I was fortunate enough yesterday to catch Mr. Appleton as he returned from the Customs, and to hear the latest news such as it is. Mr. Appleton has been described as a fire-eater. I have no reason to endorse this description of him, but he is a man who knows his own mind, and goes straight to the point—not a bad thing, perhaps, in these days of flabbiness. After pointedly asking why I came to him and not to the importers whom he evidently thought the proper source of information for a planting journal, he proceeded to give me his views on the matter in hand. The Customs charge for taring was ridiculous. Lifting a chair from the corner of the office and going through the action of putting it on a beam scale, "*That*," said Mr. Appleton, "is the work for which the Customs charge us 6d.!" "And about Mr. Brooke's objection?" "We look upon Mr. Brooke's objections as frivolous. In any case though they may be a reason for getting the Customs charges reduced, they can be none whatever for breaking through an agreement deliberately come to." "You may take it from me," said Mr. Appleton, "that we are going to carry out this agreement in full, or not at all."

Not much encouragement here from an Importer's point of view. The Customs, I gathered, had listened to the buyers' arguments, put before them, one may be sure, in a forcible way and with no importers there to criticise; but as is their way, they did not commit themselves to any particular course of action. And so the matter rests

WAREHOUSE CHARGES.

The tea clearing-house Committee and the Indian Association had an Amicable Meeting on Monday, and strong hopes are expressed that the Warehouses will consent to the reduction asked, *viz.*, that a fixed discount of 25 per cent. should be given in place of the 10 per cent. which is now supposed to be allowed, but more than which is often given. I have good authority for saying that the head of one of the largest warehouses has already expressed his willingness to meet the views of importers, and if one gives way the others sooner or later must follow suit. A good deal of light has been thrown on the dark and tortuous ways of warehouses by the three incisive articles which lately appeared in the *Investors'*

Review, and with which you have no doubt dealt. Another article has now appeared in a trade publication written by the Chairman of a large distributing Company, which gives the dealer's view of the matter. The article opens with some tables showing that the charges on one ton of British-grown tea amount to no less than £4 0s. 2d., against 17s. 2d., on one ton of coffee, a sufficiently startling illustration of the high charges made by the warehouse monopoly. I am enclosing the article in its entirety It is of great interest as showing that the trade is as much opposed as planters can be to the present system. To my mind the most objectionable feature in the whole matter is the secret nature of the reductions given, secret that is as far as the outside public is concerned, for they are no doubt known to the clearing-house Committee. It is generally believed that anyone going to a warehouse (I do not say this applies to all warehouses) and offering a *quid pro quo* in the shape of business, can secure terms which would be indignantly refused to any ordinary person. This is not as it should be. Then again the question arises: if one employs as agent a man who is a shareholder in a wharf or warehouse, is one entitled to a full share in the reduction he gets? I know that in some cases the rebates and discounts given are handed over *pro rata* to the proprietor or company interested, but it may be doubted if this is always done. You will find the present system of weight-notes and warrants, which has always seemed to me a very cumbrous arrangement, touched on in the article, and it should be impossible, with the experience of other trades for guidance, to devise some simpler method of procedure.

THE QUALITY OF CEYLON COFFEE.

Talking to a coffee dealer the other day, I asked him whether the coffee now coming from Ceylon was equal in quality to what was sent in the days before Leaf disease and Green Bug appeared He was strongly of opinion that the beans nowadays had a woody flavour and want of fullness compared with what used to be sent I asked him further whether the general cheapness of coffee was stimulating the consumption, and he informed me that there was a slight increase, and that a good many firms, now that the profits on tea were cut so fine, were turning their attention to coffee.

I lately came across a use of coffee which was new to me. On a counter in an American Bar were little saucers of roasted beans for sweetening the breath. They were specially in favour, I was told, with married men! We know that

> Great Cæsar dead and turned to clay
> May stop a hole to keep the wind away,

but it does seem a come down for "King Coffee" to serve to cover the delinquencies of erring Benedicts.

THE COOLY IN SOUTH INDIA.

"Producer" writes in *Capital*:—

Some little time ago I showed that a net price of 60s. a cwt. for coffee left little margin for profit on an average well-culivated coffee estate in South India. As it turned out, in the first half of this year coffee netted only about 45s. a cwt., and a good deal is selling now for much less than that price Considering that this is against an average of 85s. a cwt. for the last ten years, it is evident that the planter must reduce his expenses by one-half to balance his ledger. This state of things is entirely due to the flooding of the market with cheap Brazil coffee which, thanks to an 8d. milreis, the Brazilian can now put in London for about 25s. a cwt. In 1885 with much lower rates of wages than he has to pay now, but with a 22d. milreis, the Brazilian could not put his coffee in London at a profit at 40s. a cwt. The first person to suffer from the reduction of expenditure thus forced on the Indian planter is, of course, the cooly Accordingly in every planting district of Southern India we find numbers of coolies refused work; and this at a time when, owing to high prices for grain caused by the prospect of famine in the north of India, coolies are most anxious to get work. Railways are most efficient means of fighting famines in famine districts, but they unfortunately also have the effect of spreading famine prices all over India, and into districts where there is no organised system of Government relief As long as the cooly can get plenty of well paid work, it may be argued he also benefits by the high prices obtained for agricultural produce. But if he can't he had better migrate, if possible, to a famine district, where a paternal Government will take care of him. And this is actually the position of large masses of coolies accustomed to w on coffee plantations in South India. The Government of In has decreed that "the unfair gain which the employer make the expense of his employè by means of low exchange" shall ce or anyhow be limited, by the fixing of Indian exchange at The result of this benevolent action of Government is that coffee planter having now no gain at all, fair or unfair, is v much against his will forced to abstain from taking an unfair vantage of large numbers of his employès by the summary proc of refusing them any work at all. In some districts reduction wages have been enforced, and there is a talk of reduction in oth Whether wages are reduced, or work refused, it is evident that is not the cooly who benefits by the employer being mulcted of unfair gains by exchange. The present state of affairs affords apt illustration of the truism that the cooly can only become m prosperous when his employer is prospering, and if the emplo suffer losses of any magnitude the cooly is bound to suffer his sh of them. The worst sufferers at present are the slave tribes Malabar. Although they are only employed for short terms small advances when it suits their owners to send them up to "coffee lands," they have for many years been accustomed to work on the plantations for about six months in the year. some months now they have nearly all been refused work on pla ation, and their position is made worse by the partial failure of rice crop in Malabar for want of seasonable rain. Piteous appe for work constantly come to the planter, but the pressure is severe that planters, with Rs.500 out in advances on low coun coolies, are forced to refuse to employ them. The same is happ ing to the Tamil coolies of Coimbatore; coolies under considera advances are being sent away, and told to come again next y when prices may be better Even the favourite Canarese co from Mysore, whom planters are generally only too anxious employ if they can get him, is being sent empty away. Both Ta and Canarese coolies have come in, in largely increased numb this year, which shows they are not so well off in their villages they were.

It was unfortunately not possible at the time of the Curre Committee to produce such a striking example of the effec fixing exchange, as the present condition of the coffee indus affords, on any industry which, though it may trade with a g standard country, has to compete in that trade with another co try with a nominal gold standard and much depreciated pa currency. Before the Currency Committee the planting indus was represented by tea planters, and it was easy to show they thoroughly worsted China, and were really benefited by a chec the rapid extension of tea in India. But it is a bad omen for effect of the Currency policy in the trade of India generally, t such a crisis, as now obtains in coffee, should occur immediat after the recommendation of that policy by the Committee. It perhaps needless to remark that no cheap European capital forthcoming for investment in any planting enterprise at prese and the cooly is the main sufferer from its absence. It is estima some 3¼ lakhs of people were employed on South India plantati in 1896, of which the great mass are employed in coffee growi This is about the same number as the tea industry of Ass employs.

CEYLON AND INDIA TEAS IN THE UNITED STATES.

The *American Grocer* remarks:—

The London market, the great tea mart of the world, was ul lately controlled by a few large buyers, who, by agreeing betwe themselves to remain out of the market for a sale or two, co readily depress prices. These buyers were, and are, the represe atives of the large packet tea concerns, and are by force circumstances necessarily "bears," because the tea they buy is up in packets and sold at fixed prices, to which the consum public has been educated. It can be readily seen that with ev change of the market to a higher basis, the price of the packet the consumer could not be changed; hence the packet tea bu must purchase at a low price or sustain a serious loss.

With the American business an important factor in the Lon market, such a combination becomes unavailing at once, as th are always ready buyers of Ceylon and India tea here when Lon prices go beyond a certain limit.

Formerly China tea at 8 cents a pound came into competition with the pure teas of Ceylon and India, which cost twelve to thirteen cents to land. Through the strict enforcement of the standards by the United States Government, those inferior "compounds" are entirely excluded, and China tea cannot be bought under twelve to thirteen cents a pound, which brings the two classes of tea practically to a parity, and, at the same price, the more desirable for blending or any purpose is the machine-made tea of Ceylon and India.

Thus it will be seen that the operations of the American buyers immediately nullify any contemplated "bear" movement in London, as the offers to buy at a price for export to America are always in evidence there. The result will be that possibly after one or two "bear" attacks the combination will have to fall into line and buy at market rates in self-defence

With the consumption of Ceylon and India tea increasing here, in Great Britain, and, in fact, all over the world, the trend of price is upwards, and after the British "bear" combination has been compelled to buy at current values, the American buying interest will have to raise its limit also, and in that way values will reach a still higher level. Certain it is that prices are looking upward, and there is nothing in existing conditions that would make shrewd tea buyers hope for or expect lower values.

Another strong factor which tends to lessen the influence of the combine of packet tea buyers in London upon the world's market is the great number of orders now sent direct to Colombo and Calcutta from houses in America, Russia, and Australia.

TEA IN PARIS.

A correspondent of a Ceylon contemporary gives the price list of leading tea rooms in Paris :—

AFTERNOON TEA.

THE KARDOMAH TEA ROOMS.

TARIF.

	Per large cup. centimes.
Delicious tea with cream or lemon	30
Bread and Butter, Plum or Seed Cake or Biscuits included ...	60
Finest coffee with or without cream	40
Bread and Butter, Plum or Seed Cake or Biscuits included ...	60
Chocolate or Cocoa	40
With Bread and Butter, Cake or Biscuits	70
Boiled eggs up to 2·30 p.m. ... ... (each)	30
Milk hot or cold	30
With Bread and Butter, Cake or Biscuits	60
Fresh Lemonade ... ... (per glass)	40
Vanilla Ice Cream with Wafers	60
Extras: Pot of Cream	10
Bread and Butter, Cake or Biscuits	25
Serviette	10
Ladies' Toilet room	10
Serviette	5

The "Kardomah" tea rooms are opened to advertise and popularise our famous "Kardomah" teas, but visitors are under no obligation to make purchases at the counter.

The tea used is our celebrated "Kardomah" Blend, 5 fcs. per 1/2 kilo.; and the coffee is the finest obtainable, 3,70 per 1/2 kilo.

The tea rooms are open from 10·30 a.m. to 6·30 p.m., and Customers are served quickly.

The Liverpool China and India Tea Company, Limited. (Two minutes from the Louvre) 184—Rue de Rivoli—184 (corner of the Rue de l'Echelle), Paris.

Nota.—No connection with any other house in Paris.

TEA, ETC., COMPANIES.

The Carolina Tea Company of Ceylon.—The actual tea crop from the Company's properties for the year ending 30th June 1899 was 961,757lbs as against an out-turn for the previous year of 939,491lbs., in addition to which 32,862 lbs. tea were made from purchased leaf. The cost of the tea free on board Colombo, was 4·61d. per lb., as against 5·10d for the previous season. The average gross sale price in London was 7·65d. as against 8·02d in 1897-1898. The crop of Cocoa has increased from 441 cwts. to 555 cwts.

The sum of £1,200 has been added again to the Reserve Fund, bringing up the total of this account to £8,400.

THE DIRECTOR OF THE PERADENIYA GARDENS.

Mr. J. C. Willis, Director of the Royal Botanical Gardens at Peradeniya, has returned to Ceylon after an absence of five months on leave. We extract the following from an interview reported in the *Times of Ceylon* :—

UNNAMED PLANTS.

He also took home about five hundred plants to have them named. They had been accumulating here for about five or six years, and, as has been done before, he took them to Kew to be named, as there were no facilities for doing that here. They were all named, and, as usual, the original plants were left there. They did not bring them away once they took them home for any purpose.

RUBBER: ITS CULTIVATION AND PREPARATION.

Mr. Willis added that he also took home several specimens of rubber—Para rubber—prepared from the juice obtained from the trees growing in those Gardens. Rubber, he continued, could hardly be termed one of the exports of the island yet, because so very little of it was being exported that the quantity was not shewn in the Customs Returns. Last year there was only, he believed, about half a ton shipped from Ceylon, at any rate very little of it. Rubber—Ceara rubber of rough manufacture—was, however, exported pretty largely about ten years ago, but there had been such a falling off since that rubber could hardly now be classed as one of the island's exports. During the past five or six years, however, the cultivation of Para rubber had been extending considerably, and there were now between 1,000 and 1,500 acres, roughly speaking, of Para rubber under cultivation. A number of planters were going in for it. Just after he left the island there was a sale by public auction of a large quantity of Para rubber seed, which was obtained from the Gardens as well as from the Forest Department, and the seed was very largely purchased. It was, of course, a low-country product, and Kandy was about as high an elevation, perhaps, as it could be grown at with any prospects of a profitable return.

THE NEW METHODS OF PREPARING RUBBER.

Pointing to a pamphlet on the table, Mr. Willis said that that was a circular published by him, with a preface and concluding remarks of his own, containing full information regarding the methods recommended by Mr. Parkin for the preparation of rubber with the aid of chemical acids.

"How was it usually prepared before?"

"There was really no preparation about it. The juice was tapped from the trees and simply left to dry—a very rough and primitive way of doing it!"

"And the specimens you took home, how were they prepared?"

"With the aid of chemical acids. They were the first specimens of the kind taken home. The rubber obtained under the new process is much cleaner, and naturally so. I took them home to find out what prices they were likely to fetch in the market."

"How did they compare with the specimens from elsewhere?"

"Well, I am not a professional rubber-broker, and I can only give an approximate idea of the quality of specimens of the product, but, so far as I could see, I don't think they compared at all unfavourably with the other specimens in the market, and appeared to be as good as most of them. However, I have not yet received the official valuations, and when they come we shall know definitely. I may possibly be getting them in January or February. They will be published immediately I receive them."

"What is the area under rubber in the gardens here?"

"About two acres nearly; we have 500 Para rubber trees planted 12 feet by 12 apart. They vary in age from about 12 years to 25 years. Some of them are very old plants, and all were planted a good many years before I came here. The specimens of rubber I took home were prepared from the juice of these trees, but, you see, these specimens, unlike those that had been taken or sent home before, were specially prepared according to the new methods as recommended by Mr. Parkin, and therefore it is that it will be interesting to know what the brokers think of them."

"Of the thousand odd acres under Para rubber cultivation in the island, about what proportion has already reached the bearing stage?"

"Most of the trees, I believe, are now between one and eight years old. It is not till they are ten years old that they are generally tapped, so that in about three years from now we ought to be

shipping some rubber from Ceylon, and in about ten years more a good deal of it."

PLANT DISEASES.

Mr. Willis said he also took home some diseased plants, with a view of having them more thoroughly and scientifically examined than he had either the time or the necessary apparatus to do here. These consisted of three sets of diseased tea-plants (three diseases); a diseased betel plant; and a diseased camphor plant. Each of these is being very carefully examined, and the reports on the different diseases will in due course be published in the *Kew Bulletin*. The existence of these diseases showed the necessity for the appointment of a Cryptogamist whose whole time and attention could be devoted to investigations in this direction, which was not what Mr. Willis, with all his other work, was able to do.

THE PROSPECTS OF COFFEE PLANTING IN BRAZIL.

Since the commencement of 1897, when the big crop of coffee occurred, the position of coffee has been growing from bad to worse, says the *Brazilian Review*, until it seems to have culminated in prices that in many districts do not cover cost, and, even in the most favoured, leave but a bare margin of profit, insufficient to compensate the capital employed. On July 1, 1896, the visible supply stood at 160,320 tons, grew to 239,000 on December 31 of the same year, and reaching 386,860 on December 31, 1898, has gone on growing ever since, threatening to reach 400,000 before the end of the year. The increase in quantity was followed, naturally, by depreciation, and prices, which were maintained between 80 and 90 francs until 1896, fell to 47 in 1897, 35-50 in 1898, and, lastly, to 32, the current price at Havre. In 1895-96 the production of Brazil coffee was 5,480,000 bags; in 1897-98 it had risen to nearly 11,000,000!

Under such conditions the fall of prices, though certainly exaggerated and facilitated by the simultaneous depreciation of the currency, was inevitable, nor is there any hope of any considerable improvement until production and consumption are more closely balanced, either by the shrinkage of the former, or increase of the latter, or both.

The state of things now obtaining amongst planters leads to the belief that, before very long, production must undergo a considerable modification unless artificially fostered. Overloaded with debt, unable, not only to meet their mortgage charges, but, what is worse, to even compensate labour adequately, the difficulties of the planter are becoming so overwhelming as to make it impossible to many to maintain the struggle much longer. Mortgages may, it is true, press hard upon the planter, but after all, when purchasers are not to be found and creditors see no means of even working the estate without loss on any terms whatever, few, and certainly not the banks, will be particularly anxious to foreclose. There are, of course, some foreclosures even on such conditions, and if anyone expects to purchase "fazendas" (plantations) even now at the ruination prices referred to in the leading article of the *Rio News*, of September 19, he would be sadly disappointed.

In fact, plantations are sold at the rate of 1$ (one milreis = 8d.) per tree to-day, as they have been for the past 20 years, the alteration being in the value of the milreis; and, were the matter examined into, it would be found that the plantation, costing over 500,000$, that our contemporary represents as having been sold for only 10,000$, or 1-50th of the cost, was probably mortgaged up to its full value at that valuation, and that the cash payment of 10,000$ represented in reality so much paid over true value to get possession or to avoid transfer duties. No estate ever worth 500,000$, on which 150,000$ had been spent in improvements, could, by any possibility, go for only 10,000$. The buildings, stock, and machinery alone would be worth many times that sum, not to mention the land, which can be put to other uses beside coffee-planting. No doubt the crisis is bad enough, but things have not reached such a pass that plantations are actually given away.

The most serious feature of the situation, from a planter's point of view, is that at present prices coffee does not yield sufficient to pay for labour. Wages, which were never high, have, consequently, been dropping, and as they drop labourers, who are chiefly Italians and nomadic, emigrate. Some 15,000 are said to have left San Paulo during the last two or three months, and, should the exodus continue, there can be no doubt that labour will not only be insufficient, but that wages will rise to still higher and more prohibitive rates. In that case, unless exchange should fall proportionately, which seems not unlikely, there is every chance of labour in San Paulo being short, and that a good deal of the next crop will remain unpicked, at least, in outlying districts. So far, reports of the flowering both in San Paulo and Rio are most favourable, but, without labour to pick it, the heaviest and most promising crop will not avail the planter.

In regard to Minas and Rio the conditions are somewhat different. In these two States labour is chiefly local and attached to the plantations by a share system in lieu of wages. Being paid in kind, the planter is more independent than his San Paulo colleague, and though the yield is far smaller in San Paulo, succeeds better in retaining labour on the estate.

Should the expectation of scarcity of labour be realised, there can be little doubt that next year's crop will suffer, and that, though undoubtedly painful to the individual planter, in the long run will not be so injurious to general interests as it appears. The *Rio News*, consistent to the end, hysterically calls on Government to reduce taxation and save this, "the great agricultural industry of the country, on which,' it says, "its credit depends from serious disaster." Taxation, of course, is a very bad thing always, and over-taxation still worse. But even the *Rio News* will scarcely maintain that Government is, except in an indirect manner, responsible for the over-production of coffee, to which, if statistics are to be trusted, the fall of prices, and, consequently, the difficulties of the planter are due. Nor, indeed, is it clear that even if taxation were abolished altogether, the equilibrium between the supply and demand for coffee that can alone make prices, we will not say rise, but keep from falling lower still. It is not clear that any relief that would again reduce the cost of production and do very must, at the present moment, tend to increase, in lieu of diminishing, the supply, and to, therefore further depress prices. Should the State Governments remove the 11 per cent. tax to-morrow, it is certain that the producer would gain a corresponding advantage, or would not prices rather fall still further abroad in consequence? Either prices are or they are not controlled by the relation of supply to demand. If they are, as economists generally suppose, so long as the supply be largely in excess of the demand for coffee, cost may be reduced here and revenue be sacrificed, but without benefit to anyone except to foreign consumers. At present the kindest thing to be done is, if anything, to hasten the liquidation of an industry that, under existing circumstances, has become unprofitable. To stimulate production further in any manner when coffee is a positive drug in the market, could only prolong the agony.

What happened with cotton in the United States will, unless production be checked, occur here, too, and low prices and small profits persist for years until demand commence to gain upon supply. Here, too, the problem is more complex, because there is practically no other industry to fall back upon. It is on this account that the prosperity of the coffee industry is of such vital importance, because upon it the whole financial and economic edifice depend. In the interest of the country generally, it seems therefore, requisite that nothing should be done that can interfere with the indispensable and wholesome liquidation that is now in process, of an industry so inflated as to prove an impediment and menace to the general welfare. The coffee boom, like all others has run its course, burst, and, naturally, hurt a lot of people in the process. The sooner it is finally liquidated, and the industry placed on a solid and paying basis, the better.

CARDAMOMS AND PEPPER.

The *London Commercial Record* remarks :—

It will be of interest to those of our readers who use or deal in East Indian Cardamoms to hear that the latest reports regarding the crop in the Mysore district are very unsatisfactory. Not only has the weather been greatly disappointing to growers, but to intensify the calamity, the Cardamoms are suffering from "Poochies." There are instances where no less than a quarter of the crop has been attacked by weevils, which have absolutely destroyed the berry they have bored. Other estates have been more fortunate, but poochies exist practically everywhere in a more or less pronounced form. Planters are naturally greatly distressed in consequence, and talk about dropping the cultivation of Cardamoms, no wonder, for, quite apart from the present visitation of in-

the prices London has paid during the last few years for these fine-flavoured berries have been next to ruinous to the cultivators. They have hardly paid for the labour, and the result has been that very few packages have found their way into our market. What has been grown has been sent to Arabia, or has been consumed in India, where better values have been realised than in the market of the world—London. The fact is, ever since Ceylon has appeared as rival-cultivator of Cardamoms, East India descriptions, although of a fine flavour, have slowly but surely been ousted out of the market, Ceylon sorts being not only of a sufficiently good quality to suit most purposes, but being also considerably cheaper. Real Mysore and Malabar berries have practically become things of the past—as far as the general use is concerned, whereas Ceylon sorts are gaining in importance almost every year They have become a valuable by-product to tea growing, and are enjoying therefore special care and attention on the part of almost all tea planters. East Indian growers seem to recognise the fact that their fine berries are no longer a current market article, but have attained the character of a speciality, and they hope to find a suitable substitute in Pepper. This they can grow together with their Coffee, and ever since the decay of the Pepper cultivation in the Straits, more attention has been paid in India to the growing of this spice, and a most marked development has taken place during the last few years. Europe has not been slow in recognising the superior quality of Tellicherry Pepper, and even London dealers, in spite of their usual conservatism, have shown considerable interest in Black Tellicherry. We all know what an extensive business has been done in it during last winter and spring, and, although there has not been particularly good demand for it during the summer months, this is not owing to a declining interest in Tellicherry, but to a general stagnation in the whole Pepper trade. Last week an improvement in the market set in, caused, no doubt, principally by exceptionally small supplies from Singapore during the first half of October; the astonishing part is that the movement should have died away so quickly. It may interest our readers to hear that the exports from Singapore and Penang from the 1st January, 1899, till the 30th September amounted to 7,150 tons. as against 8,080 tons during the same period in 1898. Of these quantities—

	1898.	1899.
England took	4,280 tons	2,670 tons
America „	1,800 „	2,220 „
And the Continent took	2,000 „	2,260 „
	8,080 „	7,150 „

England, according to these figures, is much behind in its requirements; but we may take it for granted that an improved demand from London will soon alter the statistical position.

THE CURING OF TOBACCO.

With reference to the inquiry made in our last issue, we quote from the *Southern Tobacco Journal* the following article on curing leaf for cigars. It shows the style of barn to be erected and is entitled

CIGAR LEAF-CURING BARN.

The style of tobacco barn generally adopted in Florida corresponds closely to that of Cuba, being wide and low rather than high and narrow, as in the Northern States. It should run from north to south the long way. Of whatever length it is built, take half the length *minus* 1 foot for the breadth, and with these dimensions a well-shaped barn will be constructed. For instance, a barn 20 feet long would be 9 feet wide. Two-thirds of the width is taken for the length of the rafters. A thatched barn in Cuba would add 1 foot to the above length in order to make a steeper pitch to give the rainfall a more rapid descent. The posts are to be 12 feet from the ground to the eaves.

A house of these dimensions is to be divided into sections, allowing a space of 27 inches between each two sections, so that a man may easily get in to put up or bring down the poles. The same space, 27 inches, should be left at each end, between the wall and the pole racks, to afford the same facility. A passage 3 feet in width should be left, dividing the barn into two equal parts; and each half will have four sections in each side of the passage. There will thus be eight sections, and each of these will have an area of 4 square yards. The apartments are formed by posts.

The poles for a barn of the foregoing description must be at least 13 feet long.

The poles filled with tobacco are placed on strong rails of the length of the sections, nailed horizontally on the posts which form the sections, *viz.*, about 3 feet, so that the tips of the leaves of one rack shall not touch those next below. This is for the tobacco cut up Cuban fashion, in saddles of two leaves, while for primed tobacco the interval may be shorter, as the leaves do not hang down a yard.

A window or ventilator must be left at the top of each gable, and all around the ends and sides the windows or shutters should not be over 5 or 6 feet apart, and hinged at the top so that the bottom can be slightly swung out to admit the air without permitting the sunshine to enter. In a damp locality the siding and ventilators should be well tight to exclude the moisture when it is excessive.

THE ACTIVE MEN OF THE EAST SIDE OF THE UNITED STATES.

THIRTY YEARS AGO AND NOW.

The following extracts from a paper by Mr. John B. Summerfield, in the *American Grocer*, should interest our readers. If the English tea trade has its Lipton, the American tea and coffee trades evidently have their "strong men," too, and have a history that can show a goodly array of business talent, enterprise and prosperity :—

Congratulating you on this your thirtieth anniversary, my mind runs back to the active men engaged in the tea, coffee and sugar business on the east side of this city when your valued paper sprang into existence. Front street and lower Wall street were busy places in those days.

Coffee, tea and sugar came nearly all together in sailing vessels, and were sold to the wholesale men in lines or by the cargo, and they would break them up and sell to the smaller city jobbers and out-of-town trade. Sugar was frequently sold at auction on Hanover Square or on the dock in New York or Brooklyn. It would be sold in lots of, say, ten packages, with the privilege, but sometimes a buyer would take the whole cargo. These sugars were resold by the jobbers in original packages to their customers all over the country, many preferring raw to refined sugars, which were used in those days much more sparingly than now.

Mr. B. G. Arnold, whose firm had succeeded the old firm of Sturges, Bennett & Co., was the leading man in the coffee trade. He was a broad, liberal minded man. He bought and sold in a large way, and had a following of active, aggressive men such as Bowie Dash, of Bowie Dash & Co.; O. G. Kimball, of Dwinell & Co., of Boston, and many others.

Pupke & Reid were large coffee dealers. Mr. Pupke, of this firm, had formerly been of the firm of Pupke & Thurber. He was an excellent business man and was not afraid to sell goods at a loss when his judgment warranted it

The large tea importers were A. A. Low & Bros., Weston & Gray and John Caswell & Co., all firms of the highest character, composed of men whose word was as good as their bond.

During the war the fortunate arrival of a cargo of tea, put nearly three-quarters of a million to the credit of A. A. Low & Bros. . . .

Nearly all the importations of sugar, tea and coffee were sold to the jobbers on credit, they giving their notes to the importers, who sold them on the street or carried them, as they saw fit. The jobbers distributed these goods, and were a busy lot, and included such firms as Stanton, Sheldon & Co., E. W. Tiers & Co., Earle & Co., Ives, Beecher & Co., Gross, March & Co., Roswell, Skeel & Co, Sherman, Tallman & Co., Gill, Gillets & Noyes and Goodridge & Walker.

Joseph Wilde was another of the famous coffee traders of thirty years ago, and one of those sterling men whose noble character commanded homage. He was a just man. The history of his firm dates back to 1814. The house has had afloat at one time cargoes of coffee valued at a million dollars, and has made single sales as high as 16,000 mats. His brother Samuel has also passed away, and he, too, was a high minded, public spirited man and thorough merchant. . . .

It is pleasant to think of these old times, and some, perhaps, will say that they were much better than the present; but when the

field is looked over the ruling men of to-day compare favorably with those of years gone by, and the opportunities in business probably are as great as ever.

Lower Wall street is now represented by many brainy men. . . The tea business is largely controlled by Carter, Macy & Co. and Irwin, McBride, Catherwood & Co.. Mr. George H. Macy, the senior partner of Carter, Macy & Co., is conceded to be the most aggressive man in the trade, quick pushing and active, keeping his large business on the move all the time. Russell & Co are enterprising people, and are pushing to the front in this line. Montgomery & Aull, whose fathers before them sold tea, have a fine and growing business.

The coffee trade of to-day, with steam and electricity to keep the markets of the world in touch with each other, requires men who, if they wish for success, must look far ahead. Such a man is Mr. Herman Sielcken, of W. H. Crossman & Brother. His judgment seems to be sound, and his far-reaching mind rightly divines the probabilities of the future. His management, not only of his own large business, but also of the Woolson Spice Company, the roasters of the Lion brand of coffee, has been very successful.

Mr. James N. Jarvie, of Arbuckle Brothers, is another of the brilliant men of the coffee and sugar trade, quick in his movements. With a mind to grasp many things, he is enabled to do an enormous amount of work in his business and as director in a half dozen or more financial institutions of this city.

One of the best-ordered firms in this trade, and which does a large importing and distributing business, is Hard & Rand. Mr. Rand is probably the least demonstrative man in the trade, always calm and placid, with a knowledge concerning mercantile affairs, and especially in his own line, exceeded by none. He is, what may be termed, a first-class merchant of this or any other age.

When we look at the active men of to-day, as well as those of thirty years ago, we find, with but few exceptions, they are men who have made their own way. This should be an incentive to the young men of the present time not to be discouraged or to think that the old times were so much better than the present, but rather to believe that the chances for hardworking, painstaking young men are as favorable now as ever before.

INDIAN AND CEYLON TEA.

We append the Indian Tea Association's Monthly Return of Sailings and Daily Customs Entries of Tea from Calcutta, and also a Return of Exports of Ceylon tea for four years up to the 31st October 1899 :—

EXPORTS OF INDIAN TEA FROM CALCUTTA.

	1899.	1898.	1897.
	Lbs.	Lbs.	Lbs.
Sailings to Great Britain in Oct. ...	21,692,976	21,466,990	19,185,393
Sailings to Great Britain from 1st April to 31st October ...	94,425,612	86,917,977	83,370,315
Sailings to Australia and New Zealand in October	1,763,291	426,867	1,409,580
Sailings to Australia and New Zealand from 1st April to 31st Oct....	5,437,777	3,105,611	3,918,597
Sailings to America in October ..	1,495,391	583,316	367,651
Sailings to America from 1st April to 31st October	3,583,984	1,696,236	1,234,063
Sailings to other places in October... (See below)	1,031,405	1,216,278	467,766
Sailings to other places from 1st April to 31st October ...	5,284,577	5,735,022	2,533,382
Total sailings from 1st April to 31st October	108,731,950	97,454,846	91,056,357

Daily Customs Entries for Export to Great Britain from 1st April to 31st October 1899 97,096,391

Daily Customs Entries for Export to Great Britain from 1st April to 31st October 1898 91,069,724

EXPORTS OF TEA FROM CEYLON.

Total Exports from 1st January to 31st October 1899 ... 105,198,952
" " " 1198 ... 100,285,557
" " " 1897 ... 94,386,043
" " " 1896 ... 88,433,172

Yours faithfully,
W. PARSONS. *Secretary.*

Export to United States 625,745
" to Canada 869,646

Statement showing the Exports of Tea to Sundry Ports during the mon
October 1899 :—

FOREIGN PORTS.	Lbs.	Lbs.
Trieste	485	
Havre	1,400	
Bremerhaven	39,850	
Hamburg	37,687	
Genoa	450	
Naples	86	
Odessa	26,815	
Constantinople	86,900	
Malta	10	
East London	25	
Zanzibar	300	
Suez	17,235	
Natal	28	
Jeddah	6,210	
Hong-Kong	270,768	
Tientsein	150	
Bunder Abbas	1,700	
Bushire	93,192	
Penang	720	
Singapore	7,100	
Beyrout	2,932	
Bussorah	41,028	
Smyrna	4,079	
Trebizonde	138,854	
	Lbs.	777,004
Bombay	231,200	...
Karachi	1,600	
Other Indian Ports	21,601	
		... 254,401
	Total ...	1,031,405

DISTRICT ASSOCIATIONS.

COORG.

PROCEEDINGS OF QUARTERLY GENERAL MEETING of the Co Planters' Association held at Mercara, 28th October, 18 PRESENT:—Messrs. R. Tatham, G. K. Martin, W. M. Ball, C. Nunjappah, P. Beni-Singh, E. J. Cockerton, A. Wright, J. S. Finl son, G. R. Pearse, W. G. Deedes, J. T. Morgan, C. W. Wood, J. Irwin, H. F. Davy, W. H. Sprott, G. F. Meiklejohn (*Commissio of Coorg*).

The Chairman, Mr. Sprott, opened the meeting with a repor the delegates to W. P. A. S. I. and spoke chiefly about the Labor Act, proposed Coffee Shop at Paris Exhibition, and deteri tion of E. I. Coffee, and asked Mr. R. Tatham to give the meet his views on the latter question.

The meeting approved of the action of the delegates at W. P. A. S. I. Meeting and congratulated Mr. Sprott upon his be elected Chairman—

Proposed by Mr. Ball, seconded by Mr. Pearse, that a vote thanks be given to the delegates (carried unanimously).

Tatham then made a few remarks on E. I. Coffee, in which he s that, though our coffee had no doubt deteriorated during the two or three seasons, he put it down more to abnormal seasons th to anything else. He also seemed to think that perhaps contin attacks of leaf-disease had somewhat weakened the trees, wh might partly account for it. He added that from enquiries he l made from firms in England in regard to improved plant machinery for curing purposes, that it would seem that none exis which was not known to the curing firms. In regard to Acworth's remarks at the general meeting of the United Planter Association to the effect that he had it on the authority of Mr. J. Sanderson, that the deterioration of coffee was due to bad curi Mr. Tatham stated that he had received a letter from Mes Sanderson & Co., in which that firm wrote that Mr. John Sander has no recollection of having made any such remark to Mr. Acwor

Paris Exhibition.—The Chairman explained what was proposed be done by the W. P. A. S. I. about the Paris Exhibition say and it had been determined to exhibit a case with samples of products of each district, that he, as Chairman of W. P. A. S had appealed to the various Governments for help to enable th to follow the example of the Indian Tea Association, and hav shop where E. I. Coffee could be sold in the cup. In the even

the various Local Governments giving us sufficient support, he would appeal to all coffee owners and firms interested to subscribe liberally towards an object which promised to help so largely, the E. I. Coffee industry, by practically demonstrating its superior quality and mild flavour which would probably do more than anything else to increase the consumption of pure E. I. Coffee.

In the event of sufficient support not being forthcoming for both objects, the W. P. A. S. I. intended to confine its exhibits to a case containing samples of the products of each district. For this purpose the U. P. A. S. I. had alloted Rs.1,500, but further subscriptions would have to be asked for. At present nothing could be finally decided until it was known what support the various Governments would give, and it was known what the probable cost would be.

Reduction of Rates of Labor.—This matter was discussed and letter from Secretary, South Mysore Planters' Association, read, asking if Coorg would co-operate with Mysore in reducing rates Various opinions were expressed, but it was unanimously agreed that, unless the reduction was also agreed to by all the Southern Districts and carried out universally, that on account of the rise in the price of grain. and the largely increasing demand for labor in the new tea districts, it was not feasible to make any reduction at present. At the same time it was thought that reduction of Artizans' wages, reduction of advances, and increased contracts, were all economies which could well be carried out.

Coorg Land and Revenue Regulations.—Mr. C. M. Nunjappah brought forward several objections to portions of these rules, which were discussed, and on explanations being given by Mr. Meiklejohn were withdrawn. The new Local Fund cess was then discussed, and a letter from Government was read, showing the taxes which it was proposed to remit and giving statistics showing that Government did not gain by the alteration, but that the smaller holders gained to the disadvantage of the large owners, and that we should have the control of spending a certain amount of the money accruing therefrom ourselves. Proposed by Mr. Sprott, seconded by Mr. Ball, that the Honorary Secretary be asked to send a formal protest to Government as strongly worded as possible, pointing out that, whilst thanking Government for proposing to remit certain taxes, the imposition of the cess was inopportune in the present depressed state of the coffee industry, upon which the chief burden would fall, and praying Government to postpone making any changes at present.

That the attention of Government be drawn to the increase of cesses which is undesirable in the present depressed state of the country, which has been chiefly brought about by the failure in coffee prices.

We would also wish to point out to Government that Local Fund Boards seem to be a failure in other districts, that we are satisfied with things as they are, and strongly object to a Local Fund Board at all, especially as it is probable that such an innovation would mean increased taxation.

The meeting closed with a vote of thanks to the Chairman and to Mr. Meiklejohn for so kindly attending and explaining matters.

The following papers were laid upon the table:—

A pamphlet on Moopenaad Arabica Liberian Hybrid with photograph of same.

Minutes of meetings of the following Associations:—

Central Travancore, September 23rd, 1899.
Shevaroy, October 2nd, 1899.
Nelliampathy, October 16th, 1899.

MERCARA,
November 1st, 1899.

W. H. SPROTT,
President, C. P. A.

WYNAAD.

PROCEEDINGS OF GENERAL MEETING held at Meppaddi, on 8th November 1899. PRESENT.—Messrs. J. W. Hockin (*Chairman*), C. M. Behr, Dr. McCaully Hayes, R. Lamb, C. C. Lance, D. Mackenzie, W. Mackinlay, B. Malcolm, A. C. Glenie, M. D. Taylor, C. B. Winterbotham, A. E. DeFonblanque (*Honorary Secretary*).

Visitors.—Messrs. F. A. Wilkinson (Superintendent of Police), J. Bruce, A. Nelson and H. Walker.

Proceedings of last Meeting.—The proceedings of the last Meeting were taken as read.

Roads.—Mr. M. D. Taylor, Wynaad Member of the District Board, Calicut, gave an account of his visit to the last District Board Meeting, and stated that the ghaut road was in a shocking condition.

Post Office.—*Read* letter from the Postmaster-General consenting to Tappal bag being deposited at Pudupadi from Vayitri.

Resolved—

(1) That the Postmaster-General be thanked for granting the request of this Association, and that he be asked to send a bag from Calicut also.

(2) The Secretary was requested to ask the Postmaster-General for an answer to his letter of 18th August on the subject of the delivery of Money Orders, V. P Parcels and Registered Packets.

3. The Secretary was requested to write to the Postmaster-General asking for an explanation of the late delivery of Money Orders.

Coffee Robbery.—*Read* letter from the Superintendent of Police, Calicut, asking for information as to the best time to send up the extra constables to prevent the theft of coffee.

Resolved, that the Superintendent be thanked for the trouble he has taken in the matter, and that he be informed that the Association considers that the 1st November would be the best date on which to send up the constables.

Police.—*Resolved*, that the Superintendent of Police, Calicut, be requested to supply the European Chief Head Constable with horse allowance, as this would render him far more effective than he is at present.

U. P. A. S. I.—(1) *Paris Exhibition.*—A subscription list towards the Paris Exhibition Fund was circulated; the total amount collected came to Rs.645.

(2) The Secretary was requested to ask the Secretary, U. P. A. S. I., for a copy of the draft of the new labour ordinance; and the Committee were asked to meet to discuss it at the earliest opportunity.

Alleged Cooly-Crimping.—*Read* copy of letter from the Ceylon Labour Federation *re* alleged crimping from Ceylon.

Proposed by Mr. R. Lamb, seconded by Mr. M. D. Taylor, that this Association point out that it is not within its province to interfere in the matter referred to by the Secretary of the Ceylon Labour Association in his letter to the U. P. A. S. I., dated 13th September 1899.

A vote of thanks to the Chair closed the Proceedings.

(Signed) E. DEFONBLANQUE,
Honorary Secretary, W. P. A.

NELLIAMPATHY.

PROCEEDINGS OF A MEETING held at the Victoria Bungalow on the 13th November, 1899. PRESENT:—Messrs. H. M. Hall (*Chairman*), C. Hall, J. B. Burnett, P. W. E. Watts, J. C. Abbott, A. Barnes, G. H. Welchman, A. R. Jones, H. de C. Denny, W. L. Ranking and W. R M. McKenzie, *Honorary Secretary*.

Postal Improvements.—Read correspondence with the Circle Superintendent.

In future, mails will arrive at 8 A.M. instead of noon, and be despatched at 1-30 P.M.; and local letters as soon as received.

Recorded with satisfaction.

Local Magistrate.—Read letter from Dewan's Secretary, that the matter was being carefully considered and that the District Magistrate has been asked to report on the feasibility of the request.

Recorded with satisfaction.

Roads and Bridges.—Read letters to the Dewan and Chief Engineer on above subject, and Chief Engineer's reply with his proposals for handing over the District roads to the Association and a certain sum for maintenance.

It was resolved—that Mr. C. Hall undertakes the upkeep of all the roads from Nadaghunny upwards at the rate of one rupee per chain on the understanding that the same are given over to him in a fair state of order, and that the supervision of the work should be carried out departmentally, the Association declining to carry out any bridge or road work on the ghaut.

Coffee-stealing.—The Honorary Secretary was instructed to write to the Assistant Superintendent of Police, Palghat, to ask him to increase the Police force on the British Cochin boundary.

Medical.—The Honorary Secretary reported the receipt of a cheque in settlement of the account for erection of Medical quarters by the Association.

The meeting was brought to an agreeable conclusion by the presentation of a sterling silver centre-piece from the members of the Association, both resident and absent, to Mr. J. C Abbott, in recognition of his long and valued services as Honorary Secretary.

(Signed) H. M. HALL,
Chairman.
(„) W. R. M. McKENZIE,
Honorary Secretary.

THE BIG PRIZE TURKEY.

"A Merry Christmas, Bob," said Scrooge, with an earnestness that could not be mistaken, as he clapped him on the back. "A merrier Christmas, my good fellow, than I have given you for many a year. I'll raise your salary, and we will discuss your affairs this afternoon over a bowl of smoking bishop. Make up the fires and buy another coal scuttle, Bob Cratchit."

And as to the big prize turkey which the regenerated Scrooge sent to Camden Town, do we not all know what sort of bird it was? That turkey never could have stood upon its legs, Mr. Dickens says. They must have snapped short off like sticks of sealing wax. How they managed to cook and eat that phenomenon the author dosen't say, as it was twice the size of Tiny Tim. Yet they did it somehow, and it was a mercy if the family (previously half starved) didn't all fall ill of the unwonted gorging of that wonderful Christmas day.

Even assuming (as we easily may) that the transmutation of an old skinflint like Scrooge into a high priest of charity was quite beyond the common run of modern miracles, and that dinners from such sources are as rare as they are welcome, it still remains true that human nature is apt to be at its best at Christmas, especially in England, where, of all countries in Christendom, most is made of that gentle and kindly holiday.

Yet, sad to tell, the very jollity and generosity of Christmas leads to regretable excesses. People eat and drink too much, and suffer accordingly. The roast and the boiled, the mince pies, the plum puddings, the tremendous flushings of wine, beer, and other beverages, these things overload the stomach and give the digestion more work than it can do, and punishment follows. For Nature has no favourites; she treats those who violate her laws on the 25th December exactly as though they had committed the offence on the first Monday in August.

And as to the chronic dyspeptics, of whom there are enough in this old island to cram all the parks in London, *they* catch it fearfully about Christmastime. For, in spite of all warnings, they *will* go in for heavy meals and take the chances. Often the penalty is an acute attack which may threaten life, and nearly always weeks of pain and digestive disorders, whereof there are as many kinds as the body has organs and functions.

To them Christmas may be "merry" for an hour or two; then their merriment turns into misery, as October fogs and rains succeed a hot summer.

Now the writer is far from advising a free indulgence in the gustatory and bibulous festivities of the country's most popular holiday, but there is no use protesting against the fixed resolution of the people to enjoy themselves on that occasion. The customs and traditions of centuries are behind it, and you might as well whistle in the teeth of a north-east gale.

As a prophylactic and a cure for the evils alluded to, I can only recommend the universal use of Mother Seigel's Syrup, known to all as the best stimulant and digestant in the world.

In a letter dated January 10, 1899, a gentleman of Birmingham, who loves the pleasures of the table, and has money enough to buy whatever he wants, writes thus: It is only fair that I should thank you, as I do with all my heart, for the good done me by Mother Seigel's Syrup For years I have been vexed with indigestion, and always had a tormenting spell of it after any public banquet or uncommon intake of rich food. Still, I was seldom able to resist temptation, although I understood perfectly well what yielding to it was sure to cost me. I have sought a preventive or a cure in vain at the hands of the best physicians, all of whom assured me that there was but one way, namely, to live on a low diet, and let luxuries alone.

"But this did not suit me, and I broke through the regulations frequently, with the inevitable results However, when I began to use Mother Seigel's Syrup I had (almost) a license to do as I pleased. After an inviting but most risky dinner last Christmas I took a double dose of 'Mother Seigel,' and scarcely suffered at I told my experience, and a dozen friends adopted this amaz remedy right off. I am convinced that, with a little caution, a dose of Mother Seigel's Syrup now and then, *one may bid defi to dyspepsia* and the abominable ailments it sets up. Thank you a thousand times. I am, yours truly, JOHN MACFARLANE."

With these facts we wish a merry (and a *healthy*) Christma the British people.

MARKET REPORT.

COFFEE.

Messrs. Wm. Jas. & Hy. Thompson's Report of the Colo Markets for the Week ending November 1st, 1899, says:—

This market has been firm throughout the past week, an greater portion of the supplies catalogued have been sold general advance of 1s to 2s per cwt. East India met with a demand, the bulk changing hands at fully this advance. B markets continue firm.

Daily receipts averaged 12.000 bags in Rio, and 22,000 bag Santos.

Futures close firm at about unchanged to 3d per cwt. dea viz.:—Good average Santos in Havre, December delivery, 35.25. in Hamburg pf. 29½, and No. 7 low ordinary Rio in York $5·20.

To-day's London official quotations are:—

	Nov.	Dec.	March	May	July	Sept.
SANTOS	29-3	29-6	30-3	30-9	31-3	31-9

We quote:—

Ceylon, mid. to good mid.	88 @	98
Do. small to low mid.	58 „	85
East India, mid. to good mid.	51 „	73
Do. small to low mid.	36 „	46
Guatemala, mid. to fine	45 „	75
Do. good ord. to low mid.	35 „	44
Salvador, good ord. foxy greenish	34 „	36
Costa Rica, mid. to fine	50 „	103
Do. ord. to low middling	32 „	57
Jamaica, good to fine ord.	28 „	35
Do. greenish to fine colory	48 „	120
African	23 „	23
Columbian, ordinary	30 „	33
Do. good ord. to low mid.	33 „	40
Do. mid. to fine	44 „	95

Receipts in Brazil to 1st November, 1899, compare as follows previous years:—

	1899-1900. Bags.	1898-99. Bags.	1897-98 Bags.
RIO	1,571,000	1,378,000	1,952,000
SANTOS	3,617,000	2,905,000	3,412,000
c	5,188,000	4,283,000	5,364,000

Auctions—

130 casks & tierces 33 barrels 14 bags Plantation Ceylon partly sold ... ... 40 0 @

c 5,067 bags East India:

1,394 bags Mysore good part sold ...	33-0
1,367 bags Coorg chiefly sold	34-6
1,176 bags Neilgherry chiefly sold ...	35-0
167 bags Wynaad	48-0
70 bags Pulneys part sold	36-6
169 bags Nelliampathy chiefly sold ...	36-0
724 bags Naidoobatum bought in.	

1,185 bags Costa Rica chiefly sold	40-6
1,661 bags Guatemala chiefly sold	24-6
993 bags Salvador chiefly sold	36-0
529 bags Nicaragua	36-0
2,153 bags Columbian good part sold	29-0
121 bags Venezuelan chiefly sold	41-0
166 bags Ecuador bought in.	
168 bags Mexican bought in.	
49 bags Ceylon Liberian	24-0
56 bags East India Liberian	20-6
480 bags Nyasaland chiefly sold	35-0
28 bags Vera Paz	39-6
18 bags South Sea Islands bought in.	
549 bags Washed Santos, only 3 bags sold	30-0
6 bags 94 barrels Jamaica partly sold	35-0
146 packages Mocha bought in.	

On Quay Terms:—

250 bags Rio bought in.

Prices realized at auctions for some of the principal marks of East India :—

COORG.

	A	B	C	PB	T
Mangles Allicutty Mountain	62-0	43-0	—	54-0	—
Do. Hallery	60-6	43-6	—	55-0	—
Do. Santagherry ...	—	43-6	—	56-0	—
Binny's Coorg Purchie Kadu	48-0 bid	40-0	34-6	55-6	28-6
Do. Koondalum Kolli	48-0 bid	38-6 bid	—	51-0 bid	28-6
I M Santi Coopa	48-0	47-0	37-0	79-0	34-0
	1	2	3	PB	T
Matheson's Coorg Mattada Kadoo ...	—	48-0		—	—
Do. Taneer Hulla ...	65-0 bid	48-0	40-0	71-0	33-0
Do. Dodda Betta ...	no bid	41-6 bid	36-0	50-0	28-0
N Monappa ◇ Betta Kerry Coorg ...	66-0	46-0	37-0	79-0	34-0
Kowrie Cadoo Coorg	75-0	51-6	—	85-0	34-6

MYSORE.

	0	1	2	PB	T
M P & Co. ◇ Barekodi Mysore ...	52-0 bid	39-6	—	—	—
Maynard's Mysore Hitlow △	48-6	—	—	—	—
Do. [R D B]	47-6	—	—	—	—
Yester □ Mysore...	52-6	41-0	33-0	—	—
Kotordi Mysore	50-0	40-0	34-6	—	—
Macdougalls Mysore P M & Co. △ ...	52-0	41-6	36-0	—	36-0
Netrokul Mysore	49-6	41-0	34-0	59-0	—
Maynard's Mysore Devarakhan ...	51-0	42-6	—	55-6	—
Do. do. ...	48-0	40-6	—	—	—
Do. R D B □	51 0 50-6	42-0 41-6	—	56-0	—
S ◇ Kerekhan Mysore	53-6 bid	—	—	—	—
	A	B	C	PB	T
B D G Mysore	52-0 bid	43-6 43-0	39-6	52-0	31-6
M E & Co. Kelagoor Mysore	48-6 bid	39-6 bid	35-0	50-0 bid	29-0

NEILGHERRY.

	A	B	C	PP	T
Kotiada	50-0	42-0	37-0	49-0	31-0
Elephant Vagavarai Talliar	55-6 bid	42-0	—	49-0 bid	—
Do. Devicolam Estates	—	46-0	37-6	65-0	35-0
Do. do. do.	64-0 63-6	45 0	40-0	60-0	33-6
Kedugamudi P C	52-0	41-6	35-0	55-0 bid	35-0
Do. do.	45-0	42-0	—	50-0	—

PULNEYS.

	1	2	3	PB	T
A & Co. Peryoor	53-0 bid	42-0	36-6	no bid	28-6

WYNAAD.

	1	2	3	PB	T
Erramaculla Liberian	32-6 32-0	—	23-0	—	20-6
Avondale Nellakotta	59-6	42-0	—	—	30-6

NELLIAMPATHY.

	A	B	C	PB	T
Polyampara Nelliampathies	—	45-0	—	52-0	—
Do. do.	60-0	42-6	—	—	—
Do. do.	45-6	40-0	—	—	33-6

TEA.

Messrs. Gow, Wilson & Stanton's Indian, Ceylon, and Java Tea Report, dated November 3rd, 1899, says :—

QUANTITY BROUGHT TO AUCTION IN LONDON FROM 1ST JUNE TO DATE.

	Indian. Pkgs.	Ceylon. Pkgs.	Java. Pkgs.
1899-1900	654,441	528,725	25,811
1898-1899	684,872	531,864	19,912

9,114 *pkgs.* INDIAN
3,123 „ CEYLON
— „ JAVA

Total 72,237 packages were offered in public auction this week.

Figures indicate a healthy condition in the Indian and Ceylon Tea trade, the satisfactory October deliveries having brought clearances from 1st June up to 98,364,316 lbs, against 96,121,979 lbs. during the same period last year. The strongest features are the small increase in the stock of Indian Tea in spite of much larger arrivals and the fact that Indian imports compare with the period of last season, when there was a shortage from Cachar and Sylhet.

INDIAN.—49,114 packages were brought forward against 47,152 last week. Auctions passed with a general and fairly active demand specially noticeable in Teas up to 7½d. per lb. which advanced about ¼d. per lb. on last week's rates. The official wire gives exports to U. K. for second half of October as 13,400,000 lbs., against 10,820,000 lbs., and the total from 1st April to end of October 96,592,000 lbs., against 91,037,000 lbs. in 1898. The following averages are worthy of note:—"Rungmook," 1/6¾, and Assam Co. "Gabroo Purbot," 1/2.

Week's av. of Tea sold on Garden Account 1899, 38,816 pkgs., av. 8·84d. 1898, 37,267 pkgs., av. 8·35d.

Total Tea sold on Garden Account 1st June to date 1899, 464,854 pkgs., av. 8·58d. 1898, 444,723 pkgs., av. 8·68d.

CEYLON.—The auction was again fairly small, 23,123 packages being brought forward, against 22,446 last week. Bidding for all grades was strong, and prices distinctly firm with a rise in medium and lower grade Teas of about ¼d. per lb. The official telegram gives exports to U.K. for October as 7,500,000 lbs., against 6,500,000 lbs., making the quantity from 1st January to end of October 84,750,000 lbs., against 81,000,000 lbs. in 1898. The following averages may be mentioned:—"Craig" and "Nuwara Eliya T Co. Concordia," 1/0¼; "Loinorn" and "S T Co. St. Leonards," 11¾d.

Average for week 8·43d., against 8·41d. in 1898.

Ceylon Tea sold on Garden Account 1st January to date 1899, 910,094 pkgs., av. 7·97d. 1898, 960,782 pkgs., av. 7·71d.

JAVA.—No Javas were brought forward this week, but catalogues are issued for 2,240 packages.

CINCHONA.

The Vriesseviem cinchona bark department at Amsterdam reports that the shipments from Java from September 26 to October 30, 1899, amounted to 1,383,000 Amst. lbs., and from January 1 to October 30, 9,155,403 Amst. lbs. At the sales on Thursday there is likely to be heavy buying by German manufacturers, and an advance in the unit is anticipated. The Ceylon shipments from January 1 to October 10 have been :—

	1899.	1898.	1897.	1896.
Lbs.	534,640	749,988	599,346	887,094

The Nederl. Veem cinchona-bark department here reports the shipments from Java during October, 1899, amounted to 959,000 Amsterdam lbs., against 1898, 969,000 Amsterdam lbs.; 1897, 735,000 Amsterdam lbs.; 1896, 862,000 Amsterdam lbs.; 1895, 1,100,000 Amsterdam lbs.; 1894, 952,000 Amsterdam lbs.; 1893, 349,000 Amsterdam lbs. Total shipments, January-Oct.:—1899, 9,421,800 Amsterdam lbs.; 1898, 8,895,000 Amsterdam lbs.; 1897, 6,717,000 Amsterdam lbs.; 1896, 8,280,000 Amsterdam lbs.; 1895, 6,929,700 Amsterdam lbs.; 1894, 7,577,000 Amsterdam lbs.; 1893, 6,225,000 Amsterdam lbs. At the auctions held at Amsterdam on 2nd instant, 6,141 packages bark were offered (against 7,510 in September), of which 5,120 were sold at an average unit of 6·80c. per half-kilo., as compared with 5·35c. in August. The following were the approximate quantities purchased by the principal buyers :—American and English factories, who purchased the equivalent of 11,911 kilos.; Brunswick, 1,952 kilos.; the Mannheim and Amsterdam factories, 2,182 kilos.; the Frankfort-on-Maine and Stuttgart factories, 4,659 kilos.; and various buyers, 3,279 kilos. The prices paid for the manufacturing-bark ranged from 13¼c. to 71¾c. per half-kilo., and for druggists, up to 93¼c. per half-kilo. The tone of the market was very firm.

QUININE.

The second-hand market has remained quiet throughout the week, although December delivery has advanced ¼d and March ½d per oz. since our last report, there being sellers on Tuesday at 1s 1⅓d for December and 1s 2d per oz. for March delivery. To-day, however, the market has assumed a firmer tendency, owing to the advance at the Amsterdam bark-sales, business being done at 1s 2d for December delivery, and March at 1s 2⅓d to 1s 2½d per oz. Makers contemplate an advance.

MOVEMENTS OF TEA IN LONDON (IN LBS.) DURING OCTOBER FROM TEA BROKERS' ASSOCIATION FIGURES.

	IMPORTS.			DELIVERIES.		
	1899.	1898	1897.	1899.	1898.	1897.
Indian	24,327,464	22,072,278	19,880,092	13,658,951	13,184,637	11,532,526
Ceylon...	8,365,798	6,950,790	5,520,072	9,379,172	8,431,730	8,517,792
Java	313,110	189,910	122,220	337,190	298,620	287,700
China, &c.	1,584,011	3,105,462	3,663,146	2,501,826	2,741,443	2,868,770
Total lbs. ...	34,590,383	32,318,440	29,185,530	25,887,139	24,656,430	23,206,788

FROM 1ST JUNE TO 31ST OCTOBER.

	IMPORTS.			DELIVERIES.			STOCK.		
	1899.	1898.	1897.	1899.	1898	1897.	1899.	1898.	1897.
Indian ...	69,427,229	62,129,270	61,402,703	54,725,982	55,256,085	48,514,900	46,202,788	44,946,973	45,123,015
Ceylon	44,924,548	42,094,772	42,330,904	43,638,334	40,865,894	42,635,664	21,076,466	18,222,172	19,648,420
Java ...	1,700,790	1,404,620	1,467,200	1,944,740	1,469,090	1,733,060	471,170	593,110	486,360
China, &c. ...	18,979,727	18,075,960	18,554,004	12,654,900	13,035,918	13,851,065	16,389,716	16,891,306	17,706,278
Total lbs.	135,032,294	123,704,622	123,754,811	112,963,956	110,626,987	106,734,689	84,140,140	80,653,561	82,964,073

Bank Rate 5 per cent. Exchange on London three months' sight: Calcutta 1/4 13/32. Colombo 1/4 13/32.

(AVERAGE FOR ALL INDIA 8·84d.) November 3rd.

GARDEN.	Total.		Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust, and Various.	
	Quantity		Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.
Neilgherry ...	223		7·92												
Pykara Falls ...	128p		8	...	...	32	7¾	38½c	10½	47 p	6¾ 7	...	...	11½c	7½
Seaforth ...	95½c		7¾	35½c	8¼	60½c	7¼	...	...	...	...	...	...	...	...
Travancore ...	724		7·39												
Glenmary ...	127 p		7¼	65	7¼8½	30	6½	...	...	...	...	...	...	32 p	6 7¾
Patanaveram ...	19		6¾	...	...	17	6½ 7	...	...	...	...	...	...	2	5½
SITCo Kuduwa K...	212 p		7½	132	7¼ 8	39	7	...	...	...	...	...	...	41 p	5¾ 7
Sth Trav Co Ven	113		7¼	...	...	53	7¼	56	7 7¾	...	...	...	...	4	5¾
Stagbrook ...	97		7¼	26	7¼8¼	27	7	...	...	28	6¾	16	6¼7¼	...	...
Travan T Est. BA...	93		7¾	...	...	20	7	73	7¾ 8	...	...	...	...	...	...
„ Pambanar...	63		7½	...	...	28	7	35	7¼	...	...	...	...	...	...
Wynaad ...															
Wynaad T Co Per	122½c		7¾	..	...	46½c	7¾	30½c	9	43½c	7¼	...	...	3½c	7

Agents for LEA & PERRINS' WORCESTERSHIRE SAUCE.

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[W. 1·10·98—t.f.o.]

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

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N.B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," Agra Bank Buildings, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 8th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

COFFEE AND EXCHANGE IN BRAZIL.

Although there is, as is but natural, considerable conflict of opinion as to the prospects of Coffee, there is also a very general agreement among various authorities as to several of the chief points that have to be considered. Messrs. W. H. Crossman & Brother, of New York, in a letter we published last week, stated one view of the case. The *Brazilian Review*, from which we quoted at the same time, expressed much the same opinion in some respects. What we may term "an official view" that has now come under our notice, follows in part the same lines as taken by the above two authorities. We refer to remarks made in the preamble to the latest report of the Minister of Finance, Dr. Joaquim Murtinho, to the President of the Brazilian Republic. Without asserting that a Minister of Finance must always take a correct view of the chief problem that he has to solve, we may at least say that his opinions are entitled to respect, and when they concur with those of lay experts, we may reasonably assume that they come very near the truth.

Now, Dr. Murtinho states that the present economical crisis in Brazil originates "not in the decrease of the volume of production but in that of the value of its most important element—coffee." This shrinkage, he says, is the economic,

logical and inevitable consequence of over-production. As he puts it, the crisis is the expression of "an economic debasement consequent on a vicious application of energy to the production of a single commodity in excess of the market's requirements." He asserts that just as there is in Brazil superabundance of paper-money in relation to its value, so there is superabundance of coffee in relation to consumption. Consequent upon this, there is depreciation in the value of both currency and coffee. He alludes to a pseudo-abundance of capital as having brought about the organisation of the coffee industry on an exaggerated basis. Dr. MURTINHO regards coffee as a natural industry in Brazil, yet holds that it has become in part artificial as a result of over-production that has "disequilibrated" demand and supply, and caused a fall of prices. In no other country can this article be produced so economically, yet the net product of the industry has almost ceased to remunerate capital at all. He throws the blame for this, partly upon the cultivation of poor land with unsuitable climate and without sufficient capital. Again drawing a parallel between coffee and currency, he remarks :—"Armed with an enormous stock the shipper does not require to buy for a long time to come and imposes what price he pleases which the producer, unable to resist, is obliged to accept. Armed with an enormous stock of paper-money the dealer in exchange has no necessity of acquiring paper-money for payment of exports for a long time and consequently is able to impose whatever price he pleases on the seller, that is, on the importer who is unable to resist, being obliged to punctually meet engagements, abroad. Prices of both coffee and paper-money fell here below what they should, in consequence of the superabundance of one and the other. Prices, consequently, actually represent not only the effect of the over-production of both but of the fatal influence of speculation as well." In short, the Brazilian Minister of Finance holds it as certain that there is a lack of equilibrium between supply and demand.

There may, therefore, be two solutions : (1) the increase of consumption ; (2) the decrease of production. As to the former, we are told that there are two agencies by which consumption may be stimulated : by popularising the excellent qualities of coffee amongst those unaccustomed to its use, and by the reduction of the import duties in some countries where they are practically prohibitive, and neutralise the effect of the fall of prices upon consumption. As to the former course, we may remark that Messrs CROSSMAN do not appear to think that there is much hope for planters in this direction. Dr. MURTINHO also comes to much the same conclusion as that expressed lately by the *Brazilian Review*, namely, that the evil is one that must work itself out, on the lines of natural selection and the survival of the fittest. As regards the currency also he points to two solutions : the increase of value of exports, or reduction of the volume of paper-money, seeing that the quotient may be raised equally by increasing the dividend as by reducing the divisor. The first he regards as of so tardy a realization as to be unsuited for the solution of a problem so urgent, and thus he in a manner justifies the selection by Government of the only alternative—the reduction of the volume of the currency. But he dwells on the dangers of haste. Briefly put, his aim would appear to be to encourage the fit and discourage the unfit as regards coffee, and to reduce an unhealthily bloated currency to proportions more favourable to health and strength. How far he hopes for success in this latter direction is not clearly shown, but he alludes to the results as "distant but certain." Messrs. W. H. CROSSMAN & BROTHER, it will be noted, take the same view as to coffee, but hold that "it is too much to expect that Brazilian finances can be improved sufficiently to double up the present sterling rate for the milreis." There is not very much encouragement for Indian coffee-planters in either view ; but a careful study of the weighty opinions here noticed confirms us in the belief that the Indian planter will do well to rely but little upon hopes of reduction of Brazilian production and to steadfastly aim at reduction of cost to a minimum and improvement of quality, while lending active aid to every effort that has for its object the development of consumption.

ROSES AND POTS.

We have received from Messrs. Curtis, Sanford & Co , Ld. of the Devon Rosery, Torquay, some most attractive lists of plants, seeds, &c., and would call special attention to a very interesting "descriptive catalogue of selected roses, with directions for culture." This is an illustrated list and forms a very handy little guide to the amateur gardener. From the catalogue of trees, shrubs, &c., issued by the above concern, it is evident that the Rosery by no means confines itself to roses. There are many plants offered which, while plentiful enough in tropical countries, are varieties in England, and with the immense assortment they offer, Messrs. Curtis Sanford & Co. must have a very attractive place to show to visitors.

A price list of *steel* flower-pots is also issued. To those who have experienced loss and damage to earthen pots especially after heavy rain, steel pots should appeal. We are told that the small sizes cost more (in England) than the corresponding sizes of earthen pots, but that in the case of large sizes the steel pots gain an advantage of as much as 25% in cost. Considering that they do not break, and are easily conveyed from place to place without damage, this should cause the large sizes, at least, to come into demand. If the small ones were to work out at only a little advance upon the cost of earthen pots, we fancy most gardeners would prefer them, for it frequently happens that great injury is done to valuable nurselings through the fracture or "collapse" of an earthen pot. The steel ones, by the way, are lighter than the earthen.

BOARD OF TRADE RETURNS.

OCTOBER 1891.

The following tables show the Imports, Consumption, and Exports of the undermentioned articles for the ten months ending 31st October in the present and two previous years, compiled from the Board of Trade Returns, with stock in U. K. on the 31st October.

Coffee.—It will be seen that Imports have increased very largely, while Home Consumption shows steady expansion which has been gaining speed. Exports also have increased considerably ; but, unfortunately, so have stocks, which are now more than double what they were in 1897.

	1897. Cwts.	1898. Cwts.	1899. Cwts.
Import	681,076	870,920	942,171
Home Consumption	208,167	212,422	222,518
Export	394,408	467,758	545,777
Stock	225,000	391,000	480,000

Cocoa.—The rivalry of Cocoa with Coffee and Tea becomes yearly more formidable. It will be seen that English-prepared Cocoa is gaining ground and that foreign preparations are losing. The total consumption of Cocoa continues to increase, however, and the statistical position of the article is distinctly strong.

Raw.	1897. Lbs.	1898. Lbs.	1899. Lbs.
Imported	31,131,897	37,705,634	40,076,127
Home Consumption	23,660,572	25,956,288	29,246,086
Export	12,178,019	8,802,404	9,646,849
Stock	19,255,000	17,722,000	16,846,000
Prepared.	1897. Lbs.	1898. Lbs.	1899. Lbs.
Imported	7,177,087	6,771,938	4,160,864
Home Consumption	6,470,022	5,365,071	4,458,874
Export	434,088	571,209	639,032
Stock	356,000	1,224,000	387,000

Tea.—Steady, healthy growth characterises the Home trades, and the shrinkage in exports may be explained by the increase of direct shipments from Calcutta and Colombo to European ports outside the U. K.

	1897. Lbs.	1898. Lbs.	1899. Lbs.
Import	207,490,615	212,056,780	224,377,839
Home Consumption	193,095,301	194,700,298	201,716,686
Export	30,378,178	30,284,589	26,571,000
Stock	85,830,000	85,848,000	94,807,000

We would especially draw our readers' attention to returns of stock. The figures given above show the following approximate result :—

	Months' supply for Home trade in stock.
Coffee	23
Cocoa	5
Tea	4½

Or, taking Export trade into consideration as well as Home consumption, we get the following :—

	Months' supply.
Coffee	6
Cocoa	4
Tea	4

From every point of view the position of coffee is the weakest.

GREEN MANURING IN QUEENSLAND.

Mr. P. McLean, Under Secretary for Agriculture in Queensland, said some little time ago that the subject of green manuring was one of the deepest interest to those engaged in the sugar industry ; also that a very heavy order had been placed with his department for a supply of cow-peas. It was, he said, a question that deserved every consideration, not only at the hands of those engaged in growing the cow-pea for manuring, but also for the general farmer. With reference to this, Mr. William Gibson, of Bingera, remarked that the benefits likely to be derived from cow-peas were no longer a matter of experiment. We are convinced, he observed, of the efficacy of cow-pea in its increasing the fertility of the soil. "As all who are interested in the cultivation of the soil are aware, there are patches of ground each year that require to be fallowed, and they also know that some change of crop requires to be put into the ground. Our experience teaches us that, in fallowing the land for the ground to be benefited, it is necessary that the soil should be covered from the rays of the sun with some crop, even if it is only grass, but more frequently with something in the form of cow-pea to add to the nitrogen that has been taken from the soil by some previous crop. Cow-pea gives us better results by a little addition to the soil of superphosphate, previous to the planting of the cane, and, with the facts at present before us, we are determined to continue with the cow-pea, with the addition of the superphosphate, before planting the cane, wherever practicable." He added that he was quite convinced that the cow-pea was of benefit, not only for its nitrogen, but the shading it gives the soil, and that it was one of the cheapest and safest ways of re-couping the soil from the effects of previous crops. A gentleman from the Mackay district expressed his concurrence in these views and said that the cow-pea both acts as a manure and cleans the land. "As for the manuring of cow-pea, of course, it does not require a nitrogenous manure. It seems to require potash especially. A small experiment that we are carrying out proves that the application of one hundredweight of kainit to two hundredweights of bone-meal increases the yield of cow-pea 25 per cent. Bone-meal gave a better return on unmanured land ; but, of course, my experiments are by no means conclusive. A neighbour of mine has asked me to bring up the question of the difference in the quantity of nodules on the roots of the cow-pea in different classes of soil, and whether it makes any difference in the nitrogenous value of the cow-pea if the nodules are absent."

Mr. J. C. Brunnich, Agricultural Chemist, gave a hint that seems worthy of the attention of experimentalists in leguminous manuring in Southern India :—"It is little use thinking that if land is worn out cow-pea will re-coup it, and Gibson's remarks show this to be the case. I know for a fact that the land Mr. Gibson refers to is particularly poor in phosphoric acid and nitrogen. Cow-pea will supply one deficiency ; but, to get proper results, he adds superphosphate to it. This shows that you must apply the other manure to secure the best effect from the cow-pea. Mr. Swayne, on the other hand, advocates potash along with cow-peas. Well, I know the land about here is poor in potash, and this shows that a grower must use his judgment in the selection of another manure to derive the full benefit from cow-pea. It will be very injudicious for a farmer to pin his faith on cow-pea alone. Cow-pea in this district may be good ; but in other districts other plants may do better." Our readers will, in fact, probably find that much of what we have here quoted, with reference to cow-pea, applies almost as forcibly to such plants as *Erythrina lithosperma*.

TEA FROM SEED TO CUP IN SOUTHERN INDIA.

(By Thomas Brown, Glendale, Coonoor.)

XXI.

Sun withering—is very objectionable as has been already hinted. The effect is somewhat similar to that of preserving the color in ferns and leaves by ironing them with a hot-iron. In the manufacture of green tea, the fresh plucked leaves are put at once on to a hot-pan and tossed till withered, the green color thus becoming fixed or, in other words, the power of the leaf to absorb oxygen destroyed. Such is the result, in a lesser degree, attained by withering in a sharp sun. In cloudy, steamy weather, however (under such conditions as cause fallen green leaves to turn yellow instead of green), very good results can be obtained and flavoury tea made. These differences will be well understood by those who have studied hay-making. Probably the differences of opinion upon this point are due to the separate results that are obtained

under varying climatic conditions. Roll as you may; use whatever arts known upon leaf withered in a sharp sun, you will fail to get more than a blackish-greenish color.

A damp warm room—gives a splendid wither that will color very quickly, such conditions in fact under which fruits are ripened best. We have had here in 1881—89 such a room, from which very good results were obtained in the hot weather. One wall was a mud bank from which in the rains springs would start! Wonderfully fine teas came from that room, and we mourn the loss of it now. Our readers who have opportunities of making this experiment should do so and let the planters have the benefit of the result. We would here draw attention to the difference between a plantain slowly ripened in a room with a temperature of 70°, and one forced in an hermetically-sealed earthen pot into which smoke is blown, Indian fashion! Those not acquainted with this difference should make trial of it. The object aimed at for a good wither should be to

Ripen the leaf.—Very little is then needed to secure a good color, in fact the roll is almost ready for the drier at the end of an hour's good rolling. There is small doubt in our minds that this withering is a great puzzle to every planter and that he is at times inclined to tear the hair off his head with vexation, when he sees the negative results obtained from a number of fine jims! All the light then that can be shed on the subject by old planters should be unsparingly turned on. We know that on some days beautiful tea is made without an effort, nature (climate?) seeming to do all the work, while, on other days, strive how we may, poor tea is made. Many have tried to artificially produce the climatic conditions of Darjeeling to secure the flavor and liquor of the premier district, and their efforts, in this direction, are no doubt correct, as to make butter one has to lower the temperature of cream on the hot plains of India, and to make good cheese we need the climate of the temperate zones!

Pruned Leaf—with thick succulent stalks is very difficult to wither, unless the conditions be such as to ensure a slow process Ordinarily it is useless waiting until the stalks will not snap, as the leaves will then become over-withered. A remedy can be found by plucking only leaf and bud for two months after a low prune, thus securing better bushes and finer tea.

A well withered leaf—will feel soft and glove-like. A handful rolled into a ball can be tossed a dozen times before separation takes place. There should not be a single black leaf, if possible, or, in any case, not more than one here and there, such as is unavoidable under all existing arrangements. The loss is about 30 per cent. It is better far to under than to over-wither. A good withered leaf will exude a thickish juice, that does not run, when being rolled. An over-withered leat will show little or no moisture in the roll. An under-withered leaf will show a large amount of thin watery sap that runs all over and under the rolling table. These conditions vary somewhat with the time of the year and the weather, and allowances must be made. There is little sap present in the hybernating period—August-September, and in the coldest months January-February. There is a good deal of sap in laughing April, more in gushing May, also in the months of September, October and November. Sometimes September is a very dry month. Mr. Bamber, on page 219 of his most excellent work, writes:—"When the leaf is from "high-class bushes, it withers more easily than leaf fro "poor hybrid or China bushes owing to the softer texture "the epidermis of the leaf." Our experience is diametrical opposite, and we have invariably to spread Assam jât le thinner than we do China, the reason being that the highe jât has much more moisture in it. We do not think that th

Mesh of the cloth—or netting used for withering, count for much, and consider that the withering takes place mor by air that passes *over*, than what passes *through* the tat This can be easily tested by the use of a bamboo or othe mat over any section and noting whether leaf on the mat i less withered than that on the cloth or netting.

NOTES.

Mild Coffees. We publish a very interestin paper about the Mild Coffee Trade (i the United States). It is significant to note how brief i the allusion therein to East India Coffee formerly "the grea mild coffee."

Calcutta Tea Sales. The average price realised at th sales on 17th ultimo was 5as. 10p Last week 17,222 packages were sold; a flat tone prevailed throughout the sale and, excepting for common teas, price were a quarter to half anna lower, common to medium broke pekoes being exceptionally difficult of sale.

The London Tea Market. Cabling to Colombo on the 23r ultimo, Messrs. Gow, Wilson an Stanton reported that heavy supplies of Indian Tea wer depressing the market. Medium liquoring and broken pekoe showed a slight decline, and the market was easier for tea for prices. The average of Ceylons had dropped ¼d. an stood at 7⅞d. Of 26,000 packages Ceylons offered, 22,00 were sold.

Colombo Tea Sales. At the Colombo sales on 22nd ult about 12,521 pkgs. = 989,112 lbs were offered, of which about 8,700 pkgs = 690,032 lbs were sold. The *Times of Ceylon* remarks:—A great disincli nation to operate was noticeable at the auctions, and price generally for all except common teas were decidedly weaker Broken Pekoes were almost entirely neglected. Good medium were offered from St. Johns, Mocha, Ben Nevis Tonacombe Palmerston, Hatton, Kelaniya, and Bræmar.

Adulterated Tea, Coffee, &c., in the U. K. According to the report of the Local Government Board, of 1,87 samples of coffee examined during the year, 187 were found to be adulterated. Of Tea, 486 sam ples were examined and only 15 found to be adulterated. W confess to a doubt as to the reliability of the examinations however, for the figures concerning pepper show only 1 "adulterated out of 1,566" examined. Our impression is tha the adulteration of pepper is by no means so rare as figure such as these would lead people to suppose.

The London Coffee Market. Commenting on the slightly firme tendency recently noticeable in th London Coffee Market, Messrs. Enri que Cortes and Co. attribute it to (1) reports that the plagu had reached Brazil: (2) discontent among labourers (chiefly

Italians); (3) increased deliveries; (4) smaller arrivals at Brazilian ports of shipments; (5) diminution of production in India, Java, Central America and the Antilles, especially in Puerto Rico, in consequence of the violent hurricanes of August last, which have done damage to many plantations.

Cocoa in Trinidad.

According to the Annual Report of the Acting Governor of Trinadad, the area of land under Cocoa in the island is estimated to be 103,000 acres which, in the year 1828, gave a crop of 24,340,306 lbs. This will be considerably exceeded in 1899. Cocoa is exported in bags averaging 165 lbs. each. The cost of cultivation varies from 33s. to 60s. per bag; but 40s. may be taken as an average for a fairly matured estate. The average price obtained last year was 80s. per bag, so 40s. may be taken as the average profit per bag. The value of an estate to produce 600 bags is about 60,000 dols., or £12,500.

Bug or no Bug?

The *British Central African Times* is taking quite particular pains to demonstrate that a ladybird is one thing, a bug another. Our contemporary brings its Encyclopædia to the front, and all with the object of proving that "the spotted bug" that brings about spoiled coffee bean is a bug, not a beetle. The Kew authorities have also been asked to report upon the insect. Mr. Kenneth Cameron thinks, by the way, that the bug remains in an active state from one year's end to the other, and that only a severe drought with no fruit would kill it out unless picked off.

Russian Tea Buyers in Colombo.

It is reported that Messrs. Stcherbatchoff, Tchokoff & Co., and Messrs. Tokmakoff, Molotkoff & Co., of Colombo, in the interests of other Ceylon merchants doing business in tea with Russia, and after conferring with them, are calling a meeting at an early date to consider what steps should be taken to enlarge the scope of their business with Russia. Russian buyers complain of the small amount put on the local market, and urge its increase. Both the Russian and English tea merchants of Colombo doing business with Russia are to consider the subject in all its aspects at the forthcoming meeting.

Seychelles Vanilla-crop.

A Seychelles correspondent, writing on September 25, states that the prospects for the 1900 vanilla-crop are gradually becoming worse and worse. There is not, at the present time, the slightest appearance of any flowering, and we are now at the end of September. Planters are naturally growing gloomier every day. Prices of old-crop are very firmly maintained, as much as 18r. per half-kilo. having been paid for really fine pod. These high prices are partly due to large buying-orders having been received from Germany. The exports for 1898 were 15,344 kilos. to the United Kingdom (460,320r.), and to France 9,044 kilos. (271,320r.). The total amount recorded was 25,177 kilos.

Coffee Adulteration.

Coffee suffers in the matter of adulteration as compared with tea, says the *Home and Colonial Mail*; the berry seems to offer to the manipulator the chance he yearns for. Mixing chicory with coffee being to some extent a played out form of adulteration, a grocer in Cheshire has been coating the berry with sugar, hereby increasing the weight of the coffee from 5 per cent. to 10 per cent., and obtaining a shilling a pound for what in the ordinary way would not fetch much more than a twelfth of that sum. Even the berry is being imitated by a treatment of maize. The fraud, which is made in Germany, has found its way into Yorkshire, and, according to the Government analyst, it is most difficult, even on close inspection, to distinguish the doctored maize from the genuine coffee berry.

A View of Coffee in Hawaii.

Among the inducements held out to attract settlers from the United States to its new island possession, Hawaii, is the adaptability of the climate and soil of the island to the cultivation of the coffee bean. Says the Philadelphia *Times* on the subject: "It is asserted that all the prospective settler with a small capital would have to do would be to acquire a tract of land, plant it with young coffee trees and wait for the same to grow to maturity. It seems to be assumed that the demand for coffee is unlimited. Probably no form of cultivation in the tropics has been overdone to the same extent as coffee planting. With Rio standard No. 7 at 6 cents and a fraction per pound, and the Brazilian, Central American and East Indian plantations glutted with their unsold products in spite of the low price, it would seem as though the supply had far overgrown every possible demand."

The Acme Tea Chest Co., Ld.

At the Annual Meeting of this Company held on October 10th, the Chairman stated that the price of the raw material for steel chests had gone up 50 per cent. He was sorry that he could not declare a devidend on the ordinary shares, but the usual six per cent. on the preference shares would be paid at once. The new Veneer Chest had turned out a great success and the factory was working day and night to get orders out and the present output would soon be doubled. It had cost them a great deal of money, but with a first-class plant and a forest growing their own material, sufficient to last them for the next twenty years, their prospects for the coming year were very promising. They were now turning out a magnificent chest in the "Veneer Acme" and the combined orders for Steel and Veneer Chests were expected to reach over half a million this season.

Sir Thomas in a new light.

The *Critic* gives quite a new suggestion in regard to Sir Thomas Lipton's attempt to win the American Cup. It remarks:—"Many experts here believe that America is destined to be one of the great rivals of China and Ceylon in the production of tea. I need hardly add that 'here' is New York; and my readers will possibly ask whether there is any single thing for which those States are not 'destined.' The foundation of this new faith is the reported success of a 50 acre experiment in America tea-growing. 'The product has all the flavour of the choicer Oriental brands,' which is what one would expect. No doubt Sir T. Lipton's trip to America was only in name connected with the yacht race. He really went to make an offer for the Summerfield crop and to pick up a hint or two from the Yankees likely to serve the ends of his Ceylon agents no doubt; but if he visited Summerfield, Sir Thomas kept his movements very dark."

Cinchona in Ceylon.

In the course of an address before the Royal Colonial Institute on the 7th instant on "Ceylon," Mr. John Ferguson, of Colombo,

said the brief record of cinchona-planting in the island was full of romantic interest. At first planters scorned the idea of cultivating a medicinal plant, but when coffee failed there commenced a rush into cinchona all over the hill country, and proprietors thought they were on the road to fortune; but an export of little more than a million pounds in 1880, when quinine was 12*s.* per oz., was followed in 1884 and following years by twelve, thirteen, and fifteen million pounds, and the quinine value came tumbling down to 1*s.* 3*d.* per oz, at which rate it did not pay to harvest the bark in Ceylon. Lately there had been some revival in price, and the export being very low—less than a million pounds last year—it was thought cultivation might prove profitable if judiciously carried out in favourable districts.

The Spanish Customs.

The following royal decree was published in the *Spanish Official Gazette* of 1st April last:—In conformity with the proposal of the Minister of Finance, &c. In the name of my son. King Alfonso XIII., and as Queen Regent of the Kingdom, I decree as follows:—Article 1.—Cocoa and Coffee in berry are declared to be included under numbers 308 and 310 respectively of the Customs Tariff in force, when they arrive toasted or in any other form than in their natural state. Article 2.—The explanation contained in the preceding article will be understood to apply to all assessments made in the Customs Houses of the Peninsula and Balearic Islands, from the publication of this decree in the *Madrid Gazette*. Article 3.—The Minister of Finance will dictate orders for the fulfilment of this decree and will account for it to the Cortes for their approval. (Signed) MARIA CRISTINA, and RAIMUNDO F. VILLAVERDE,
MADRID, March 29. Minister of Finance.

Queensland Coffee.

The *Cairns Argus* writes:—Our representative in passing took a look in at Mr. R. D. Lewis' coffee manufacturing establishment in Lake-street yesterday, and found that gentleman as usual busy with various matters, such as the roasting and grinding of coffee beans. He informed us that the whole of his crop for this season had been gathered in, and had amounted to 8 or 9 tons, procured from 10 acres of ground. Next season he expects to have a much larger output, as there will probably be about 20 acres of land producing coffee in consequence of many of the young trees beginning to bear. Mr. Lewis is of opinion that there will shortly be a rise in the price of coffee in the market. The rates at present prevailing in the Brisbane market were, he said, about 7d. a lb. for coffee in parchment, from 9d. to 10d. for cleaned coffee imported, and 1s. 10d. a lb. for pure coffee. Mr. Lew's desires to announce that he is now supplying pure coffee in tins in addition to the coffee and chicory which some people prefer. In this manner he is prepared to meet the tastes of all classes of persons.

The Trade of China.

At the London Chamber of Commerce, recently, Mr. C. T. Gardner, British Consul of Amoy, read a paper on "The Trade in China," in the course of which he said they could only hope for a perfectly satisfactory trade with China when the following events should have come to pass:—(1) The abolition of likin; (2) the abolition of the salt monopoly; (3) the abolition of the prohibition against the export of grain; (4) reforms in the administration of the country; and (5) the opening of the country to British capital and energy by permitting British subjects to obtain railway and mining concessions, to engage in manufactures, and lease agricultural lands in the interior. Climatic and soil conditions were as favourable in China as in any part of the world for the raising of tea, sugar, tobacco, coffee, quinine, and camphor. As to tea, in the Amoy consular district likin had utterly killed the tea industry, which a few years ago was worth millions a year. The tea gardens had run to ruin, and no other crop had taken its place.

The Madras Government Botanist.

In its report on the operations of the Department of Land Records and Agriculture for 1898-99, the Board of Revenue observes:—The post of the Government Botanist which had remained vacant for some years, was revived during the latter part of the year by the appointment of Mr. C. A. Barber to the post. His term of office in this Presidency has been sanctioned for five years, after which his services are to be made available elsewhere in India. The chief aim of his work is to make a systematic survey of the flora of the Presidency, although his advice will be available on subjects connected with economic botany. To assist him a small staff has been sanctioned, and his head-quarters have been fixed at Ootacamund, to which place the herbarium has been transferred. Before the close of the year, a tentative programme for the survey, under which the Government Botanist will spend three periods of about two or three months each during the year on tour, has been drawn up and approved; but until the close of the year Mr. Barber was chiefly engaged at Madras in arranging for the transfer of the herbarium to Ootacamund and only commenced field work later on.

Brazilian Exchange.

Writing on 17th October, the *Brazilian Review* says:—"Altogether, we maintain our opinion that the market is ripe for the turn and that, even should operators succeed in putting rates down again for a time, it cannot last . . . Another sign that the liquidation of the late bull deal has been rapidly proceeded with, if not completed, is the simultaneous shrinkage of cash balances at the Rio, Santos and S. Paulo branches of the five foreign banks by over 10,000 contos and that of their aggregate debit to head office and branches by over 15,000 contos, which are now almost the same as on 30th June last. Shipments of coffee, too, continue well over the average being £388,259 for the week as against the weekly average of only £331,942 since 1st July and £299,06- for the corresponding period last year." But the very same evening our contemporary had to add this little paragraph —"*The Bubonic Pest.* Reports were current that cases of pest had been observed at Santos. In consequence exchange was very weak, and after opening at 7s. 13/32d. dropped to 7s. 5/16d. at which it closed in spite of official and private contradiction of the rumour."

Experimental Farms for Madras.

A scheme prepared by Mr. Benson the Deputy Director of Agriculture has been recommended to Government for acceptance, which is, briefly, that, as a scheme to be ultimately worked up to, eight experimental farms should be established—four in the northern and four in the southern half of the Presidency—each farm to be about 50 acres in area: the general programme of operations on the farms being that suggested by the Deputy Director. In connection

with each farm, a school or class should be established by the Educational Department. The agricultural staff required at each farm will be a resident Inspector who might be designated farm superintendent, and one or more probationers attached to do duty as bailiffs and record-keepers in connection with the experimental work. As a programme for immediate operations, it has been suggested that very early steps should, if funds can be provided, be taken to establish two experimental farms—one in the northern and the other in the southern half of the Presidency. Passing orders on this the Madras Government observes :—"Schemes were elaborated during the year for the constitution of a Land Records staff and for expanding the operations of the Agricultural Branch of the department, in particular by establishing experimental farms. These schemes present many difficulties, but the Government hopes that it will be possible to make material progress towards their solution in the course of the current year. In the meantime, the present organisation of the department necessarily limits its operations in great measure to the collection of statistics and to isolated special investigations."

LETTERS TO THE EDITOR.

COFFEE PRODUCTION IN BRAZIL.

Messrs. W. H. Crossman & Brother, who are well known authorities on the coffee market in New York, have issued a circular in which they say—

(1) That the enormous increase in coffee production in Brazil, and the consequent lower prices, are directly due to the depreciation of the milreis.

(2) The only way to decrease production, and increase prices, is to double the value of the milreis.

(3) That, so far, the Government Currency Policy has resulted in no tangible improvement in the milreis, and that the entire element of planters and agriculturists are stubbornly opposed to any advance in the sterling rate.

(4) That land once put under coffee must remain under that product, as coffee takes four or five years to come into bearing, and then continues to bear season after season for many years. Besides, it cannot like wheat and cotton, be diverted to other channels of consumption (*i.e.*, put to other uses than that of a beverage, pure and simple, when prices are very low.

(5) The present production must therefore continue for some years to come, and the only means of curtailing production is a constant lower price for coffee. All the efforts to raise prices so persistently made can only result in further disaster to all concerned.

Messrs. Crossman are no doubt justified in laughing at the attempt to bull the market on the report of a solitary case of bubonic plague at Santos and at the idea, attributed to Brazilian planters, to continue growing coffee at extremely low prices in order to extinguish coffee-growing in other countries and then fix their own price for the article. It is, however, doubtful if they are correct in saying the present rate of forty milreis a bag (say, 22s. a cwt.) pays planters, and that it would require a fall to thirty milreis a bag to curtail production. Another factor in the problem has appeared, of which Messrs. Crossman take no account. Present prices are so unremunerative that not only cannot planters, two-thirds of whom are heavily mortgaged, meet their liabilities, but they cannot even meet current expenses. To endeavour to do so, they have reduced wages, with the result that 15,000 colonists have left Sao Paulo in two months, and 60,000 are said to have booked their passage to Europe (*Rio News*). When we remember that the increase of Brazil production had only been rendered possible by the labour of these colonists, we realise that there is a very serious chance of the immediate curtailment of production. Both the *Rio News* and *Brazilian Review*, who are by no means generally in accord on the present crisis in coffee, agree that it is probable labour will be short in Sao Paulo, and a good deal of the growing crop may not be picked. Planters who remember the days of heavy crops and short labour in India will realise how much of a crop can be lost by want of labour at the right time. The complaints of the Wynaad Association to Government in the sixties and seventies are full of complaints of losses of crop from this cause. And those who knew men who went through the crisis after the American Civil War have heard of whole estates being abandoned in North Wynaad,—not because coffee did not flourish, but because there was absolutely no money to be had for any purpose in Bombay, from which centre that district was then financed. The Brazilians are feeling the shortness of labour now, and will probably begin to feel a dearth of money presently ; for no financiers can afford to go on for long working so vast an industry at a dead loss. No doubt the best estates will survive, but it is only necessary for the poorer to be extinguished for a curtailment of production to ensue.

The Brazilian advocates of sound finance are by no means discouraged by the present slight relapse in exchange, and say the Government moratorium scheme has done all that could be expected of it in the time. There is not the slightest chance, whatever the agriculturists may say or do, of the Brazilian Government refraining from carrying out its present policy to the bitter end, any more than there was or is in India. And, as in India, the full effect of that policy will probably not be felt till the third year of its existence. This year, anyhow, the advocates of the Government policy expect the effect to be largely neutralised by the heavy loans contracted immediately before the scheme was put in force. These debts have now been repaid, and next year the scheme is expected to have a greater effect ; but the full effect is not expected to be felt till 1901.

W.

TOBACCO.

Dear Sir,—In your issue of 11th November, "Chungu" said he had topped his tobacco at 18 inches, and wished to know to what size the leaves should grow.

The height at which topping should be effected depends on the richness of the soil, the vigour of the plant, and the kind of tobacco cultivated. In Saigon, 16 to 20 leaves are allowed to develop ; on the plant in France, only from 9 to 12. Similarly, the size of leaf must vary according to soil, species grown, &c.

I would suggest that "Chungu" should not allow his plants to bear more than 12 to 16 leaves each. He ought then to stand a fair chance of getting a good quality.

Gowcha.

THE FUTURE OF COFFEE.

In your last issue you published a letter from Mr. W. H. Crossman, of New York, saying that he could "see no way out of present conditions, except by patiently waiting until the production shews signs of decrease—until natural causes bring about a reduction of supplies; and, from all appearances, such results are a long way off." These natural causes, he explains, are that Brazilian coffee should fall from 40 milreis per bag, which he takes to be its present value, to 30, or less! A bag is 60 kilogrammes, or about 132 lbs.; and, as he takes the milreis at 7d., 40 milreis per bag would mean 19s. and 9¼d. per cwt.; and 30 milreis per bag, only 14s. and 10⅓d. per cwt. If his conclusions be just, they are very discouraging to Indian coffee planters; for, as Mr. Crossman declares that he has no faith in the scheme of the Brazilian Government to appreciate tangibly the value of the milreis, it is clear that the reduction he contemplates must be in the sterling (or gold) value of coffee; and it is certain that such a fall in the gold price of Brazilian coffee would mean a further heavy fall in the price of the Indian article. Let us hope, however, that Mr. Crossman is right in thinking that these results are a long way off.

On the other hand, in Saturday's *Madras Mail* (25th Nov.), there is an editorial in which your contemporary shews that the Brazilian Government is faithfully adhering to its engagements, and implies his faith in the success of its scheme for rehabilitating the milreis. So far from thinking a further fall in the price of Brazilian coffee necessary to check production, he assures us that, at present prices, planters there are not able to meet their current expenses, and that they will be unable even to pick their crops; and, though low enough in all conscience, present prices are not quite so low as Mr. Crossman states. Your contemporary goes on to say that 15,000 labourers, chiefly Italians, have left the country, during the last two months, and that 60,000 have taken their passages. He writes particularly of the Sao Paulo district (Santos coffee), in which the greatest increase in the production has taken place. This is, for the Indian coffee planter, a much more hopeful view of the situation. The question is, Is it true? If not, however comforting it may be to harassed planters, no good can result from preaching peace where there is no peace.

I have, now lying before me, a most interesting article on the cultivation of coffee in the State of Sao Paulo, from a French point of view, which appeared in the February, March, and April Nos. of the *Revue Des Cultures Coloniales*, and which is written by a Monsieur A. R. Conty, a French official, who visited a number of plantations, in the State of Sao Paulo, with the view of ascertaining whether coffee would be likely to pay in the island of Madagascar, which has been lately annexed by the French. He takes the value of the milreis at about 8d., and informs us that the whole crop of an estate is worth, on an average, milreis 13,725 per "arroba," in the Santos market. An arroba is 15 kilogrammes, or about 33 lbs.; so that the mean price of the crop at Santos, according to Monsieur Conty, would be 31s. and 6d. per cwt., which is certainly much nearer the prices quoted in the market reports than the figures given by Mr. Crossman. Monsieur Conty's paper is ably and dispassionately written, and he seems to have spared no pains to arrive at correct conclusions. He was welcomed not only by the French Consul, but by the President of the State of Sao Paulo, who sent him free Railway passes for himself and his staff: and the Consul convened a meeting of the leading planters and introduced them to him. He also gave him free access to all the records of the Consulate; and the planters, following suit, received him with the utmost cordiality, shewed him their accounts, took him all over their estates, gave him all the information in their power, and readily prepared such estimates as he required of their expenses and receipts. Under these circumstances, and on account of his official position, Monsieur Conty had peculiar facilities for arriving at the truth, and his conclusions are probably exceptionally correct.

Monsieur Conty gives several estimates which, considering that they were furnished quite independently, some by French and others by Brazilian planters, agree with each other extremely nearly, infinitely more so than the estimates of Indian planters, amongst whom the system of working and the out-turn would appear to be not nearly so uniform as in Sao Paulo. I take the first, which shews that the cost of producing one "arroba" of coffee, from an estate in full bearing, and laying it down in the market of Santos, is, including the broker's commission on its sale, milreis 6·46; and its average value milreis 13 725, or a profit of more than cent per cent. on the outlay. As stated above, the arroba is 33 lbs.; but it is indifferent what is taken as the unit, the proportion is the same. Monsieur Conty, however, draws attention to the fact that he has omitted interest on capital, and the living expenses of the proprietor. Also that the cost of carriage to Santos would vary slightly with the distance between that port and the estate.

Now if, disregarding the cost of living and interest on his capital, the planter can realize a profit of cent per cent. upon the working expenses when the milreis is at 8d., it is clear that he could just pay expenses if the milreis went up to 16d. But planters must live, if they are to go on working, and interest must be paid, at least when the estate has been bought and worked with borrowed capital, so he would probably have to stop about when the value of the milreis reached a shilling. On the other hand, we must not forget that coffee, when once it comes into bearing, goes on yielding something every year, for a long time, even if left entirely to itself; and this circumstance would no doubt prolong the struggle.

Altogether the question is one of the greatest intricacy, particularly as the reports which reach us are so utterly conflicting that it is almost impossible to form an opinion worth having. But I may safely advise Indian planters, whilst hoping for the best, to prepare for the worst, that is, to economise, as far as they possibly can, and to set seriously to work to raise subsidiary crops of anything that will pay, in case coffee should fail them after all.

COFFEE PLANTER.

GENERAL ARTICLES.

THE MILD COFFEE TRADE IN THE UNITED STATES.

Mr. Arnold Schramm writes in the *American Grocer*:—

My first acquaintance with mild coffees dates from 1866, when I entered the service of a concern with the euphonious name of Schmilinsky, Lotz & Co. At that time, this concern, Maitland Phelps & Co., and E. Pavenstedt & Co. controlled the Maracaibo business, and each house had a line of sailing vessels (brigs and schooners) plying between New York and Maracaibo. Owing to the shallowness of the channel over the bar, and which continually

shifted, the vessels all had to be of light draught (about eight feet), and were, consequently, necessarily small, fetching not over 3,000 to 4,000 bags at a time. The largest house here at that time in the Maracaibo trade was Schmilinsky, Lotz & Co., which did almost no other business, and their Maracaibo house, Schmilinsky & Co., was then, by all odds, the largest concern in Maracaibo. Neither firm now exists.

The output of Maracaibo coffee was then certainly not over 10,000 bags annually, and was not of any uniform weight. Trujillos, for instance, were frequently shipped in eighty-pound packets or butts, and the bagging was often so wretched that the coffee squeezed out through the meshes. The Cucutas, however, came in fine grass bags, splendidly woven (mostly in the penitentiary of Pamplona), and very strong. These weighed from 125 to 130 pounds. At that time, all Maracaibo coffee came in grass bags, or *figue*, both large and small, and no one would have considered a differently bagged coffee genuine or bought it. It was a saying, "If not in Maracaibo bags, it is not Maracaibo coffee."

The Laguayra and Porto Cabello business at that time was almost entirely in the hands of John Dallett & Co. (later Dallett, Bliss & Co.), of Philadelphia, who ran a considerable line of sailing vessels between Philadelphia and Venezuela. The firm name was changed several times, and finally the house removed to New York. This concern was the first to see what a splendid chance there was for starting a steamship company, and in doing so rapidly drove the sailing vessels out of the trade. The line was exceedingly successful, and to this day has a monopoly of the business under the name of the "red D Line," controlled and managed by Boulton, Bliss & Dallett, who are the direct successors of the old firm of John Dallett & Co.

Laguayra coffee (under which name is comprehended washed and unwashed Caracas and Porto Cabello coffee) was, of course, at that remote period not nearly as important an article as it is now, but it has by no means increased in proportion to Maracaibos, under which general name are classed the various Cucuta, Tabira, Merida, Bocono, Jovar, Trujillo, and sometimes Coro coffees, which are exported from Maracaibo. The export of Maracaibos is now about 400,000 bags annually of perhaps an average weight of 130 pounds each, and nearly all of this goes to New York, from where, however, at times, small lots are sent to Europe.

Coros should be classed by themselves, and are not an important item, as 50,000 bags probably cover the amount annually exported. In quality they are between Laguayras (Ports) and low grade Maracaibos. The production of all kinds of Laguayra coffee is probably not over 400,000 bags of 130 pounds each per annum, though it may be somewhat more.

Thirty years ago Savanillas were also a very unimportant item, and 60,000 to 80,000 bags would certainly have covered a crop which has now grown to fully 400,000 bags or more. Then everything was used for bagging, much of the coffee coming in hides, called "bull-heads" because they were lapped into for an almost round package, and were so tough that it required a very sharp knife to get through. The "Savanilla" consisted then principally of Rio Hache and probably Ocana coffee, but it was not classified, and, strange to say, brokers in milds furnished the importer no "gradings" in the sense of the present day. All was sold under the one name, and the general quality was wretched, being full of black beans, stones, etc., and was frequently false packed. One of the honest (?) planter's tricks was to "stovepipe" the bag—viz., set a hollow-like stove-pipe into the bag after a little coffee was in it, and then fill this with black beans or rubbish and fill all around with good coffee also on top after the pipe had been withdrawn. The short trier of those days did not go far enough into the bag to discover this and other frauds, and hence the long one was invented which is now in use. Many mild coffees arrived at that time with all kinds and grades in a bag, being probably just as the storekeeper would fill them up with what women and children brought in exchange for groceries.

While Central America was even then quite a coffee-growing country, yet the output was very small as compared with to-day, when Guatemala, Salvador, Costa Rica, Nicaragua, and Honduras, together comprising what is known as Central America, produce at least 1,250,000 bags annually. The weights vary considerably in the different countries, but the average must be fully 135 pounds per bag. Formerly, much of the washed coffee from there was "hidey"—*i. e.*, smelled like decaying hides—and others again was "cheesey," "sour," "rubbery," etc. This was particularly the case with Costa Ricas, and is all owing to defective curing, and probably not at all to hides; it is fermentation in various stages—very properly called *fermentado* by the natives.

Thirty years ago the Mexican crop was a very small quantity, the bulk then, and for many years after, going to France. Now it is quite a crop, amounting to probably anywhere from 450,000 to 600,000 quintals of 100 pounds each per year. This coffee comes in all kinds of packages, from the 200 to 220-pound bale to the 100-pound mat or package. Europe still takes much of it, and here New Orleans probably receives more than New York.

The Haytian crop, which now averages probably about 80,000,000 pounds per annum, was, comparatively speaking, an important factor as far back as I can recollect, and in past years was used here much more than now. I suppose this coffee, same as many other milds, has suffered very severely by the competition of Santos coffee. When I was a young man Santos coffee was practically unknown, while Rio was a very important factor; but now all this seems reversed, and though still very much Rio is grown, the great competitor of all middle-grade milds seems to be Santos, to the production of which there appears to be no limit.

Formerly East India coffees (all sold as Javas) were the great mild coffee, and then there must have been an output of fully 2,000,000 bags (or piculs) of this and also 1,200,000 bags of Ceylon coffee. The latter, through the ravages of leaf-disease and other causes, is now almost an unknown quantity, and Javas are reduced to probably 500,000 to 600,000 piculs.

Nowadays one never hears of Manilas, Singapores, Macassars, etc. Jamaica coffee is not now, nor ever has been, a crop of any magnitude, and the same holds good for many other mild coffees. A few new coffees, such as Hawaiian, etc., have appeared, but seem to amount to very little as yet, while in Brazil, the districts of Victoria, and Bahia, practically unknown thirty years ago, have become very large crops—of 250,000 bags for one and possibly 500,000 bags for the other. Porto Rico, our new possession, always grew more or less coffee, and its output now varies between fifty and eighty million pounds, according to poor and good years. It varies exceedingly. Now, with the stimulus of patriotism added (and a possible future duty), this coffee should come into more prominence; but I think no amount of fostering will ever make it a very large crop (not over 100,000,000 pounds), as the area is restricted.

The country that had a chance, on account of unlimited area and a large population, to compete was Mexico; but it is only on a silver basis, while Santos is on a paper basis, and its coffee is grown by aliens (Italians), who are said to live in shacks, without families to support, and subsist on maize and beans grown by paper labour. The clothing is said to consist of an old bag with holes cut for the arms. It can be seen from this that people who have any self-respect and want to "live" cannot compete with Santos, unless it be Guatemala, where the labourers (or *mozos*) are Indians, and which country is also on a paper basis, and the Indians live on maize, beans, and bananas, and dispense with the bag. They are thus one empty bag ahead.

Mocha coffee seems to become less important every year, and the former annual importation of, say, 40,000 quintals is decreasing continually, because people have discovered that "Bourbon Santos" is a perfect substitute for this world-renowned humbug, and in the cup is fully as good. Mocha, the total crop of which is perhaps 150,000 quintals, is an acrid and rather unpleasant coffee, which has been assiduously boomed by writers who likely consumed chicory for coffee and did not know what they were talking about. Why, the other day I came across a book, the writer of which claims that Bahia is the best coffee in existence. It is now pretty well established that Bogota is the king of coffees, and few blends for fine family trade are put out without putting in some of this.

There are still any number of minor crops of mild coffees which I might enumerate, but it would make this article too lengthy. The various varieties and sub-varieties run into hundreds (if the numerous Asiatic coffees are taken into account); and, after all, the proper making is coffee fully as important as the coffee itself. If coffee is boiled, like peas, then any coffee will be vile. If coffee is only toasted, or is roasted to bitterness, then no matter what it was or how carefully prepared, can you get a good cup of coffee. The very success of the cheap and nasty Brazil package coffee proves that to many people "all coons must look alike," and on such, a good coffee is thrown away. The only proper way to get good coffee is to have it roasted sufficiently, ground finely, put into a

bag or sieve (or a machine properly constructed to effect the same purpose), percolated by slowly pouring hot water through it and serving it at once. Any coffee is destroyed by standing.

I would have liked to end this article by giving you correct statistics as to the production of mild coffees the world over; but, as I have tried for years to do this and failed, I have at last given up in disgust. Our Government, which professes to be so solicitous about the welfare of its subjects and to aid commerce, could easily obtain the correct figures by instructing all consuls in coffee-exporting ports to obtain figures representing the total exportation in pounds from each port to all countries, and adding these together for each country would give the total output of that country.

One would think that the correct figures for the production of Mexico and Central and South America could be obtained from that invaluable institution known as the Bureau of American Republics, but an application to them results in receiving a few ridiculous pamphlets, in which one may find a few figures, perhaps, giving the alleged exports in dollars. This for an article varying from 6 to 22 cents, according to crop conditions and the native dollars from gold to paper money at 900 per cent. Such information is truly wonderfully valuable. I also addressed myself to the accredited representatives of the various countries, and though about all replied very courteously, yet only a few seemed possessed of more or less accurate figures.

The manner of selling coffee seems to have changed entirely within the last thirty years. When I first came down town, every wholesale grocer and all roasters, large and small, bought from the importers; but large jobbing houses also existed, whose chief trade seemed to be out of town, and also considerably in the city. These houses for a while became more and more important, and seemed to almost get control of the business, resenting the selling by importers to grocers and all but the largest roasters, until it became an almost established custom that a broker would hardly seek for any outlet but these large jobbing houses and the few largest roasters. For a while most of these jobbers also became importers from certain countries; and for all that, though Brazils were then sold by them and the importers to everybody, and also importation orders for large and small quantities solicited, yet milds continued to be tributary to the jobbing houses that were left after the failure of many of the largest who had ruined themselves by coffee speculations

Meanwhile, one roasting house, and subsequently many others, started in to sell Brazil Coffee in packages; and everyone knows what a phenomenal success they met with, and seem to be absorbing more and more of the business. Milds have so far been fortunately kept free of cheap package coffee, though many blends—generally of very good quality—are on the market, one house having made a fine success in putting these blends of milds on the market; yet, outside of this, the greater part of the mild business seems still to be in bulk coffee as in former years, and it looks now as though a great many of the more far-sighted wholesale grocers and also smaller roasters are again endeavouring to buy direct from the importer, feeling that in order to meet the competition of the cheap Brazil package coffee they must secure coffees at as low a figure as possible. The great stumbling-block, however, as yet is the fact that the retail grocer still exacts an exceedingly high price for the milds that he sells, and yet seems willing to sell, side by side and in competition with these, cheap Brazil package coffee at a nominal profit, in this way cutting his own throat.

THE LONDON CHARGES OF TEA COMPANIES.

IV.

Before closing this series of articles upon the expenditure of tea companies, a word must be said upon agency charges. To speak to the purpose, we shall have to go beyond the sphere of mere London charges, and, in doing so, tread upon delicate ground—so delicate that many friends may consider us to be unduly officious; but the subject assuredly requires examination, and it may be at once stated that the agency system is honeycombed with abuses. After devoting a good deal of attention to the matter, we are firmly of opinion that the agents of Indian tea companies at least—we do not hear so much complaint about Ceylon agents—ought not to play such a prominent part in the management as they now do. The undue importance of these firms, who ought to be fetchers of water and hewers of wood for the London Board and the garden establishments, has been sanctioned by the record of a long series of years for most part of the tea companies have sprung directly from the operations of Calcutta firms who remained their agents. With business, such as that worked by the Indian tea companies, in which the great bulk of the supplies and stores to the gardens passes through Calcutta—and the whole of whose output finds its way there—the companies certainly require faithful representatives at that city who shall superintend these operations. It may also be advantageous here, at this central point, to be in touch with a firm of importance ready and able to give immediate advice and assistance should the management at the gardens fall into disorder. So much must in fairness be admitted, and we believe that no company, however free from agency influences, is altogether independent of assistance of this character. But in regard to many Indian companies, we find a very different state of things prevailing. These Calcutta agents, instead of meekly obeying the behests of their employers, have adjudicated to themselves the *rôle* of managing the whole concern. With a subordinate firm in London, they throw out one long arm to stifle the independence of the Board of directors, and under a Draconian system of control, stretch another into Assam or Darjeeling to throttle the power and independence of the officials at the gardens. The consequence is that both classes of the company's officials suffer from mental deterioration. Too often the directors are mere creatures of the agents who manage the estates, and the men placed over the estates themselves are often utterly unknown to the directors who ought to control their actions. Everything, in short, is managed by the agents, from the purchase of the most insignificant article for the estates to the selection and appointment of the superintendent. Can it be wondered at that, under these conditions, Boards of Directors have sunk into mere ornamental choruses, apparently salaried by the agents to act as "whipping boys" should matters go wrong? And the effects of the system must be just as harmful to the *esprit* of the garden managers. What benefit is it for these managers to give up their lives in the unhealthy climate of Assam and Bengal if, when their efforts towards improvement are crowned with success, the Calcutta agents come forward gracefully with hand on breast to take all the praise that directors and shareholders may be inclined to accord?

In these remarks we have taken matters at their worst, and we are quite prepared to admit that this autocracy on the part of agency firms has in cases worked well. The agency firm has stood behind its offspring at critical junctures, and by care and good management has brought them through times of trouble and anxiety. But proof that the system works badly, on the whole, is afforded by the fact that every really strong Indian tea company has shaken itself free from such tutelage. Companies like the Jorehat, the Assam, the Lebong, the Doom Dooma, and the Dooars have long been managed entirely by their London Boards and garden staffs, and who can say that they have suffered from the reform? Frankly we believe it is the manifest policy of agency houses to prevent their controlled companies from becoming too strong in a financial sense, because, when they do, the shareholders are apt to consider that the agent's services are rated upon too high a scale. To keep the companies in subordination is unfortunately often an easy matter, since the embarkation upon a policy of extensions, accompanied as such a policy so often is by the necessity of borrowing up to the hilt, is calculated to strengthen the hold of the agents over the companies, and that for an indefinite period. They, too, often have control of the borrowing powers of the company, and then naturally the authority of the directors becomes a mere farce. In saying this, we cannot deny that, in some instances, agency charges have been materially reduced from what they were in the old days. At one time agency firms seemed to levy toll upon every thing in connection with a tea company. There was a charge for management, a precentage upon every purchase of stores or material, a percentage upon every ounce of tea sold, a percentage upon the money borrowed, a percentage upon the money lent, a percentage upon every coolie engaged, and a percentage upon every cubic foot of shipping space employed. To the credit of all concerned, many of these objectionable charges have disappeared, but none can tell how far they have ceased to enter into the expenditure of some of the companies. No information on this head can be obtained from a perusal of their reports, for it is only those companies that have shaken themselves free from the incubus, that really set forth their accounts intelligibly in this respect. About secret dis-

counts and allowances, we can therefore say nothing; but turning to the admitted charges, we can point to some glaring inequalities that ought to bring the importance of the subject home to the minds of shareholders.

Whatever may be the demerits of the companies controlled by Sir John Muir, their directors have had the grace to bluntly state the agency charges imposed upon them in a clear and intelligible manner. Comparing these charges set forth by two of his important companies—the Amalgamated Tea Estates and Consolidated Tea and Lands—with the sums spent upon similar services by the Assam and Doom Dooma companies, we have the subjoined results:—

	Value of Crops.	Calcutta Agency Charges.	Percentage of these charges to value of crop.	London Agency Charges.	Percentage of these charges to value of crop.
	£	£		£	
Amalgamated Tea Estates	108,893	2.743	2·51	2,433	2·23
Assam Company ...	177,180	880	·50	2,303	1·30
Consolidated Tea and Lands ...	332,475	8,061	2·42	6,037	1·81
Doom Dooma Company ...	94,873	476	·50	517	0·55

In these calculations we have taken in each case the result for 1898, including, of course, in the London agency charges of the Muir companies the separate charge of office expenses, an expenditure entirely covered by the sums set down for the London expenses of the other two companies. The discrepancy between the results is too glaring for comment, and we need only say that the Assam Company is considered to have heavy London expenditure. In these figures we have not taken into account any commissions upon profit taken by agents, and it is interesting to note that the swaddled conditions of the Muir Companies does not prevent their two Boards claiming between them £4,400 in fees, against £2,156 taken by the Boards by the other two companies. To demonstrate the outrageous character of these charges, we might put the matter in another way. The Consolidated Tea and Lands Company earned last year from sales of tea a profit of £34,491, and, in order to do so, it paid away in agency and office charges no less than £14,098. We believe that the Muir Companies are the worst examples, but how many others approach in any degree the thriftiness of the Assam or Doom Dooma concerns?

Now the remedy for all this is an improvement of the *morale* of the London Directors and the garden staff. Upon every London Board of a tea company there ought to be at least one experienced planter who shall be in a position to visit the estates at certain intervals. Then the superintendent of the gardens should have wide powers, controlled in a measure by the necessity of his writing periodic reports to the London Board. Then the Calcutta agents should be paid for their services by a fixed sum, not dependent upon the gross outturn, and the same method should be adopted in regard to the London offices If it be considered cheaper, as it often is, to farm out this source of expenditure, then that should be done Only in doing it, care should be taken that all secret commissions and discounts should be swept away, for it is far better to pay a higher fixed charge for agency service than to be bled in every vein by leeches that feed in darkness. We know for a fact that important companies have altogether swept away these concealed sources of agents' gains, and patience and perseverance on the part of directors and shareholders will do wonders. It is not maintained that many companies can be worked as cheaply as the Doom Dooma; and, in fact, no fixed rule can be made, but some percentage nearer to its figure than that of the Consolidated Tea and Lands is quite within the range of attainment. Finally, the supporters of the present system may triumphantly point to the articles of association as preventing any such reform. Well, articles of association are made for the convenience of the company, and, if the company so desires, they may be altered.

With this article we for the present conclude the series upon the expenditure of tea companies, and must leave the carrying out of the reforms suggested to the shareholders and the boards most interested. There will have to be further wringing of directorial hands and weepings when the results of this year's working are announced by the weaker companies, and then will be the time to press for the reforms suggested. When the chairman at the meeting talks largely and diffusely about exchange, earthquakes, heavy rains, and the draft question, the discontented shareholders will do well to bring him back to plain business again, by a few question as to whether he and his fellow-directors have endeavoured to put an end to those leakages in profits to which we have pointed. A little light upon these subjects, and, perhaps, correction of our errors, will be preferable to the wearisome repetition of platitudes—generalities usually provided by the boards on such occasions. If they like, and it makes them feel any happier, the speech-makers can spend some of their breath in cursing us, for then they sometimes grow amusing. We care not what they say if shareholders will only rouse up and insist upon the stoppages of leaks and on honest, capable, and economical management. —*Investors' Review.*

RUBBER IN BRITISH CENTRAL AFRICA.

W. B. writes from Mlanje to the *Ceylon Observer*, under date October, 21st:—

THE CULTIVATION OF RUBBER

would seem to deserve the serious attention of the capitalists, for there appears to be no limit to the demand and increasing uses to which this product can be put; and in the course of years, not very many I should say, the present supply must become very limited. I have read with much interest the articles appearing in your *Tropical Agriculturist* from time to time on this subject. I shall now venture with a few remarks on the subject myself.

Central Africa, from what I know of it, and what I have read, does not furnish a vast or unlimited supply of rubber vines or trees. The whole country from north to south, and from east to west, is a bush-grass field, as one may call it, covered with native grasses with single fire-proof trees standing in it from 10, 20 to 30 yards apart and on many places thinner; and the bulk of the country has no trees at all. The forests are few (very limited in extent) and usually only in gullies and strips on the sides of the higher ranges of mountains. Stanley's dark forest, of course, is an exceptionally large piece of the continent.

Now the bush country contains no rubber-yielding vines or trees, except by the sides of some streams which have a small bulk of trees left by natives to conserve water, so it is not difficult to see that the supply of

RUBBER FROM AFRICA CANNOT LAST

especially owing to the wasteful way in which it is collected.

There are only two vines in British Central Africa from which rubber is collected by natives, *viz.*:—*Landolphia Florida* and *Landolphia Pertersiana*, very small delicate vines, only to be found in *forest* which the bush fires don't run through. Traders are offering 1s. to 1s. 6d per lb. for this rubber and engage squads of men to search every nook and corner for it, regardless of the method of collecting.

The Negro finds a vine or two, climbs the trees to which they are attached, cuts the vine in sections, even the very primary roots he cuts, and carries away the whole thing to the nearest path, or his camp, where he slices away at the bark just as he fancies, till he gets a small ball of a few ounces (the rubber coagulates as fast as exposed, and is gathered at once) and off he goes in search of more. The primary roots being cut, and the root bulb removed, the vine is done for, as no shoots ever spring from the roots left in the ground. Some useless and, it would appear to me,

UNWORKABLE RUBBER REGULATIONS

have just been published by H. M. Commissioner for B. C. A. What is wanted is to restrict the collecting of rubber altogether, except by license under proper supervision: even then I question very much whether the Congo Free State, B. C. A., and the South African Co. will permit the destruction and ultimate extinction of the "goose that lays the golden egg" in their territory.

I do not think many years are wanted to exhaust the rubber supply of East, Central, and West Africa, though West Coast exports have fallen off greatly during the past few years. We have several large forest trees here, which yield rubber, and one large vine that is not tapped by natives as the caoutchouc does not readily coagulate.

One of those trees answers to the description of *Kickxia Africana*, a West African rubber tree; another I take to be *Ficus Elastica*. The yield of the latter would seem to be very large. I set two men to work on a large tree in my forest; and in about eight hours

they brought in over 1 lb. of rubber each in the evening. It took the whole day to coagulate. The men cut slits out of the bark, which is very thick, and allowed the rubber to collect and set in them. I have sent rubber and herbarium to Kew for identification.

The vine rubber, &c, I have also sent to Kew. I was always struck with the enormous amount of caoutchouc this vine yields: it simply runs out of a cut in the bark for any length of time, and I was

LED TO EXPERIMENT

with some from what I read in your *T A*. I went to the forest with two men and from one vine, in the course of a few hours, we returned with two quarts of caoutchouc. Into one quart, I stirred half a tumbler of water, in which one tea-spoonful of J T. Morton's tartaric acid was dissolved After a little stirring, the contents coagulated the same as butter would come in a churn I then went to the bath-room and washed the rubber, squeezing it and working it in my hand for some time, till all the refuse was washed out, when I had a piece of beautifully *pure* rubber quite white. When exposed it turned reddish grey in colour. The other quart I boiled pure and simple without the addition of any acids. In a quarter of an hour, stirring all the time, I got the same result. Gradually the rubber stuck to the stick until all was collected. This seemed to take place gradually as the water evaporated until I had one lump like very thick porridge, which I tumbled out on a board, poured water on it, and worked it about till I had

A LOVELY PIECE OF RUBBER

much nicer looking than what was made with the acid—more elastic with a pretty bluish transparent look about it. I am sure the above treatment is simple and inexpensive enough, and perhaps better results may be got than by the use of patent machinery I shall try the churning; but as the use of my dairy churn is prohibited, I shall have to construct one for myself. I shall let you know the result in due course.

The above mentioned vine is very hardy, easily propagated from seed, and only takes about ten years to become fit for tapping, with a stem a foot in diameter. I am thinking of

PLANTING IT ALONGSIDE ALL THE SHADE TREES

in a coffee clearing on which native shade was left, although the coffee is a decided success so far up to 18 months old. I do not think the rubber vines would do any harm; and, of course, it is always better to have two strings to one's bow.

THE LONDON TEA MARKET.

"Suum Cuique" contributes to the *Ceylon Observer* a very interesting paper on "The 'Knock-out' in the Tea Market." We quote it in full :—

THE "KNOCK-OUT" IN THE TEA MARKET.

In spite of many assurances to the contrary from those interested, for some time it has been generally known that a unity of action existed among the larger buyers of tea, which has now assumed the shape of 'The Tea Buyers' Association, with the object of buying collectively at the public sales and acting on the lines of what is generally known as "a knock-out." There is no doubt about it, and after all it is only an outcome of the modern mode of doing business. Anyone who likes to go to Ingram House, 165, Fenchurch-street, can see the title in the porch :—

THE TEA BUYERS' ASSOCIATION.

Most of the following was compiled in January, 1899, by one who had previously devoted some months to studying the Tea Trade in all its branches, from arrival of its produce in London to its retail —comparing it with the other large industries, such as brewing, distilling, iron, cotton, leather, &c.; in search of any information likely to be of service in improving the system of selling tea.

In carrying out this, his endeavours have been to adhere, as closely as possible, to simple facts and direct conclusions, and so avoiding all that is remote, or complex.

The Tea Planting Industry of India and Ceylon is now suffering depression from four causes :—

1st. An arbitrary action of the Indian Government, affecting so-called exchange.

2nd. Occasional and periodic rushes of tea from India and Ceylon upon the London market, necessitating some order and regularity in the quantities offered for sale weekly.

3rd. The want of definite and reliable information on the quantities of tea produced and likely to come forward from India and Ceylon.

4th. The same collective care in selling that is exercised in buying teas.

Temporary over-supply seriously brought down the price in the tea market during the early part of last and this year: and although the statistical position of all teas, a little later, shewed the stocks to be almost identical with those of 1897, yet there was no reversion to the prices then ruling, at least for Indian teas. Ceylon, by extra fine plucking, has barely (1898) maintained its average price It is observable, however, *that a return to what economists call an equilibrium of the market, does not re-establish a relative and permanent recovery of price.*

There is also every indication that the market has hitherto periodically suffered far more from the irregular manner in which produce has reached it, than from over-production, although the position has been very nearly reached.

Some years ago, when consumption was smaller, the public sale market in Mincing Lane was frequented by a proportionately larger number of tea buyers than now: tea was brought in smaller parcels obtaining livelier competition.

PUBLIC SALES.

Now in spite of the so-called sales by Public Auction, everyone knows that by far the larger proportion of tea now sold in Mincing Lane goes from seller to buyer without any public competition whatever, it evidently being arranged beforehand who shall be the purchaser. Formerly, the statistical position of the tea market was no more favourable to growers than it is now; the present market, however, has ceased shewing the same response to improved statistical conditions as it then did.

Although the excessive supply of tea brought to sale during the past few years has gradually been worked off, assisted by the increased consumption of foreign markets, yet there is not the reacting buoyancy that the market should in consequence possess.

Nor is any one prepared to dispute that the buying of teas Mincing Lane has fallen into fewer hands, and that the results obtained are not so satisfactory as formerly.

Also few will admit that the market responds now as formerly to supply and demand; for, from a grower's point of view, whatever be the cause, the fact remains of the existence of some adverse influence somewhere. Consequently, if the present order of things continues unaltered, the open market is not likely to adjust itself in any adequate degree.

The following table shews that something besides supply, demand and over-production have been influencing the downward tendency of tea prices, for the past 15 years, although probably the chief cause has been the irregular supply of the market.

HOME CONSUMPTION OF TEAS.

Memo. shewing the total home consumption of all teas, including India, China, Ceylon and Java; also stock at the close of each year with average of price and the proportion of stock to consumption over 15 years, in intervals of three years, from January 1st to 31st December in each year :—

Year.	Home consumption in	Total stock at the end of each year.	Average price.	Proportion of stock to consumption.
	Lbs.	Lbs.	d.	Per cent.
1898 ...	235,414,185	101,638,000	8·35*	43
1895 ...	221,731,490	103,480,802	9·63	46
1892 ...	217.135,679	98,244,217	10·07	45
1889 ...	185,578.298	113,189,357	10·79	60
1886 ...	178,800,197	103.157,446	11·77	57
1883 ...	170,780,777	118,060,000	12·46	69

* 8·35 is only approximate.

The foregoing table proves that just the opposite has happened to what would be expected. A proportionate reduction of stock should be followed by a corresponding rise in prices and a proportionate increase of stocks by a fall

This surely shews that some other influence must be at work, there is no natural response to supply and demand.

The progression of the figures from ·43 to ·69 are *gradual* over 15 years, so the result can scarcely be considered accidental.

As a matter of fact, judging from all ordinary experience, the markets were proportionately overstocked 15 years ago, than they are now.

It is no use hiding the fact, that the influence of the regu

arrivals of Ceylon teas throughout the year has in a measure stopped the necessity of so large stocks—a secure condition which, if less assured, would be more to the advantage of tea-growers.

MARKETS.

Probably buyers have noticed that tea has gone steadily down for the past 25 years and so do not care to stock against a falling market. Reverse the order, even by the slightest degree, and the opposite will happen and this latter is urgently wanted.

CLOSING THE MINTS.

In spite of Great Britain's boast of Free Trade, the Indian and Ceylon tea-growers have suffered from the arbitrary action of the Indian Government, in protecting its own exchanges at the expense of exporters, by closing the mints which has been disastrous to tea-growers.

Without going unnecessarily into details, it may be considered that between the natural value of the rupee and its present forced value, that 1d. per lb. is added to the cost of production, which, roughly speaking, is almost equivalent to 4 per cent., profit on the average standing capital value of the tea property of India and Ceylon—a very serious loss of itself, but far more serious when regarded in its capitalized form.

If trade were conducted free of undue influence, from either buyer or seller, these unsatisfactory relations would soon re-adjust themselves; but with buyers becoming fewer in number, representing larger collective capital and working on larger lines, there appears to be evidence that they have undoubtedly obtained some undue influence over the market.

Within the last twelve months it was mooted that further amalgamations and the offering to the public of certain large distributing Tea Companies was probable, which would still further reduce the number of public buyers at sales.

Indeed it is not necessary to hide the fact that, for this purpose, capital is easily procurable, expenses of management saved, and additional power attained with every probability that these conditions will increase rather than diminish in the near future.

For, doubtless, in these large concerns with special organization, there arises a most careful scrutiny of where money can be saved or made; they also command the most efficient and skilled men, and with their increasing magnitude, opportunities in their dealings for keeping down prices will not be neglected.

As compared with butter, bacon, sugar and other groceries, tea is sold at a much higher profit by retailers, further evidenced by the gratuitous offerings to those who will only purchase their teas. Growers, if united, might have something to say on this; indeed, they would actually posses a power right through the trade, which, even if not used, would at least exercise some control.

PRICES OF TEA.

Unlike wheat and other annuals, the production of which can stop at the close of any season, tea does not come into heavy yield until four years after planting operations have begun, by which time it has attained a value which *necessitates* continued cultivation: consequently, from this cause among others, it is apt to arrive with considerable irregularity in the market and this produce falls in price, quite unexpected and unprovided for.

There is also a time in each year, usually during June and July, when it may be expected that the London market will become in-active owing to the bulk of new Indians shortly expected; and it is at this period of the year that the heavy shipments of Ceylon arrive. The consequent fall in prices that takes place then exercises its influence on prices throughout the remainder of the year.

Those who have studied economics know that the measure of price of the first transaction has a most material effect upon those which follow, and this principle is acknowledged by all traders.

If so, what can be expected from sellers in a market, who use no systematic and general mean of regulating the quantity of tea offered for sales and allow large and ordinary arrivals to take their place indiscriminately without attempting their regulation?

What would be thought of a man who rushed Company shares on the Share market without any regard at the time, whether they were wanted or not? What principle is right in an individual, must also be right in an industry, having similar pursuits and interests.

Doubtless, the permanent price of tea, from year to year, is ruled more by the *lowest price* of the market at the beginning of the season than by any other cause; and if these periods could be tided over without any material fall, a better price, until these circumstances occurred again, might be insured.

IRREGULAR ARRIVALS.

The effect of these irregular arrivals being thrown thus upon the market is bad enough on produce; but upon the capital value of property and upon the tea share-market, it may truthfully be said that recognised stability is destroyed; and there is every reason to believe that, unless some permanent equalising control can be brought to bear, this condition of things will most assuredly be *more frequent in the future* than it has ever been in the past.

Owing to the small margin gradually remaining to tea-growers to go and come upon, the collapse of prices, which takes place almost yearly, assumed a very serious aspect during the early part of last and also this year. This, however, might have all been moderated by the slightest equalisation of the quantities of tea thrown upon the market, from both Ceylon and India.

No fair critic would allow that, in the public auction sales, the buyer and seller are upon equal terms. The buyer can, at any sale, buy or not, just as he chooses; he claims the right of rebulking, objects to non sampling breaks, claims right of objection on every conceivable point, not the least of which is a regular outcry of "quality falling-off," whenever the market becomes a little over-supplied, leading to endless, and often useless, correspondence between London and the tea gardens.

Against these the individual seller has but one redress, a futile one; if the bid be unsatisfactory, he can withdraw his teas, but as, under the present condition of the market other sellers are easily found, he is no better-off. Individually, he is powerless, on the other hand; combined growers would have it practically their own way.

The buyer can always arrange his purchases so as to obtain a marginal profit on his re sales, which no ordinary circumstances are likely to upset, while with the seller everything is against a fair marginal profit at all commensurate with his outlying capital and yearly cost of production: so the only way this can with any permanency be retained must be by some collective means.

PROPRIETORS NOW RESIDENT IN LONDON.

The present system was unavoidable when the grower and proprietor lived abroad: but now the proprietary of tea-gardens chiefly rests in London, it is time more up-to-date and equitable terms of business were instituted between buyer and seller. If for no other reason, at least to be prepared for differential actions of Government and adverse defensive measures of trade.

It might be asked why sellers should not exercise the same controlling influence over the markets of wheat, sugar, coffee, cocoa, etc. The reply is, other markets compete with London in these, but London practically has the monopoly of British-grown teas; neither are these other products so favourably situated for the purpose, their growers being too much scattered.

Anyhow British tea-growers have object lessons before them in closed mints and sugar bounties; so may rest assured that any satisfactory countervailing influence will not arise unless they take a lesson *from the owners of the British industries* and either rise as one man and protect themselves, or allow the *interests of the consumer* to be alone considered, as with the West Indian sugar industry.

ASSOCIATIONS IN LONDON.

Tea-growers or their representatives do business with brokers, dock-owners, etc., *who all have their unions or associations*; and there are also very distinctly arranged understandings among tea-dealers and grocers; perhaps, not so definitely arranged, *but they exist*, or, as they know very well, trade would not be so advantageously done: unwise competition would as soon, with tea growers, make their business unsteady and insufficiently profitable.

Political economists lay down a maxim that what is division of labour in the individual becomes Free Trade in the State: so surely it is within the legitimate function of the seller to regulate his sales to the requirements of the market, without infringing the laws of Free Trade; and, if so, individually with division of labour, collective action does not alter the principle, but merely increases the numbers in operation.

Indeed, no principle of Free Trade is infringed and the evidence of one of the first Professors of Political Economy, on combining to regulate the sales of the tea market, is that it would be wise trade to do so.

It is certain that the ordinary operation of natural trade cannot fight against the differential impositions of the Indian Government, any more than a man who does not fully protect his own business can expect to compete with another who defends his at every turn.

No matter how necessary for the financial arrangements of India, it is not likely that the protective action of the Indian Government

would have been so widely approved, were it not that it gives immediate benefit to the official classes and to British investors in Indian finances. If the measures taken by India were necessary and so right, a similar course under the circumstances by the British Tea Industry *will not be less right*; federated, too, it will have sufficient power to carry out the measure.

SOMETHING MUST BE DONE.

Under any circumstances, as British-growers are at present placed, with a practically differential tax against their own products, with continued falls in price, irrespective of favourable statistical conditions, *something must be done* to prevent this continual downward tendency of the market. Last year, between May and August, tea fell ½d. and *there is no reason, as the market is at present constituted*, that it should not continue doing so unless some collective means are adopted to meet the situation.

PACKET *vs.* LOOSE TEA.

"A Teaman" writes in the *Canadian Grocer*:—

The tea question to-day is one of paramount interest to the grocer, because of the revolution that has been and is taking place in the trade in Canada and the United States We do not here refer to the ascendancy of Ceylon over Japan and all other teas, but to Packet *vs.* Bulk tea. While many have gone over to the packet, and are using all their energy to build up a trade in this form, others are wavering between it and loose tea. Then, again, a few others will not handle the packet at all, cherishing the hope that the tide will recede and leave them with a good bulk trade. These latter, to be sure, are few and composed mostly of the older generation of grocers. The question then is: "From which does the retail grocer get the most benefit, a loose tea trade or a packet trade?" The advocate of bulk tea will tell you that when you take hold of packet tea you lose your individuality. The advocate of packet will tell you that he is not in the business for "individuality," but to make money. The advocate of bulk will tell you that the profit is larger on bulk tea. The packet man will say that it is not, and that the packet tea shows the greatest profit, because it is an assured profit. That there is no loss in weight or in deterioration. And what is, perhaps, better, there is no bother in blending. More important still, it is not necessary to carry a heavy stock, which is continually losing its value.

Then, there is no responsibility. If the tea is not good the retailer is not blamed for it. And what is likely the most important feature of all is that there is no cutting in prices. The packet man will also tell you that if you want to see Packet *vs.* Loose tea, why look at the state of the Japan trade to-day against the black tea trade! He says that Japan has not been sold in packets, and the result is that to-day there is no Japen tea, sold higher than 25c., and a great deal of it is sold at 20c., netting the grocer about 2c. per lb. profit, whereas there is still a good trade in blacks at 40, 50 and 60c.

If it had not been for the introduction of the packet and the enormous advertising it received, the grocers would have continually been cutting prices of loose teas until the public would have been led to believe that there was nothing better to be had than 25c tea. This is what they accomplished with the bulk teas of Japan, and the same thing would have been accomplished with black teas had it not been for the introduction of the packet, its regular prices and no cutting. The packet man will tell you that it is a great advantage to have stock on your shelves which you can always return to the man from whom you got it. This you can do with at least one well-known packet, and, as you have not to purchase large quantities, you need only a very small stock; in other words, it is practically sold before it has to be paid for; whereas it is a common thing in the bulk tea trade for the retailer to carry $100 or $500 worth of tea, all deteriorating in quality, all paid for, although he did get long terms when purchasing.

And then there is "mine ancient enemy" the tea peddler. The packet has struck the hardest of blows at his occupation. Where the consumer favours the packet, he has no further use for the peddler as he does not sell the packet; in fact, he cannot get it to sell (at least, not the well advertised ones), and so he cannot any longer fool the consumer, and, if his occupation is not already gone, it is going rapidly since the introduction of the packet.

After all this is showered on one, he is half-convinced that packet tea is to be altogether the tea of the future. Then it is time to inquire what the reason of this is, and a large handler of tea states that the real reason is simply that the wholesale bulk tea business is not done honestly; in other words, that any man who tells the truth will state plainly that he dare not buy the tea that he knows to be the best (in the cup) at a given price. For instance: Four teas are shown at 25c. per lb No. 1 is the best. No. 2 the second, and so on to the fourth Now, he dare not buy No. 1 or No. 2; he buys the third or fourth, or the poorest of the four teas. Why? Because it is the best in style; nice black leaf, well rolled and with a nice golden tip; in other words, he buys what is known among the trade as a "flat catcher." No. 1 is really the best in cup, but has poor style and is a tea that would be very hard to sell If he buys it, it is sure to be a stock-keeper. He, therefore, buys the tea that is poorest in the cup and gives samples to his travellers, who, perhaps, not being excellent judges, or, if they are, not having the time or the opportunities of putting it against other teas at the price, consider it good value, and they go out and tell their customers so.

Now, if the purchaser in the wholesale house, who is a good judge of tea and knows the market, did not know that when selling bulk tea his responsibility ceased as soon as he sold to the retailer, he would not have been inclined to buy this tea. He would rather have bought the one that was finest in cup. Therefore, the position of the packet tea man, who pays no attention whatever to style and everything to cup quality, is the one that is likely in the end to find favour with the tea drinker And if with packet teas it is a case of the survival of the fittest, the grocer would do well to keep in the front rank of progress and not "lag superfluous on the stage."

PRODUCE AND PLANTING.

Twaddle about Tea.—The fact that the consumption of tea is increasing rapidly in the United States is perhaps the chief reason why certain people, whose hobby it is to attack everything that is popular, hasten to assert the danger of tea-drinking. One of the latest diatribes against tea is attributed to Dr. Kellogg, the founder of a sanatorium at Battle Creek, in Michigan. Tea, according to this investigator, is a most dangerous drug He tells of servant girls arrested in the streets of Boston for being drunk and disorderly who had tasted no alcohol, but who had "chewed tea constantly;" also, of an old lady in Minneapolis who drank thirty or forty cups a day and ended her life in a lunatic asylum. But even worse than these cases are those in which tea plays a more silent and insidious part. Among women it produces a kind of mania, "the mania for acting the persecuted saint." Among men, unlike the much condemned alcohol, it produces fear. One patient who was suffering from tea-poisoning in this way never passed a high building without looking up to see if something was going to fall upon him. Then the relentless Dr. Kellogg goes on to argue that tea is responsible for sleeplessness, and, in fact, most of the ills which flesh is heir to. We have heard all this so often that it has ceased to be funny. There is another kind of mania than that produced by drinking tea, and it appears to be brought on by the knowledge that a number of people drink tea in moderation and find pleasure and comfort in doing so.

Russian Grown Tea—The official report as to the results of the tea crops on the experimental tea plantation in Tchakva, near Batoum, shows that all the three crops collected produced exceedingly good tea. The Commission appointed to report classified the tea under two qualities, and came to the conclusion that the first sort could be sold retail at two roubles a pound As the best Russian tea is sold at two roubles, eighty copecks a pound, the two-rouble tea corresponds to tea at about 2s. 3d. in Mincing Lane. The Tchakva tea was appraised more highly because it was manufactured on the Indian and Ceylon method rather than the Chinese.—*The Home and Colonial Mail.*

A SEQUEL TO THE RECENT IMPERIAL TEA FIGHT.

"A. L. H." writes to the *Times of Ceylon* from London:—

Mr. McEwan, the London tea importer, the senior partner of Messrs. McMeekin and Co., who talked of fixing a libel case upon the *Times of Ceylon*, heard this week some more about that opposition to the draft abolition, in which he figured against the producers. Mr. McMeekin is the founder of the firm of McMeekin and Co., through whose countenance and aid Mr. McEwan has reached his present position. The poor health of Mr. McMeekin

the veteran Indian tea planter, necessitated his absence from London in the winter months which he has for some time past spent in the south of France. This absence gave more and more scope to the business abilities of Mr. McEwan. But the action in the matter of the draft dispute of putting up Mr. McMeekin's teas in aid of the dealers, to provide them with the means to carry on a war, which was diametrically opposed to the interests of Mr. McMeekin, was a source of great annoyance to the old tea planter. There were other causes for dissatisfaction, and Mr. McMeekin came to the conclusion that, he and his family, holding as they do the whole of the ordinary shares of the Allynugger Tea Company, Limited, and a good part of the Preference shares, must alter certain present arrangements. He made overtures to certain members of the Board, whom he was anxious should retain their posts, but, this coming to nothing, he decided to alter the Articles of the Company to carry out what he thought advisable. The following notice was therefore issued:—

THE ALLYNUGGER TEA COMPANY, LIMITED.

Notice is hereby given that an Extraordinary General Meeting of the abovenamed Company will be held at Winchester House, Old Broad Street, on Wednesday, the 1st day of November, 1899, at 1 o'clock P. M., for the purpose of considering, and, if thought fit, of passing the subjoined Resolution.

RESOLUTION.

"That the Articles of Association of the Company may be altered or amended so as to empower the Company in General Meeting, or by Extraordinary Resolution, to remove any Director before the expiration of his period of office and appoint another person in his stead, notwithstanding that such proposed Director shall not have held £500 or any of the nominal Share Capital of the Company for three months prior to such Meeting or Resolution, or at all, and notwithstanding that notice of the intention to propose such Director shall not have been given to the Company fourteen days previously to such Meeting or Resolution. The person so appointed to hold office during such time only as the Director in whose place he is appointed would have held the same if he had not been removed."

This notice is given in pursuance of a requisition to the Directors for that purpose signed by two shareholders of the Company holding in the aggregate one-tenth and upwards of the Capital of the Company and dated the 11th October, 1899. By order of the Directors McMEEKIN & Co., Secretaries.

10 & 11, Lime Street, London, October 23rd.

I was present at the meeting. Mr. McEwan caught sight of me and instructed the Secretary to request me to withdraw. But I informed that gentleman that I was there at the instance of Mr. McMeekin, and that answer seemed sufficient for Mr. McEwan. There was an attempt to exclude the press, but Mr. McMeekin over-ruled that, and a full account of the proceedings will doubtless reach Ceylon from other sources. There was an explanation from Mr. McMeekin as to the reasons for his action, and in the finish it was apparent that he was anxious to remove the Company's business from sheltering under the wing of Messrs. McMeekin & Co. any longer, and accepting other arrangements for the Company's business offices and secretarial work. The proceedings were brought to a close by a show of hands, which resulted in the resolution being lost, 9 being in favour of it, and 13 against it. But a poll was demanded, and, unless Mr. W. L. Watson, the Chairman of the Company, and Sir Alexander Wilson, can arrange in the meantime a *modus vivendi* the Secretaryship of its largest Company will in a week be lost to Messrs. McMeekin & Co., and once more those who have the right to have the largest voice, *viz.*, the largest shareholders, will have asserted themselves.

ALLYNUGGER TEA—THE QUESTION OF MANAGEMENT.

(*Financial Times*, November 2nd.)

An extraordinary general meeting of the Allynugger Tea Company, Ld., was held yesterday at Winchester House, for the purpose of considering the passing of the following resolution:—[quoted above.]

At the commencement of the proceedings the representatives of the press were refused admission, but eventually they were admitted on the motion of Mr. T. D. McMeekin. Mr. Ernest Tye presided. Mr. T. D. McMeekin moved the adoption of the above resolution. Mr. John Bartlett, in seconding the motion, said that, as Mr. McMeekin's circular to the shareholders had made no reference to the reasons which had actuated him to bring the drastic resolution before the meeting, he would proceed to do so. Every attempt had been made to arrange matters amicably without adopting the present course. Mr. McMeekin's circular had been met by one emanating from the directors, which contained statements to the effect that the secretaries, whom Mr. McMeekin wished to be removed from office, had given every satisfaction to the Board; that Mr. McMeekin, without formal notice, moved a resolution requesting their resignation, and that it was not in the interests of the preference shareholders to allow the control of the business to pass away from independent directors into the hands of the vendor. Mr. Bartlett informed the meeting that one of the secretaries acted as a director of the company also, so that there were really only two independent directors. As far back as the previous August Mr. McMeekin, in the interests of the preference and ordinary shareholders, intimated his wish that a re-arrangement should be made in connection with the secretarial duties. McMeekin's proposal was met by a resolution to be proposed at a Board meeting practically making the appointment of secretaries permanent for three years, and increasing their remuneration. Considering no ordinary dividend was paid in 1898, he thought the time was hardly propitious for such a proposal. However, that resolution was eventually withdrawn. Mr. McMeekin and his family held all the ordinary shares and a considerable proportion of the preference shares. Therefore, they would realise where the shoe pinched when there was no dividend for the year 1898. Mr. McMeekin had to consider his position in common with the other shareholders, and also how the company could be bettered. As managing director, Mr. McMeekin had received no remuneration since the formation of the company in 1892, although he only agreed to do so down to the end of 1896. Mr. McMeekin had provided money for the benefit of the company amounting to £20,000, and he had at different times sent out his two sons, who were skilled in the business, and an engineer to the estates at his own expense. All the money has been found without interest. In addition, Mr. McMeekin had acquired for the company an estate of 500 acres and fitted it up. Therefore, he thought Mr. McMeekin's position with regard to the company was one which entitled him to some consideration and voice in its management.

POSITION OF THE COMPANY.

Dealing with the position of the concern, Mr. Bartlett said that only 3 per cent was paid on the ordinary shares in 1897, and no dividend at all in 1898. One of the reasons why the secretaries should be removed from their present position was that, as tea dealers, their interests were somewhat conflicting with those of the company as tea producers, and in this connection their views on the recent agitation in the tea trade regarding the 1-lb. draft allowance were opposed to the company. Mr. McMeekin had arranged that a firm of tea importers should take over the management of the company, and in this way a saving of at least £400 a year would be effected; the markets would be carefully watched, and the tea would be sold in India and in London to the best advantage.

Mr. WATSON (Chairman of the Company) stated that Mr. McMeekin was managing director and vendor of the company. Sir Alexander Wilson and himself were appointed on the Board to represent outside shareholders, and consequently they felt themselves in a peculiar position. Until the present meeting he had had no idea what the row was about. No one, he thought, would expect the directors to have dismissed their secretaries, who had done the work of the company from its inception to the satisfaction of the Board, without sufficient reasons. On the 11th October Mr. McMeekin offered to give him the reasons privately, but he refused to listen unless they were disclosed at the same time to Sir Alexander Wilson. He had heard of no differences between the managing director and the Board with the exception of those regarding the secretaries. By his generosity Mr. McMeekin had no doubt strengthened the security of the preference shareholders, but they must not forget that all the profits after the payment of the preference dividend went into Mr. McMeekin's pocket. The proposed alteration to the articles of association was most objectionable, inasmuch as it would give one man the control of the company. Hear, hear.) If the meeting agreed to the proposition he should immediately retire from the directorate.

Sir ALEXANDER WILSON said he endorsed every word Mr. Watson had uttered. Should the resolution be adopted it was also his intention to resign his position on the Board. (Applause.)

SPEECH BY MR. MCEWAN.

Mr. McEWAN (one of the company's secretaries) contended that no effort had been made to effect a compromise regarding the matter

before the meeting. Mr. McMeekin asked him to retire from the company, and he (the speaker) naturally asked for a reason. Mr. McMeekin, however, insisted upon his immediate compliance with his request. Mr. McEwan replied that the question ought to be referred to the Board. As to the fact that Mr. McMeekin had drawn no remuneration, the speaker remarked that he agreed to take no salary to the 31st December, 1896. Had he drawn any since that date he would have lessened the benefits accruing to the ordinary shareholders (Hear, hear.) Mr. McMeekin must have known of the alleged conflicting interests of the secretaries and the company when the undertaking was formed, as there had been no change since then. Every pound of tea produced by the company was put up by public auction. Referring to the 1-lb. draft question, Mr. McEwan stated that his interests were similar to those of the company. (Hear, hear.) From the beginning he had devoted the greatest possible attention to the company's affairs, and he had been in close touch with the management in India. A dismissal of the kind put forward by Mr. McMeekin carried with it a suggestion of fault.

Mr. Seton thought the question of conflicting interests was an open one, but he desired to know if Mr. McMeekin, as managing director of the company from the commencement, was aware of the evil position in which Mr McEwan stood, and, if so, why he had not warned the shareholders before? (Hear, hear.) Did Mr. McMeekin approve of and allow the appointment of Mr. McEwan as director?

Mr. McMeekin: I was absent at the time.

Mr. Watson said that Mr. McEwan was appointed a director to a large extent for convenience. Although Mr. McMeekin was not present he acquiesced in the appointment. At any rate he never objected.

The resolution was then put to the meeting, and defeated, nine shareholders voting in its favour and fourteen against.

Mr. Bartlett handed in a demand for a poll.

The Chairman announced that the poll would be taken on Wednesday, the 8th instant, at Winchester House, at 1 o'clock.

The proceedings then terminated.

MARKET REPORT.

[*Per Mail Advices of 10th November* 1899.]

COFFEE.

The London Commercial Record says:—Supplies at auction have been only moderate, and with a continuance of the good demand the greater portion found a ready sale at full prices to a further advance of 1s to 2s per cwt. for all desirable qualities, all growths participating. A good export enquiry materially assisted the advance. "Futures" active, and prices have steadily advanced owing to smaller receipts; the tone at the close is strong at 1s 6d rise, viz.:—

London ...	... Santos ...	December delivery ...	31s. 3d.
New York	... No. 7 Rio...	„ „ ...	5·60 cents.
Hamburg...	... Santos ...	„ „	30¾ pf.
Havre ...	... Santos ...	„ „ ...	37½ francs.
Holland ...	... Good ordinary Java ...	...	30 cents.

Imports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
Tons	19,214	17,527	43,031	41,665
	Home Consumption.		Export.	
	1899.	1898.	1899.	1898.
Tons	14,216	12,098	24,032	21,731

The preceding figures exhibit— Tons.

In the Imports an increase this year of	... 1,366
Home Consumption an increase of ...	... 2,118
Export an increase of... ...	... 2,301
Stock an increase of	... 1,687

Auctions this week have passed off as under:—

Ceylon.—*Plantation.*—4 casks 1 barrel low medium brownish sold at 50s.

East India.—2,519 bags partly sold as follows: *Mysore*, smalls 33s to 44s, low middling to dull greenish 40s 6d to 45s, middling to good middling 52s 6d to 67s 6d, good bold hard gray 93s, pea-berry 45s to 55s 6d. *Coorg*, smalls 34s to 43s, low middling 42s 6d to 48s 6d, middling 50s to 60s 6d, common bold 53s, fair bold 64s to 69s, good colory 77s, pea-berry 49s to 83s. *Neilgherry*, smalls 40s, pea-berry 67s 6d. *Wynaad*, smalls 34s 6d, low middling to bo 41s to 46s, pea-berry 50s. *Nelliampathy*, low middling greyi 44s. *Naidoobatum*, good bold blue 53s.

Jamaica.—21 barrels 5 bags mostly sold—smalls 42s to 44s.

Costa Rica.—Of 832 bags catalogued 550 bags sold—smalls 3 to 37s, fine fine ordinary to low middling 42s to 52s, middling good middling 60s to 69s 6d, good bold hard grayish 73s 6d to 7 pea-berry 39s 6d to 67s.

Guatemala.—853 bags chiefly sold—smalls 37s 6d to 43s, l middling to middling 47s 6d to 52s 6d, good middling blue 6 s 6 good bold bright greenish 65s, pea-berry 50s to 65s.

Nicaragua.—Of 415 bags catalogued 300 bags sold—middli bright grayish 50s to 51s, fair bold 64s, pea-berry 65s.

Colombian.—Of 1,412 bags offered 1,120 bags sold—smalls 30s 35s, fine ditto 45s 6d to 46s 6d, low middling to middling 46s 49s 6d. good middling blue 51s to 59s 6d, fine ditto 68s 6d to 78s 6 fair bold 61s to 68s, good to fine bold 81s to 95s, pea-berry 51s to 7

Salvador.—100 bags sold—low middling to middling greeni 44s 6d to 52s.

To-day's auction supplies consisted of:— 10 casks 3 bags 7 barre Plantation Ceylon, 447 bags East India, 59 barrels 12 bags Jamai 400 bags Salvador, 874 bags Columbian, 1,397 bags Costa Rica, 9 bags Nyasaland, 52 bags Nicaragua, 211 bags Vera Paz. 1,605 ba New Granada, 739 bags Guatemala, 22 bags Venezuelan, 15 ba Coban, and 169 bags washed Santos. The auctions went off wi good demand at prices in sellers' favour. All desirable qualiti are 1s to 2s per cwt. dearer on the week, whilst for common grad the market is firm and unchanged.

Receipts in Rio and Santos.

Since July 1	1899-1900. Bags.	1898-99. Bags.	1897-98. Bags.	1896-9 Bags.
Rio	1,659,000	1,433,000	2,078,000	1,616,0
Santos ...	3,746,000	3,017,000	3,594,000	2,707,0
Total ...	5,405,000	4,450,000	5,672,000	4,323,0
Crop	—	8,772,000	10,461,000	8,680,0

Rio Exchange 7⅛d, previous day 7 1/16d.

Havre, Nov. 9.—Santos good average December opened stea at 37¼f. and closed steady at 37½f., March opened at 38f. and clos at 38¼f.

Hamburg, Nov. 9.— Good average Santos Decmber opened stea at 30½pf. and closed steady at 30¾pf., March opened at 31¼pf. a closed at 31½pf.

New York, Nov. 8.—Closing prices of No. 7 Rio were as follow

	Nov.	Dec.	Jan.	Feb.	Ma
Nov. 8 ...	5·50	5·50	5·50	5·55	5·
Nov. 6 ...	5·40	5·40	5·40	5·50	5·

Prices realized at auctions for some of the principal marks

East India:—

MYSORE.

	A	B	C	PB	
Cheithully Mysore	50-0 bid	44-6	38-0	55-6	3-
F G ◇ H Mysore	45-0	40-6	33-0	45-0	3
Sumsay Mysore	48-6 48-0	42-0	36-6	47-0	3
Do. do.	58-0	—	—	59-0	-
Mysore F G ◇ I	73-0	52-6	—	75-0 bid	-
Kulhutty W D ◇ Mysore	no bid	no bid	38-0 bid	no bid	3-
Do. S do. do.	no bid	no bid	no bid	no bid	3-
K △ Oliver's Mysore	82-6	56-6	—	70-0	3
M E Co Kelagoor Mysore	no bid	43-6 bid	—	—	3
Sirapatty Mysore	57-0 bid	43-0 bid	35-0	62-0 bid	3
	0	1	2	PB	
P H & Co ◇ Umbidy Mysore... ...	53-0	44-0	—	—	
Maynards S M Mysore	54-0	43-6	—	48-0	
Do. do. R D B □	60-6 60-0	—	—	—	

COORG.

	0	A	B	C	PB	
Binny's Coorg Tooben Kolly		66-0 bid	45-0 bid	37-6	75-0 bid	3

	O	A	B	C	PP	T
G. R. Evans Aalie Topoo South Coorg	72-0 bid	50-0	43-0	—	75-0	36-0
Greenfield Coorg		64-6	46-0	35-6	75-0	37-6
I M Santi Coopa		67-6	48-6	39-0	70-0	36-0
Charlotte Coorg		69-0	49-0	35-6	77-6	34-6
H F D Coorg Haradur		77-0	50-6	39-0	83-0	37-6
I M Santi Coopa		53-0	42-6	35-6	61-0	35-6
		1	2	3	PB	T
Matheson's Coorg Polli Cadoo ...		68-0	47-0	40-6	78-0	37-6
Do. Hanchi Betta		64-0	46-0	40-0	74-0	37-6

NAIDOOBATUM.

					1	2
Seaforth Naidoobatum					78-0 bid	54-0 bid

NEILGHERRY.

	A	B	C	PP	T
Waverly	no bid	43-0 bid	37-0 bid	57-0 bid	33-0
Arcood...	71-0 bid	51-0 bid	40-0	67-6	35-0

TEA.

CHINA.— Common grades of Congous are a trifle cheaper, whilst other qualities maintain previous rates fairly well. Auctions have experienced a moderate demand, a fair proportion of the 4,536 packages catalogued during the week selling as under:—New season's: Moning 7d, Ningchow 6½d to 8½d, Oolong 8d to 9½d, Kaisow 6d, Scented Orange Pekoe 11d, Scented Caper 6¼d to 7d. Old season's: Formosa Oolong 6¼d, Souchong 9d per lb. Green tea—new season's Gunpowder 7½d to 1s 2d, Foong Mee 9½d to 1s ½d, Sow Mee 7d to 10d, Young Hyson 6¼d to 7¼d. old season's Gunpowder 5½d to 7¼d, Imperial 4d to 5d.

INDIAN.—Auctions were rather heavier, amounting to 50,200 packages, against 48,000 packages the week before, and 50,000 packages at this period of 1898.

A firm tone prevailed for nearly all descriptions, but enquiry was still chiefly concentrated on teas for price, which were occasionally fractionally dearer. Medium grades passed irregularly, particularly in the case of Broken Pekoes from 8d to 1s per lb., quotations for which were in many instances lower. Finest and tippy lines, however, ruled steadily.

The selection offered was generally of a useful character, most of the districts being represented. Some of the Darjeelings were not so well competed for, as the quality was considered to be inferior to that of prior consignments from the same gardens.

For 36,900 packages on Estate Account 8¾d per lb. was realised, compared with 8½d per lb. for 34,600 packages, and 9d per lb. for 41,800 packages in the two preceding seasons.

Business from here with foreign markets is assuming importance, the export for October being over one million lbs.

Telegrams from Calcutta state that 6a. 3p. per lb. was obtained there for 20,000 packages on the 31st ultimo, and that 22,000 packages have been declared for to-day.

CEYLON.—Public sales were large, totalling 27,800 packages, contrasted with 22,400 packages on the former Tuesday, and 17,900 packages a year ago. There was strong bidding for Pekoe Souchongs and Pekoes under 7½d per lb. for Home and Continental requirements, with at times a slight upward tendency. Broken sorts at a similar range also sold well. Pekoes and Broken Pekoes above that were not so much sought after and were often easier, but choice flavoured parcels brought full figures, the following being among the Best Broken Orange Pekoes:—Dimbula, 1s 7d; Goatfell, 1s 6½d; Talawakelle, 1s 6¼d; Troup, 1s 5½d; Gonamatava 1s 4¾d; Concordia, 1s 4¼d per lb.

The average is 8¼d per lb. On the 2nd instant it was a little under 8½d per lb., and 8⅝d per lb. on the 10th November, 1898.

The quantity sent from London to abroad during the past month again marked an increase on that of the same time in 1898.

A Colombo telegram to the Ceylon Association corrects the one previously received, and gives shipments to the United Kingdom for October as 8¾ million lbs., making the total from the 1st January to 31st ultimo 86 million lbs. instead of 84¾ million lbs. as then advised. The revised estimate for November is reduced to 7½ to 8 million lbs.

JAVA.—About 2,300 packages of direct import were included in the catalogues. Several of the invoices showed more desirable quality and the offerings were taken up readily, prices as a rule going against buyers.

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns are, *viz.*:—

	Lbs.
From 1st to 7th Nov., 1899	4,682,494
Do. do. 1898	4,550,737

During the week the following have been printed for sale by public auction:—

	Sold. Pkgs.	Withdrawn. Pkgs.	Total offered. Pkgs.
India	44,179	6,054	50,233
Ceylon	25,810	2,000	27,810
Java	2,085	288	2,373
Total ...	72,074	8,342	80,416

Also 15 packages from second hands.

Messrs. Gow, Wilson & Stanton's Indian, Ceylon, and Java Tea Report, dated November 10th, 1899, says:—

QUANTITY BROUGHT TO AUCTION IN LONDON FROM 1ST JUNE TO DATE.

	Indian. Pkgs.	Ceylon. Pkgs.	Java. Pkgs.
1899-1900	687,965	557,529	28,185
1898-1899	685,134	550,155	21,456

50,535 *pkgs.* INDIAN
28,804 „ CEYLON
2,373 „ JAVA
} Total 81,712 packages were offered in public auction this week.

The United States and Canada took practically the same quantity of British Grown Tea during the first nine months of the present year, as during the same period in 1898; this cannot be considered otherwise than satisfactory, taking into consideration the numerous circumstances which have recently disturbed the Tea trade, and especially the rise in the value of low priced Teas.

	1899.	1898.	1897.	1896.	1895.
Lbs. ...	9,633,042	9,736,471	8,464,749	5,562,694	5,420,935

Indian and Ceylon Tea taken in North America from 1st January to 30th September.

INDIAN TEA.

	1899.	1898	1897.	1896.	1895.
Re-exports from U.K...	1,546,936	1,462,286	1,324,539	897,534	1,272,111
Transhipments *viâ* U.K.	210,556	855,307	2,304,420	1,526,995	1,110,644
Direct expts. *viâ* China	472,093	385,811	280,289	100,000	30,000
Direct do. from Calcutta	1,719,181	780,226	*nil.*	*nil.*	*nil.*
Total lbs. ...	3,948,766	3,483,670	3,909,248	2,524,529	2,412,755

CEYLON TEA.

	1899.	1898.	1897.	1896.	1895
Re-exports from U.K....	2,434,180	2,653,755	2,581,965	1,963,264	2,051,990
Transhipments *viâ* U.K.	469,169	1,141,238	1,504,068	856,549	720,589
Direct expts *viâ* China.	935,946	852,173	469,468	218.652	235,601
Direct do. from Colombo	1,844,981	1,605,635	*nil.*	*nil.*	*nil.*
Total lbs. ...	5,684,276	6,252,801	4,555,501	3,038,465	3,008,180

INDIAN.—The demand for Teas up to 7½d per lb. noticed last week has become decidedly stronger, a further advance of about ¼d per lb. having taken place. The better grades of medium Tea, especially broken kinds, remain comparatively cheap. The following averages are worthy of note:—"Poobong," 1/3; Amal T Est. Co. Dooteriah," and "British Darj. Co. Pussimbing," 1/2¼.

Week's av. of Tea sold on Garden Account 1899, 36,998 pkgs., av. 8·64d. 1898, 38,331 pkgs., av. 8·15d.

Total Tea sold on Garden Account 1st June to date 1899, 501,852 pkgs, av. 8·59d. 1898, 483,054 pkgs., av. 8·63d.

CEYLON.—The strong competition noticed last week has been again very pronounced, Teas up to about 7½d being slightly dearer, while the demand for other kinds continues steady, medium Broken Pekoes being perhaps the weakest market. A corrected official wire has come from Ceylon giving the exports during October as 8,750,000 lbs., against 6,500,000 last year, making the quantity from 1st January to end of October 86,000,000 lbs., against 81,000,000 lbs. in 1898, and giving the estimate for the current month as 7½ to 8 million pounds. The following averages may be mentioned:—"Carolina T. Co. Goatfell," 1/2½; Gen. Cey. Est. Co. Gonamatava" and "S. T. Co. St. Leonards," 1/0¼; "Nuwara Eliya T. Co. Concordia," 1/-.

Average for week 8·25d., against 8·51d. in 1898.

Ceylon Tea sold on Garden Account 1st January to date 1899, 937,158 pkgs., av. 7·98d. 1898, 979,073 pkgs., av. 7·72d.

Java.—The selection brought forward comprised a large quantity of useful liquoring Teas, mostly grown from Assam seed The auctions passed with good general competition and a distinct rise on prices quoted a fortnight ago, no sales having taken place last week.

COCOA.

A generally firm but far from active market showed itself at the auctions on Tuesday when of 2,477 bags catalogued barely 800 bags sold. Of 1,323 bags Trinidad offered about 370 bags were placed at 72s 6d to 76s for middling to fine, or barely up to expectations. Grenada was well held, and of the 344 bags brought forward very little more than 100 bags sold, but at an improvement of 1s per cwt., *viz.*: good to fine 65s to 68s, common to fair 62s 6d to 64s. 26 bags Dominica found buyers at valuations—common to fair 61s to 62s 6d. 8 bags common St. Lucia brought 61s. 6 bags Jamaica retired. 29 bags common gray Bahia realised 58s 6d. Guayaquil attracted little attention, only 60 bags selling, out of 1,255 bags exposed for competition, at 68s 6d for good Caraquez and 62s 6d for small. 71 bags Colombian, 329 bags Venezuelan, 131 bags Samana, and 151 bags Java all passed the hammer unsold. Good qualities of Ceylon were held above market ideas, and of the 770 bags of this growth offered 250 bags of Native were all that sold; these realised 54s to 62s 6d per cwt., which shows a tendency to ease. Private sales include—130 bags Samana at 60s to 61s, small lots of Puerto Cabello at 77s 6d up to 106s 6d, 800 bags Native Ceylon at 55s to 62s, some fine African up to 64s 6d, and 500 bags Guayaquil—Arriba 69s to 72s 6d, Caraquez 66s to 68s 6d per cwt.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

	1899. Bags.	1898. Bags.	1897. Bags.	1896. Bags
Imports, B.P. ...	114,776	115,415	106,545	116,206
Foreign ...	73,357	103,436	72,955	61,970
Home Con., B.P. ...	70,877	89,153	76,362	66,982
Foreign ...	50,109	54,539	50,143	47,512
Exports, B.P. ...	40,122	31,248	42,382	36,221
Foreign ...	25,124	26,733	44,868	28,212
Stock, B P. ...	49,361	55,143	65,678	78,822
Foreign ...	50,698	55,664	38,162	63,787

PEPPER.

Black.—The market this week has been strong in tone, but business has not been large, owing to the fact that holders have raised their pretensions. In all about 150 tons have changed hands, including fair Singapore on the spot at 5¾d to 5 13/16d, January-March shipment at 6 3/32d, February-April shipment at 6 3/32d to 6⅛d, and April-June at 6 3/16d per lb.

Auctions on Wednesday offered 16 bags Singapore and 223 bags Penang, which retired unsold at 5⅞d and 5½d per lb. respectively. 141 bags shells and dust sold at 2⅜d to 2½d for the former, and 1⅞ to 2d per lb. for the latter.

To-day the market is firm, with fair demand on the spot at 5¾ for Singapore; February-April shipment offered at 6⅛d, and October-December at 5 5/16d.

White.—A very quiet market since our last without alteration in values. Singapore has been sold on the spot at 8 3/16d for fair, and 8 3/32d for near at hand, and at 9d for October-December shipment. Penang October-December shipment done at 8 9/16d per lb.

At public sale on the 8th instant, the exposure consisted of only 6 cases 1 bag Singapore—the bag sold at 8½d, the case—very bold quality—were bought in at 1s per lb.

GINGER.

Cochin.—Buyers have had to give in to the firm attitude maintained by holders, and have submitted to further rises in value. Cut kinds. and the really good grades of rough and washed Gingers have benefited most f.a.q. washed moving somewhat sluggishly. Still, buyers are fighting every inch of the way. and are only placing orders for small quantities. Catalogues comprised 158 cases 785 bags, of which 36 cases 45 bags sold in the room; medium some small, roughly cut and scraped realised 56s 6d, good small cut 37s 6d, and ordinary dull wormy medium and small washed rough 23s per cwt The private sales include 500 bags good Calicut sorts up to 30s, and fine bold as high as 35s per cwt., showing about 2s rise.

Jamaica.—Hangs fire, but little, if any, change can be noted in values. 26 barrels offered and 11 barrels ordinary dull washed sold at 51s 6d per cwt.

INDIA RUBBER.

The market for fine continues very strong and considerable business done at higher prices. Sales of hard cure spot and near delivery 4s 5½d to 4s 5¾d, Bolivian also at 4s 5½d for fine, and 4s 4½d entrefine. Soft cure, sales of fine spot and forward delivery 4s 3½d to 4s 4d, closing with few sellers. Cameta Negroheads.—Sales of a year old at 3s, and new spot at 2s 9d. At auction to-day there was good competition, and most part sold at rather higher prices, though some lots of West Indian scrap and slab went very cheaply.

QUININE.

Quiet, with a gradually declining market in second-hands until to-day; 1s 1¾d per oz. is quoted for December, and 1s 2d for March delivery.

On November 3 one of the leading local Amsterdam papers (*Handelsblad* published a telegram received from Batavia, that during 1900 five auction of Java quinine instead of one will be held at Batavia. The auction which was to be held on January 31 1900, has been postponed until February 28 and March 1. 1900.

(Average for all India 8·64d.), November 10th.

Garden.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust, and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	Price.
Neilgherry ...	**113**	**8·88**												
Brooklands ...	25½c	7	...	...	25½c	7	...	...	...	...	...	...	...	
Kodanaad ...	88 p	9¼	17	1/0¾	23½c	9¼	...	...	35	7¾	...		13½c	9
Travancore ...	**1058**	**7·10**												
Ashley ...	120	6¾	...	...	70	6½	17	7	...	...	...	...	3	6
BA ...	3	6½	...	...	...	...	...	...	...	...	3	6½	...	...
Balamore ...	74½c	6¾	..	..	50½c	6½6¾	21½c	7½	...	...	2½c	5¾	1½c	5½
Bon Accord ...	133 p	7	..	...	50	7	44	7½	22	6½	...	...	17½c	6 6¾
CMR ...	9	6¾	...	...	6	6½	3	7¾	...	...	...	...	...	...
Corrimony ...	140½c	7¾	...	...	92½c	7¼	43½c	†8¾	...	...	3½c	6½	2½c	5½
Glenmore ...	85½c	6¾	...	...	59½c	6¾	24½c	7	...	..	1½c	5¾	1½c	5½
ME ...	11	6¾	...	...	6	6¾	..	...	...	...	5	6½	...	
Merchiston ...	56 p	7	18½	7	24	6¾	11½c	7½	...	...	..	...	3½c	6
P ...	22 p	6¼	...	...	12½c	6¾	...	...	...	...	10	6	...	
Poonmudi ...	88 p	7¼	11	7¼	39	6½6¾	17	8¾	13	6½	4	6 6½	4½c	6¼
Riviera ...	60	6½	...	...	50	6¼	9	6¾	...	...	1	5¾	...	
Seafield ...	147½c	7½	...	...	90½c	7¼	55½c	†8¼	..	..	1½c	6	1½c	5¾
Sth Trav Co Ven ...	96	7¾			49	7½	41	8	..	...			6	6¼
W ...	14½c	7½	...	..	14½c	7½	...	...	...	...	...	...	...	...

PLANTING OPINION.

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DOMESTIC OCCURRENCE.—The fee for inserting a domestic occurrence will be *One Rupee* for each insertion, payable in advance.

N.B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," Agra Bank Buildings, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 15th instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, *6th December.*—*Weather.*—Two or three dull days last week, on one of which there was a slight drizzle. It is dull again this morning. Rather more chill lately. A cutting wind has been blowing. *Plant-diseases.*—Parts have had another touch of "leaf"; but coffee is looking magnificent. *Crops.*—Nearly all in! They will be shorter than was expected. *Labour.*—Plentiful; some places will pay off on 15th current: others at end of month. This establishes a "record" for dispensing with coolies. The price of grains reached famine rates on the 26th ultimo. *Ragi.*—10 to 8 seers per rupee. *Rice.*—7½ seers per rupee. This caused a riot at Siddapur Shandy on the same date, and there was some looting.

BRAZILIAN EXCHANGE.

In our last issue we wrote upon the subject of Currency and Coffee in Brazil, with particular reference to Coffee. We now propose to follow up those remarks with further comments on Exchange. Again referring to the report of the Brazilian Minister of Finance, we start with his assertion that the origin of the superabundance of both currency and coffee in Brazil was "exaggerated emissions of paper-money" and that these "laid the foundations for the development of of speculation, so powerful a factor of depreciation." The figures showing the increase of such emissions are referred to by Dr. Murtinho as representing "the ladder of economic and financial decadence that the Republic was obliged to

descend during the very first years of its existence." He gives the following tables to prove his arguments :—

Comparative Statement of Paper Money in Circulation.

On the last day of	Amount in circulation.	Equivalent in gold mil réis.	Depreciation %	Average exchange.	Equivalent in sterling £	Average value of pounds in mil réis. paper
1889, Nov. 15	192.800:000$	196.308:960$000	1,82	27 1/2	22.091.668	8$727.272
1890 ...	297.800:000$	249.556:400$000	16,20	22 5/8	28.073.856	10$607.734
1891 ...	513.727:000$	311.010:325$000	39,46	16 11/32	34.984.275	14$684.512
1892 ...	561.000:000$	248.074:200$000	55,78	11 15/16	26.808.208	20$926.430
1893 ...	631.700:000$	270.557:110$000	57,17	11 9/16	30.433.465	20$756.756
1894 ...	712.000:000$	266.216.800$000	62,61	10 3/32	29.944.793	23$777.089
1895 ...	678 100:000$	249.608:610$000	63,19	9 15/16	28.077.578	24$150.943
1896 ...	711.641:000$	240 534:658$000	66 20	9 1/8	27 057 185	26$301.369
1897 ...	720.962:158$	206.123:080$972	71.41	7 23/32	23.187.195	31$093.117
1898 ...	785.941:758$	209.296:290$155	73,37	7 3/16	23.537.319	33$391.304
February	779.953:563$	200.448:065$691	74,30	6 15/16	22 545.533	34$594 594
March ...	773.802:433$	197.087:479$685	74,53	6 7/8	22.106.216	34$909.090
April ...	764.795:391$	207.183:071$422	72,91	7 5/16	23.302.360	32$820.512
May ...	757.792:535$	221.048:082$460	70,83	7 7/8	24 865.068	30$471.190
June ...	750.790:871$	221.633:465$116	70,48	7 31/32	24.928 603	30$117.047
July ...	740.764:141$	223.784:845$996	99,79	8 3/32	25.174.407	29$425.287
August..	735.759:000$	219.736:530$300	70,13	8 1/16	24.717 270	29$767.441

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Comparative Statement of Exports.

	Average exchange	Average value of pounds in mil réis paper.	Value of Exports in currency.	Equivalent in mil riés gold.	Equivalent in sterling £
1889 ...	27 3/16	8$827 586	253.953:000$000	258 574:944$600	28.768.114
1890 ...	22 5/8	10$607.734	291.900:000$000	244.612:200$000	27.517 659
1891 ...	16 11/32	14$684.512	438.641:495$250	265.553:561$224	29.871.030
1892 ...	11 11/16	20$926.430	453.980:420$250	200.750:141$835	21.694 117
1893 ...	11 9/16	20$756.756	636.355:183$800	272 550:925$222	30.657.737
1894 ...	10 3/32	23$777.089	631.098:650$700	235.967:785$497	26.542,301
1895 ...	9 15/16	24$150.943	731.178:371$700	269.146:758$622	30.275.355
1896 ...	9 1/8	26$301.369	736.701:342$200	246.321:138$063	27.708.092
1897 ...	7 23/32	31$093 117	868 890:673$350	248 115:843$501	27 944.792
1898 ...	7 3/16	33$391.304	814.301:311$950	216.848:439$373	24.386 628

The first thing to be observed, he remarks, is that depreciation began to be noteworthy since the very first emission under the Republic, and that it became progressively accentuated as new emissions were effected, reaching its maximum in March 1899, three months after the withdrawal of paper money was initiated.

If exaggerated emissions cause depreciation, withdrawal of paper currency should certainly tend to cause appreciation. On this point the Finance Minister remarks that the price of gold and of paper, like that of every object, is determined by the law of supply and demand and must be a ratio of one to the other, that, reduced to its most simple expression, is represented by a single quotient. In such conditions the price of our paper-money should be represented by the £24,500,000 divided by 735,000:000$, *i.e.*,

$$£\ \frac{24,500,000}{735:000\$000} = \frac{5.880,000,000}{735:000\$00} = 8d.$$

Reckoning thus, he asserts that if exports be maintained at the same value as last year the rate of exchange will oscillate about 8d., above or below. He further expresses the conviction that even with the same value of exports, 24 1/2 millions sterling, and independently of any importation of gold from abroad, should no political causes of depreciation supervene, exchange will rise to 9, 10, 12 and 15 pence as soon as the volume of the currency be reduced to 650, 580, 400 and 390 thousand contos. This is a view entirely at variance with those of Messrs. W. H. CROSSMAN & BROTHER, cited last week, and with those of the *Brazilian Review*. That contemporary quotes the Finance Minister's report as confirming its assertion that the funding loan afforded no absolute relief to the market in form of remittances compared with the previous year, as almost precisely the same amount is being now remitted as during the preceding year, and adds :—"If, therefore, there is a real improvement of nearly 1 1/2d since May 1898, it cannot be attributed, except indirectly, to the funding loan, but to some other real cause of improvement in the balance of payments, such as the reduction in the volume of the currency, or the reaction to the hopelessly bearish speculation that culminated in May 1898 after having forced rates, as speculation always does, much lower than they would have otherwise gone." It is worth while to compare these observations with Dr. MURTINHO'S comment on the rise of 2d. in exchange since April 1899. It is pretended, he says, that this cannot be attributed to the withdrawal of currency because the rate of exchange rose even more without the withdrawal having been even commenced. Examining this, he says that the causes that, immediately following that funding arrangement, determined the rise of exchange, were treble :—First, the belief in a great alteration in the position of takers in the market ; second, the bull speculation that always accompanies such an operation ; third, the extra-commercial intervention that artificially augmented the supply. The first cause, he asserts, disappeared entirely, as Government continued to take two millions sterling as it did previous to the funding agreement, during the fiscal year, June 1897 to June 1898, when, in consequence of the funds realized by the sale of the Leopoldina Railway debentures of the Western União loan, and sale of the cruisers *Amazonas* and *Almirante Abreu*, as also from the rental of the Uruguayna Railway and the £2,000,000 loan in London the amount of exchange taken by Government did not reach two millions. The second cause has also ceased, it being impossible to deny that at the present the tendency of speculation is for the fall. The third, in its turn, has also disappeared, as it is notorious that no extra commercial influence has been exercised by Government upon exchange to provoke an artificial rise. The causes, therefore, having ceased that provoked the improvement of exchange succeeding the funding agreement, the market should have reassumed the aspect previous to that agreement ; that is, exchange should have returned to 5 5/8d., had not the measures adopted by the Government produced positive and beneficial results. Of these measures, the most important is unquestionably the withdrawal of 50,000 contos paper-money.

We quote the above to show the arguments that the Brazilian Finance Minister adduces in support of the currency

policy of his Government. His hopes may be too sanguine, but his intentions are unmistakable. Realising the dangers attendant upon violent fluctuations of exchange, he advocates cautious and gradual withdrawal of paper-money, while, as regards the general financial policy to be followed, he says that the reduction of expenditure in every branch of the administration to a level with the country's impoverished resources; excise duties to correct a vicious industrial organisation; and the collection of part of import duties in gold to correspond to the exchange market, to which an enormous mass of depreciated paper communicates an unhealthy hypersensitiveness, constitute the mechanisms by which the financial organisation of Brazil must be adapted to the economical.

U. P. A. S. I. SECTION.

(UNDER THE CONTROL OF THE SECRETARY, U. P. A. S. I.)

The U. P. A. Paris Exhibition Fund now stand as follows :—

Subscribers.	*Rs.*	*a.*	*p.*
Government of Madras	7,500	0	0
U. P. A. Reserve Fund	1,500	0	0
Binny & Co., Madras	100	0	0
Arbuthnot & Co., Madras	100	0	0
A. J. Saldanha & Sons, Mangalore	100	0	0
T. Stanes & Co., Coimbatore	100	0	0
Morgan & Son, Mangalore	100	0	0
Central Travancore P. A.	751	8	0
Wynaad P. A.	645	0	0
South Mysore P. A.	247	8	0
Shevaroy P. A.	200	0	0
Nelliampathy P. A.	100	0	0
	Rs. 11,444	0	0

* * *

The Government of India has asked the various Local Governments and Administrations for information as to any Indian exhibitors to the forthcoming Paris Exhibition and their exhibits. Such information is to be furnished in the form of a list, which may be briefly shown as follows :—

TEA EXHIBITS.

No.	Name of District.	Selection of Estates.	Commercial Teas.	Fancy Teas.	Green Teas.
1	Ambagamunda ..	District Planters' Association.	1	..	..
2	Badulla ..	Do.	1	..	..
3	Balangoda ..	Do.	1	..	..
4	Dikoya ..	Do.	2	1	..

Name of estate should also be given, though the list referred to gives none, as "the names of the actual estates for which the samples are to be furnished are not yet available."

* * *

The Secretary, U. P. A. S. I., would be glad to have early intimation from private exhibitors or District Associations as to all samples likely to be furnished, so that he may give Government the information desired, and make all necessary arrangements for despatch, &c.

* * *

The Book of Proceedings, 1899, is about to issue from the Press, and orders should be registered at an early date.

THE IMPROVEMENT OF QUEENSLAND COFFEE.

Some little time ago we referred to a suggestion that had been made in Queensland that no local coffee should be allowed to leave the district until it had been examined and approved as up to standard. The matter was discussed at a Committee Meeting of the Cairns Coffee Growers' Association on the 26th October, and apparently the discussion was lengthy. It was eventually resolved to send a letter to the Minister for Agriculture requesting that Mr. Newport's services might be placed at the disposal of those persons who were shipping coffee, to examine the same when ready to be exported and give a certificate in the event of its coming up to the standard. This examination was, however, to be made only at the request of growers, and to apply to both cleaned coffee and coffee in parchment. Mr. Newport, who was present, said he did not anticipate there being any difficulty in getting the request of the coffee growers acceded to by the Minister. The opinion was expressed at the meeting that by a system of inspection and issuing of certificates not only would the growers obtain a better price for their coffee, but they would also become more careful in their preparation of coffee for shipment. The steps being taken by the Association were not so much in the interests of Queensland buyers, who could easily find out the quality of the coffee, but were intended mainly to refer to coffee that was exported to other places. The great aim seems to be to acquire, and then to maintain, a first-class reputation for Queensland Coffee. It is too late to lock the Indian stable-door now, but we cannot help feeling some regret at the thought of what "might have been" had a similar inspection of Indian Coffee been started years ago and the exportation of very inferior sorts prevented. At the same time, Queensland growers are not *bound* to have their coffees inspected, nor is it said what will happen if crop presented for inspection should be considered below the standard fixed for "a pass."

By the way, it was stated at the meeting referred to that Mr. Howard Newport's services are available for showing farmers how to train and cultivate coffee trees. The *Argus* says :—"To obtain his services it is necessary, however, that a written application should be sent to him, addressed to the Kamerunga Nursery. Upon receipt of such, he will be pleased to instruct any coffee grower in the methods of cultivation he should adopt."

THE USE OF FERTILISERS.

A writer in *American Gardening* recently commented on a case brought to his notice, in which a plot of land that had been manured yielded a smaller crop than one that had not been manured. He expressed the belief that the application of the coarse manure had so affected the soil—which was very porous and especially subject to injurious effects of drought—as to cut off to a considerable extent the rise of water from below, and thus on the plots where manure had been applied, the crop suffered more from lack of moisture than did the crop growing on the plot where no fertiliser has been applied. He drew the conclusion that under certain conditions and in certain seasons heavy applications of barn manure may temporarily decrease rather than increase the product. The fertiliser was in each case applied to the surface and then ploughed under. The writer now quoted remarked :—"We

are coming more and more to believe that the place for the application of manure is as a top-dressing after the ground is plowed, rather than to apply it before plowing. There may, however, be many exceptions to this rule, especially would this be true on lands which are somewhat compact, as heavy clay soils. Here marked benefits may be produced by plowing under the manure, the beneficial effects being due, possibly, more to the physical than to the chemical action. The results which have been noticed from the application of barn manure are very frequently also noticed where commercial fertilisers have been applied." If when a manure is applied the crop is diminished rather than increased, then the inference would be that *that* soil does not (for that crop) need the fertilisers applied ; and it is added :—"The lesson which should be drawn from the experiment is that where thorough tillage is given the soil, there is less need for the application of fertilisers. That on light and somewhat porous soils the coarse manure should be applied as a top-dressing rather than plowed under."

TOBACCO.

Several of our friends having asked us to include Tobacco cultivation within the scope of our remarks, we have decided to issue a few papers on the subject. Unfortunately, there appears to be no *scientific* culture of tobacco in this country, so we must seek much of our information abroad. Again, Tobacco is peculiarly a plant in regard to which theory cannot be fully relied upon. If, therefore, our remarks from time to time are somewhat discursive, and seem to reflect hesitancy or doubt, we must ask our readers to bear in mind that this is because lessons from other countries cannot be safely applied in India without modification, and that our aim is simply to throw out a few suggestions in the hope that practical experiments may result and that useful information may be elicited from experimentalists.

I. Hints from the United States.

In the following, our first, paper on Tobacco, we rely entirely on a bulletin by Mr. M. Whitney, Chief of the Division of Soils of the U. S. Department of Agriculture. This gentleman displays considerable caution.

CLIMATE.

There is not sufficient difference in the meteorological conditions in the different regions, as ordinarily recorded, "to explain the distribution of the different classes of tobacco, yet this distribution is probably due mainly to climatic conditions. . . . One must still judge, so far as the climate is concerned, mainly from the experience of others as to the class of tobacco to be raised, as the ordinary meteorological record will be of very little value in determining this point. The plant is far more sensitive to these meteorological conditions than are our instruments." Even in such a famous tobacco region as Cuba, tobacco of good quality cannot be grown in the immediate vicinity of the ocean or in certain parts of the island, even on what would otherwise be considered good tobacco-lands. This has been the experience also in Sumatra and in our own country, but the influences are too subtle to be detected by our meteorological instruments.

Little, therefore, can be said at the present time in regard to the suitable climate condition for tobacco of any particular type or quality.

SOIL.

Next to climatic conditions, the class and type of tobacco depends more largely upon the character of soil than upon any other condition. Mr. Whitney reports and discusses mechanical analysis of a large number of samples of soil and sub-soil collected in the more important tobacco districts, and also gives records of determinations of the moisture content during several years "in one or two localities in some of the principal tobacco districts."

The results show that the cigar tobacco soils of the Connecticut Valley contain on an average considerably less than 5 per cent. of clay and maintain on an average about 7 per cent. of water throughout the season. These soils seem to be peculiarly adapted to a particular grade of wrapper leaf tobacco. A few years ago, when there was a greater demand for heavier cigars, these light soils had little or no value for tobacco. The tobacco lands of Pennsylvania, which are also devoted mainly to growing cigar tobacco, are confined chiefly to a comparatively narrow belt along the Susquehanna River and to limestone soils. The amount of clay in these soils varies from 13.8 per cent. in the river soils and shaly limestone soils 29.27 per cent. in the pure limestone soils. They maintain on an average about 18 per cent. of water, the amount rising to 22 to 23 per cent. in the heaviest limestone soils. The best wrapper leaf is produced on the lighter soils. Attention is called to the fact that a typical soil from the cigar tobacco districts of Ohio was found to contain 44.01 per cent. of silt and 27.52 per cent. of clay. It thus appears that the soils of this district are as heavy in texture as the limestone soils of Pennsylvania. During the season of 1897 they maintained a moisture content of a little more than 27 per cent It is probable that the mean water content of these soils in an average season would amount to about 23 to 25 per cent. of water. The tobacco grown under these conditions is used almost exclusively as a filler leaf. The Wisconsin tobacco is used both as a wrapper and filler leaf to some extent. It is grown on soils a typical sample of which was found to contain 36.05 per cent. of silt and 22.76 per cent. of clay. No determinations of the moisture content of these soils have been made.

The Cuban type of cigar wrapper and filler and some Sumatra tobacco are grown in Florida, although a new tobacco district is being opened-up in the region of Fort Mead, on the peninsula. The tobacco lands of western Florida are "a light loam about 12 inches deep, resting on heavy red clay, which is naturally well drained. The hammock soil of Fort Mead is, on the other hand, a very light sandy soil, extending down to a very considerable depth. The red sub-soils of western Florida contain about 30 per cent. of clay, but maintain on an average only about 8 or 10 per cent. of moisture. The hammock lands "contain on an average less than 4 per cent. of clay and less than 6 per cent. of silt, fine silt, and clay. They contain over 50 per cent. then 6 per cent. of silt, fine silt and clay. They contain over 50 per cent. of fine sand, so that they are relatively rather coarse and open. Notwithstanding this open texture (they contain an average 8 per cent. of water throughout the season, which is about as much as the tobacco lands of the Connecticut Valley contain. This water content, moreover, is for some reason more uniform, and the land can go for some time without rain with no serious injury to the crops. Nevertheless the planters have been greatly benefited by judicious systems of irrigations through over-head sprays

By thus keeping the plants continually and rapidly growing, the crop will mature in forty-five days from the time the plants are set out.

As regards Florida, Mr. Robert Sylvester, the Manager of Major A. Lewis' extensive tobacco plantation at Bonifay, in Holmes County, states that the best soil for tobacco is a grey sandy loam underlaid by a stiff red or yellow clay sub-soil; and a nature growth of hickory, oak, dogwood, and other hardwood varieties is a good indication of the best tobacco soil. Very good results have been obtained, however, on fine land; and there are successful growers who assert that they ask nothing better than pure pine land with a rich, yellow, loamy sub-soil, such as the orange-growers delight in. Mr. Sylvester claims that the best Sumatra can only be grown on virgin soil, while Cuban can be raised on the same land in successive crops, though it is always best to alternate the tobacco year about with a manure crop, as cow-peas, for instance.

The best fertilisers are cotton seed crushed and cotton-seed meal; the latter gives the plant a quick start; the former by its slower action to feed the plants at a latter period and sustain them during the important crises of leaf formation. About 80 to 100 bushels of crushed seed and 500 to 800 lbs. of the meal should be applied per acre.

"The bright yellow tobacco used for cigarettes, plug wrappers, fillers, and cutting is grown mainly in Virginia, North Carolina, South Carolina, and East Tennessee. The typical bright tobacco land consists of a loose, porous sand, containing not more than 8 or 10 per cent. of clay. This sand must be at least 12 inches deep. Many areas are cultivated in which the sand extends to depth of 5 or 10 feet or more, and a very fine quality of tobacco is produced."

The average of analyses of 44 samples of bright tobacco soils shows that they contain about 8 per cent. of clay. They maintain on an average about 7 per cent. of water.

Where the soils contain less than this the leaf inclined to be finer in texture and to have a better colour, but the yield per acre is small, and the most economical conditions on the whole are maintained by those soils having from 7 to 8 per cent. of clay and maintaining on an average about 7 or 8 per cent. of water. As the soil becomes heavier in texture and the amount of water increases other grades and types of tobacco are produced.

The manufacturing tobacco of Virginia and North Carolina is grown principally on the red clay soils located mainly on the gabbro, gneiss, and Lafayette clays. The sub-soils of these areas contain from 30 to 50 per cent. of clay, and, although no observations have been made on the moisture content of these soils, it is probable from observations made on adjacent soils that the mean water content is not far from 20 or 22 per cent. Since the introduction of White Burley tobacco the cultivation of the heavier types of tobacco has noticeably decreased in Virginia and North Carolina.

The White Burley tobacco is confind to the well-marked type of soil of the Lower Silurian limestone in central and north central Kentucky, and the adjacent countries of Ohio. This embraces the blue grass region of Kentucky, and it is upon these fine, fertile, blue grass soils that the White Burley is grown." The soils are all heavy clays of a uniform deep red colour. The sub-soils contain on an average abount 30 per cent. of clay. "The characteristic soil of the limestone areas of Kentucky, adapted to the White Burley tobacco, as the result of several years' investigation, may be said to maintain on an average about 20 per cent. of water."

Export tobacco is grown in Kentucky and Tennessee on silty soils which are quite fertile in character. These soils are derived chiefly from the St. Louis group of the sub-corboniferous. They contain from 40 to 60 per cent. of silt and 22 to 23 per cent. of clay, and maintain an average water content of about 15 per cent.

Mr. Whitney remarks:—"The methods of cultivation should have for their prime object the maintenance of the water-supply above the line of drought, so that the growth of the plant shall receive no check. If this cannot be done by the ordinary method of cultivation, irrigation must be resorted to upon such occasions, if the crop is to be maintained in its best condition."

NOTES.

Amsterdam Bark Market. The first Dutch sale in 1900 will be held on Thursday, January 11th.

Calcutta Tea Sales. The average of the tea sales of 24th ultimo was 35¼ cts. a lb. About 17,000 packages were to be offered on the 1st instant.

A Mycologist for Ceylon. Ceylon is to have a Mycologist. Lucky Ceylon! No wonder planters there clamour for all they want: they generally get it in the long run.

Tea Taring. A telegram, dated 27th ultimo, states:—The Customs have decided to suspend part of the order providing a new system of weighing tares for tea. The new arrangements do not, therefore, come into force on the 1st December.

The London Coffee Market. Reuter cabled on the 5th instant that the price of Mysore, average (B) size Coffee was 48*s*. Stock 16·481 tons, fortnight's landings 1,100; deliveries 2,200 tons. The offtake thus continues larger than receipts, and though the excess is not great enough to bring about any marked change in prices just yet. We are glad to note that 50*s*. is now quoted.

Hybrid Coffee. The *Revue Agricole* (Réunion) brings Hybrid Coffee to the notice of its readers, observing that there are no doubt some natural hybrids in the island already, and that in any case some planters should turn their attention to artificial hybridisation. Our contemporary writes in the belief that the knell of profitable coffee cultivation has not yet been sounded.

The Indian Tea Season. The following telegram regarding the tea crop for November has been sent by the Indian Tea Association, Calcutta, to the Association in London:—"Assam outturn last month was normal. The season is practically closed. Cachar outturn last month was normal. The season will close shortly. Sylhet outturn last month was poor. Duars and Terai outturn last month was poor. The season is practically closed."

The London Tea Markets. Cabling to Colombo on the 30th ultimo, Messrs. Gow, Wilson and Stanton reported that buyers were operating cautiously.

Fair liquoring Ceylon Pekoe Souchong was quoted 6¾d. (unchanged) average for the week 7⅝d. (¼d. down). Of 20,000 packages Ceylons offered 19,000 were sold, while 41,000 packages Indians found buyers out of 47,000 packages offered. The average price of Indian leaf was 8¼d. (⅜d. down).

The Paris Exhibition. The carving for the Indian Tea-house at the Paris Exhibition has now been despatched from Calcutta *viâ* Bombay, says the *I. P. G.* of the 2nd instant. The remainder of the consignments for the Indian Court are only delayed for want of the French Customs House labels, which were to be supplied through the Home Committee in London. The work has been carried through with remarkable celerity by the Indian Forest Department.

Cinchona Bark Auctions in London during 1900. It was stated at the cinchona auctions, on 14th ultimo, that the following list of dates had been proposed for the bark sales during the coming year: January 16th, February 20th, March 13th, April 10th, May 15th, June 19th, July 17th, August 14th, September 11th, October 9th, November 13th, and December 18th. In reply to a question, it was stated that these dates did not interfere with either the Dutch auctions or the Easter Holidays.

Coming down handsome. The Tea Trade Section of the Mincing Lane branch of the Lord Mayor's Transvaal Widows, and Orphans' Fund has, says the *Home & Colonial Mail*, made a hearty response to the call for subscriptions. Tea companies, growers, agency firms, importers, brokers, dealers, distributors, and warehouse-keepers are doing their best to swell the fund, which already reaches £8,000. The tide of subscriptions flows bountifully, thanks to the energy of those who are working in the good cause.

Tea and Cardamoms. An up-country planter writes to the *Ceylon Observer*:—"In your issue of Tuesday under Ramie and Cardamoms, your correspondent is quite right. Tea grows well where cardamoms have failed; but I have never heard of cardamoms growing where tea failed. I know of several small fields, formerly in cardamoms, now doing well in tea. A field which does not yield a paying crop in cardamoms should be planted up with tea, and it will probably give as good a yield per acre as any tea-field on the estate."

The British Tea Duty. A Ceylon planter has given notice of a resolution "That this Association considers that it is in the interests of producers to join action with the Indian Tea Association in agitating for the abolition of the English Import Duty on Tea when the time for such agitation be deemed advisable." The last few words manifest a desire on the part of the mover to "sit on the fence." It is largely because the present time is so inopportune that Ceylon and South Indian planters stand aloof from the agitation regarding abolition of British Tea duties.

Colombo Tea Sales. At the public sales of tea at Colombo on the 29th ultimo, about 10,986 pkgs. = 856,806 lbs. were offered, of which about 8,996 pkgs. = 707,342 lbs. were sold. A better tone was noticeable at the auction, and competition was good for all grades. Brokens ruled slightly firmer, and all leaf grades were in strong demand at previous rates. The *Times of Ceylon* states that good invoices were offered from Eastwood, High Forest, Gonapitiya, Harrow, Agra Ouvah, Glasgow, Glassaugh, and Mocha.

Producers and the Tea Market. "Suum Cuique," writing to a Colombo contemporary, observes that what producers ought to aim at by means of a combine is, first, to anticipate any possible further extension of power among buyers, or adverse differential action of Governments, by a unity of action among sellers; second, to gather such data of the extension of the cultivation of tea, etc., so as to provide information that, if rightly used, it cannot do otherwise than help to regulate production. We are very pleased to see the second remark. Accurate statistics are certainly desirable, whether there be combination among producers or not.

The New Tea Sale Room, Calcutta. The Calcutta Tea Brokers have at last found a definite resting place, says *Capital*. Sales have been held since the beginning of this season at the Metcalfe Hall, but as the Government of India gave notice that these premises would be required for the purposes of a public library, it became necessary to find a new sale room before the end of the year. A room of the required size was not easy to find, and eventually Messrs. J. Thomas & Co. made an offer, which was accepted, to erect a sale room for the sole use of the Tea Brokers' Association, at their premises, in Mission Row. The building has been entrusted to Messrs. A. & J. Main & Co., and will be used for the first time to-morrow, December 1st. A separate entrance has been provided at the corner of Mission Row.

Tea for the Troops. The Queen's Christmas gift of chocolate to each one of her soldiers in South Africa, which is to be put up in specially designed tins, reminds us, says the *I. P. G.*, that the Indian tea industry has a chance given it, once again, to retrieve its former omissions. "Why should not the Indian Tea Association, as representative of the Indian tea industry, *at once* arrange to send out to South Africa a present of 1 lb. of tea to each soldier, as (say) a *New Year's* gift? If specially designed tins could be prepared in time, so much the better, but we doubt if from 70 to 80 thousand tins could be got ready in time—this, of course, is a matter for contractors to decide. We trust the Indian Tea Association will see its way to immediately adopt the suggestion; for we feel sure there is not a single individual in India, in any way connected with tea or the tea industry, who will not most heartily respond to and second the proposal; and, if necessary, subscribe to a fund for its accomplishment. *Bis dat, qui cito dat.*"

Coffee in Coorg. In the report on the working of the Department of Land Records and Agriculture in the Province of Coorg for 1898-99 we read:—The deterioration of the coffee plantations in the Padinalknad taluk, which are, with one exception, all held by natives was very marked. At the Commissioner's request the Chief Commissioner in February kindly altered the programme of his tour so as personally to visit this portion of the district, which is a very outlying one on the Western Ghâts. As a result of his visit he directed the suspension of half of the coffee assessment of the deteriorated estates and ordered that they should

be thoroughly examined and a report made of them, which was since done. In this taluk also are situated the cardamom males or forests from which cardamom is obtained. The price of this spice has gradually got lower and lower, probably from over-production elsewhere. With the failure of coffee and cardamom, their two chief means (after the rice crop) of livelihood, the ryots of this taluk (who, when they were prosperous, were remarkable for their extravagance and recklessness) are now steeped in the deepest poverty, and their condition causes considerable anxiety. Tea is being tried here as well as in Mercara, and, if it only succeeds, may save the situation.

The World's Gold Product.

The estimate of the world's gold production by George E. Roberts, Director of the United States Mint, makes the total world's output for the calendar year 1898 $287,428,600. The following comparison with United States Mint estimates of preceding calendar years is of interest :-

WORLD'S GOLD OUTPUT.

1898	...	$287,428,600	1892	...	$146,651,500
1897...	...	238,812,000	1891	...	130,650,000
1896 ..	...	202,251,600	1890...	...	118,848,700
1895	...	199,304,100	1889 ..	...	123,489,200
1894...	...	181,175,600	1888...	...	110,196,900
1893 ..	...	157,494,800	1887 ..	...	105,774,900

The principal gold-producers of the last three years have made the following output, in order of importance :—

	1898.	1897.	1896.
Africa ...	$80,428,000	$58,558,700	$44,581,100
Australasia ...	64,860,800	52,665,700	43,776,200
United States ...	64,463,000	57,363,000	53,088,000
Russia ...	25,463,400	23,245,700	21,535,800
British N. America	13,838,700	6,089,500	2,817,000
Mexico ...	8,500,000	7,500,000	6,500,000
British India ...	7,781,500	7,247,200	6,130,500
China	6,078,700	8,833,500	8,058,600

Side by side with the increased output of gold, there has been a general rise in prices of commodities. But, unfortunately, Tea and Coffee have been the exceptions to the rule.

The United Coffee Growers' Co.

According to a report in the *Madras Mail*, the Statutory Meeting of the United Coffee Growers' Company, Ld., was held in the Assembly Room, Coonoor, on Wednesday 29th November. A statement was placed by the Directors before the shareholders, in which they were informed that the land for the erection of the buildings has been acquired in Coimbatore, but the building will, it is hoped, be completed in from two to three months' time; that roasting, mixing, and grinding machinery, as well as a tin-making plant, has been ordered from the Continent, and is now on its way out. It is estimated that this machinery will be capable of dealing with 400 to 500 tons of coffee per annum, which amount, by the addition of another roasting machine, can be increased to 800 to 1,000 tons per annum, the engine-power and the tin-making machinery being sufficient for this additional output. The services of a gentleman who has been through a regular course of instruction in London and on the Continent have been secured. The Company has spared no pains to put itself into a position to place the best article on the market at the lowest price. A statement of the financial position of the Company was made by the Directors and was found to be in every way satisfactory. This being a Statutory Meeting, no other business was transacted. The Annual General Meeting of the Company was fixed for July, 1900.

Tea Reform and Dock Charges.

With reference to the comments on this subject which have appeared in the *Produce Markets' Review*, and which we have reproduced, that journal remarks that these comments have led to a good deal of criticism, especially on the subject of the dock charges. "Our figures," it says, "were compiled from the dock books themselves by one whose sole occupation it is to look after such matters, but the items are most obscurely given by the companies, and it is indeed impossible for any one except an expert to make head or tail of them. Our object was, however, to secure absolute accuracy, and as we find on close scrutiny that some of the items (notably the bulking and taring, in which, after reference, we believed we were right) are inaccurate we append a corrected statement of dock charges on Indian tea in this port, and a comparison of them with those on other goods. This comparison is the important point and not fractional differences in details. The errors detected by our critics, which we gladly correct, affect this comparison to the extent that we overstated the Indian tea charges comparatively 3s. 6d. per ton, they working out at 52s. 6d. instead of 56s. Warrants and weight notes were not included by us in tea, which would practically cover this small balance, but we are content to take the smaller figure. What possible reason can there be, except gross mismanagement and monopoly, for the charges on Indian tea being four times more than those on Indian Coffee? To satisfy our critics we now give the following corrected charges on one ton of Indian tea landed and sold at public sale, taking twenty chests to a ton : Landing and housing rate, at 1s. 6d. per chest, £1 10s.; public sale charges, at 4d. per chest, 6s. 8d.; bulking and taring each chest, at 1s. 5d. per chest, £1 8s. 4d.; and ten weeks' rent, at ½d. per chest, 8s. 4d.; giving a total of £3 13s. 4d. From this a discount of 10 per cent. is deducted, leaving a balance of £3 6s, and then again to this has to be added the charges for weight notes and warrant stamps, which are 8d. and 1s. respectively, thus giving a net total of £3 7s. 8d."

LETTERS TO THE EDITOR.

THE PROSPECTS OF COFFEE.

Recent advices from London seem to indicate that Messrs. Crossman & Co., in their letter of October 21st last, have not taken sufficient account of the effect of the increasing consumption. Messrs. Rucker & Bencraft write :—"Messrs. Duuring & Zoon's figures come rather as a surprise, the visible supply shewing a decrease of about 23,000 tons against an increase last year of 16,000 tons; the deliveries for the ten months total 725,000 tons, or at the rate of 870,000 tons per annum. With steadily increasing consumption, it is evident that the enormously increased production may before long be required: indeed, some think that consumption already begins to hold production. The market has advanced 5s. 6d. to 6s. from the lowest point, and a comparatively small improvement in the position may bring about a very considerable improvement: " 870,000 tons equal at 60 kilos. (132¼ lbs.) per bag, 14,790,000 bags, and the average world's crop for the three years of heavy crops 1897–99 averaged only 15,346,674 bags. Another 600,000 bags added to deliveries will bring the consumption up to the production, even if the latter remains at the high level of the last three years. The

present state of affairs in Brazil, recently set forth, does not allow of much possibility of an increase in production. No doubt, as Messrs. Crossman say, the curtailment of production depends entirely on constant lower prices for coffee. They seem, however, to overlook the fact that this is the third year of very low prices in Brazil, and the fourth since Brazil prices began to fall heavily. The crisis has apparently been staved off in Brazil by borrowing, as the papers think, of heavy mortgages on two-thirds of the plantations, and the impossibility of making even the best pay. The accumulating effect of these mortgages is now, however, beginning to be felt, and planters are driven to the desperate expedient of reducing wages to a point which is driving away the imported labour on which they depend to pick their crop. This will probably result in a curtailment of production, which may effect the improvement in the position Messrs. Rucker & Bencraft postulate. The tendency in Brazil, and nearly all coffee countries of late years, has been for the cost of production to increase largely, and there is little hope, under existing circumstances, of any material reduction in that cost, such as Messrs. Crossman predict. The accounts recently given in *Planting Opinion* of coffee-planting in Guatemala in 1898, when mild coffees had fallen only 15s. a cwt., do not leave much hope for profitable cultivation there: now prices have fallen another 30s. a cwt. The only coffee district in the world of any importance, from which glowing accounts of the prospects of coffee-growing come, is the Isthmus of Tehuantepec in Mexico; but this district has long been boomed by Yankees who have spent immense sums there, and the glowing prospects are based on an expectation that "The Americans are going to do with coffee in the Isthmus of Tehuantepec what they have done with fruit in California, that is, improve its quality and increase the production per tree." Increased production in most coffee countries means a deterioration of quality; but the Yankees can no doubt do what no others can! This account appears in *Planting Opinion* of the 11th November last, and is extracted from the *Mexican Herald*, which previously declared there was no profit on coffee-growing in Mexico at present prices, and that now, as fifteen years ago, when prices ruled low, a large acreage would probably be abandoned. Remembering how the Yankees boomed fruit in California and oranges in Florida, and how badly those who took over their openings in these countries did, we may well be sceptical as to the future prospects of Tehuantepec, except as a country for Yankees to make their pile out of the unwary greenhorn. At least Tehuantepec is the one solitary coffee district in the world with rosy prospects at present, and this being the case, a curtailment of production seems imminent, while consumption goes on increasing by leaps and bounds.

W.

THE FUTURE OF COFFEE.

No. II.

On the 2nd instant, the same day on which your last issue was published, *The Madras Mail*, always alive to the interests of planters, called attention to the fact that the visible supply of coffee had decreased by 23,000 tons, against an increase of 16,000 tons (at the same date?) last year. As the *Mail* says, these figures come as a surprise; but it is a surprise which, at first sight, most Indian coffee planters will consider a most agreeable one. For it seems to imply that the consumption for the past year has exceeded the supply. This is a more favorable (?) conclusion than the *Mail* ventures to draw; but it is not easy to see, on any other assumption, how the visible supply can have decreased. But supposing this is correct, and that the demand has indeed overtaken the supply, and even passed it—what does it mean? Is the consequent rise in price, what at first sight it appears, a real and unmixed blessing? Paradoxical as it may seem, I unhesitatingly answer NO. *The rise has come too soon.*

In my last letter I gave the result of some of Monsieur Conty's observations in Brazil, and it will be remembered that he asserts that several Sao Paolo planters permitted him to examine their accounts, from which it appeared that, when the milreis was at 8d., and the average value of their entire crops 31*s.* and 6*d.* per cwt., they were able to produce and lay it down in the Santos market for 14*s.* and 7½*d.* per cwt. That is omitting only interest on their capital, and the living expenses of the planter, they were able, with the milreis at 8d., to make something over cent per cent on their outlay. You quoted the milreis, on the 2nd instant, at 7⅛d. so, as the production is paid for in milreis and the coffee in gold, the cost to the planter would still be 14s. and 7½d., but the price he would get (disregarding, for the moment, the late rise) would now be 35s. and 4d. per cwt. If you deduct 6s. and 1d. per cwt. for living expenses and interest on capital, the planter would still have 29s. and 3d. per cwt. as the return on an expenditure of 14s. and 7½d., or exactly cent per cent upon his outlay. That is, of course, always supposing that Monsieur Conty's figures are to be relied upon; but no one who has read his paper can have any excuse for doubting that his estimates and conclusions are as accurate and reliable as any we are likely to get.

On the above assumption it is clear that, while the Indian planter is on the verge of ruin, the Brazilian is still "going strong"; and if, whilst the milreis continues to fall, the gold price of coffee commences to rise, the consequences must be disastrous to India. Brazil will be stimulated to further extensions (for the area suitable for coffee there is, practically, unlimited) till the supply again exceeds the demand sufficiently to bring about such a contraction in prices as to check speculation and over-production. The gain to the Indian planter would thus be short-lived and illusory; and I think these considerations justify my conclusion that the rise in prices has come too soon. What the Indian planter should most devoutly hope for is that the value of the milreis may be forced up till Brazilian producers are handicapped as heavily as we are. *Then* let gold prices go up as high as they will. Fighting the Brazilians on equal terms, Indian planters need not fear the issue. But as long as the milreis is at 7⅛d., so that they can get more than 33⅓ rupees (milreis) for every sovereign, whilst we can only get 15, may the gods avert a rise in prices! I would strongly advise my brother-planters not to be too jubilant over the present slight improvement in their prospects. Until the value of the milreis rises, I consider that it is worse than useless. I am, however, one of those who firmly believe in the policy of the Brazilian Government. The fluctuation of exchange, like the course of the weather, is exceedingly difficult to predict in detail; but, though some disappointment may be felt at the dogged persistence with which it

has held out during the last few months, absolutely refusing to rise, in defiance of the most natural expectations, there can, I think, be no more doubt of the ultimate result than there is about that of the Transvaal war. Meantime, we must set our teeth, and continue the unequal fight with a firm determination that we *will not* be beaten. As I said in my last, let us economise, as far as we possibly can, and raise any catch-crops that will help us a little to wait for the turn of the tide.

Englishmen are apt to despise their foes. It is a bad fault, and one that has often cost us dear. There is much that we can learn from the Brazilian planter, and the sooner we set about it the better it will be for us. Their wonderful crops, averaging—over enormous areas—3,300 lbs. per 1,000 trees, may well excite our surprise and admiration. In my next letter I propose to make further use of Monsieur Conty's admirable paper; and to indicate some of the lessons which, in my opinion, the Indian planter might profitably learn from his Brazilian rival.

Coffee Planter.

GENERAL ARTICLES.

BRAZILIAN EXCHANGE.

In connection with tables quoted in our leading article, we would call our readers' attention to the following remarks by the *Moniteur des Interêts Materials*. These remarks are interesting not only as showing that there are critics who observe matters from a very different point of view from that of the Finance Minister, but also because they have elicited some instructive comments from the *Brazilian Review*. That journal explains that since 1895 circumstances have changed greatly, and that even if it were true that coffee bills alone controlled exchange at that time it is certainly so no longer. Previous to 1896, coffee gave from £22,000,000 to £28,000,000, whilst rubber yielded only £5,000,000 to £6,000,000. To-day coffee gives only £14,000,000 whilst rubber yields £8,000,000 at least! Previous to 1896 coffee furnished 40% of all the bills: to-day it does not yield 20%!

The following is the article that gave rise to this criticism:—

The following table represents the minimum monthly course of exchange since 1895:—

VARIATIONS OF EXCHANGE.

	1895.	1896.	1897.	1898.	1899.
January ...	10 1/4	9 1/4	8 1/2	6 7 8	7 3 8
February ...	9 11/16	8 13/16	8 1/2	6 7/16	7 1/2
March ...	9 1/2	8 1/2	7 7/8	6 1 32	6 1/2
April ...	9 1/4	8 7/8	7 3/4	5 11/16	6 7 8
May ...	9 1/16	9 9/16	7 9/16	5 11/16	7 1/2
June ...	9 1/8	9 13/16	7 7/8	7	7 7/8
July ...	10 1 4	9 5/16	7 3/8	7 3/16	8 1 16
August ...	10 5 8	8 11 16	7 1 8	7 1/4	7 31/32
September ...	10 7/16	8 5/8	7 5/16	7 9/16	...
October ...	10 11/16	8 1/16	7 5/16	8 3 8	...
November ...	9 1/16	7 7 8	6 7/8	8 1/2	...
December ...	9 1/8	8 5/16	7 1/16	7 1/2	...

A curve representing these oscillations would show that in 1895 exchange fell from January to May from 10 1/4 to 9 1/16d., rose again in June, and reached its maximum, 10 11/16d., in October falling again in November and December until it again reached the May minimum.

This curve it may be said is regular.

In Brazil the influence of shipments of coffee commences to be felt in May, although not very important until the end of August, and sometimes until September. But from May onwards shippers usually begin to cover and secure their exchange.

This explains the rise that usually occurs between spring and autumn.

If in November, December and the first few months of the year following exchange rise, it is quite independently of the commerce in the great staple export of the country—coffee.

Sometimes in November some financial operation is finally realized that has been dormant during the vacation and produces an influx of gold. Whenever a loan or the sale of some property is projected the result is the same. But in 1895, we repeat, the curve was regular and in agreement with what should result from the commerce of coffee, with which, above all, it is necessary to reckon.

In 1896 exchange fell normally from January to March (9 1/4 to 8 1/2 d.), rose again to 9 13/16 in June, but to fall again to 7 7/8d. in November, the lowest rate then attained.

This, evidently, was the commencement of the final crisis that lasted to June 1898, that is, until the funding agreement permitted the Treasury to abstain from remitting gold for the service of the debt.

During that year the curve of exchange after having been normal, became irregular, being falsified by a special cause, the situation of the treasury, which operated outside the commercial situation.

In 1897 the crisis became serious: the curve disappeared; there was no longer any rise in summer, but only an almost uninterrupted fall from 8 1/2 to 7d.

This went on until May 1898, that is, until the moment that marks the determination of Government to compound with its creditors. The crisis, which became acute in January (6 7/8d.), reached its culminating point, 5 11/16d.

As soon as the conditions of the funding agreement were known exchange rose at once to 7d. and then to 8 1/2, variations that were, however, produced by causes other than the see-saw of the balance of trade.

From this date the regular rules are again applicable. In 1899 the rise commenced regularly in May (6 7/8d to July (8 1/16d) and August (7 31/32d.), the fall coming too in its regular time, that is, about September, as in 1895.

The only thing changed is the *minimum*: it was 5 11/16d in April 1898 and 6 1/2 in March 1899. Probably, barring extraordinary events, the margin that remains between the actual Autumn rate and the lowest (dead) point of next Spring will prove sufficient to prevent rates falling again to 7d.

Summing up, the study of these movements proves that Brazil has, independently of the effect that the withdrawal of paper money in accordance with the stipulations of the funding loan may produce, entered upon the period of rising exchange. As regards the effect of the withdrawal of paper money, this can only be very gradual, in view of the comparative insignificance of the notes destroyed.

When a spoonful of milk is taken from a jar the level does not appear to have changed at all, and so even two or more spoonsful may be removed without much alteration being noticed, but at last the shrinkage of a single spoonful, even, must become noticeable.

Theoretically, moreover, the volume of paper-money comprehends two well defined quantities.

1st. The quantity of paper or fiduciary money which a country requires for its internal transactions and is able to bear without depreciation or involving a premium on gold, even should the currency be "forced" and inconvertible, provided that foreign payments be balanced.

2nd. A second quantity, smaller or greater as the case may be, that has been violently put into circulation, and provokes depreciation by its very excess.

When withdrawals of paper money are effected it is upon this second quantity and on it only that the effect is exercised and not on the whole mass in circulation. Because theoretically the last fraction of the premium must disappear with the last excessive note, even should no gold stock have been accumulated meanwhile and the notes continue to enjoy forced currency and to be neither legally nor practically exchangeable for specie.

If, therefore, the effect of withdrawal be not immediately felt in Brazil, it must not be concluded therefrom that the process is deficient, until inroad have been made upon this *surplus*.

RUBBER.

Manicoba Rubber.—Large forests of Manicoba have been discovered in the Serra do Perreira, Ceará.

Mangabeira Bubber.—In the review of rubber plants which Professor V Warburg is contributing to the "Tropenpflanzer" he prophesies a great future to the hancornia speciosa, a tree which occurs in the central belt of Brazil, principally in the States of Bahia and Pernambuco, also in Goyaz and Minas-Geraes, San Paulo, and other Southern and Western States, and has indeed been found in Paraguay. The trees attain a height of 20 ft., and may in general appearance be likened to apple trees. In some districts they are so common that they give the characteristic stamp to the landscape. The fruit has the size of a plum, and is valued both raw and preserved. The rubber trees are on the whole very useful, and their fruits are often appreciated. When the tree has attained an age of five or six years, it may be tapped. The milk has a characteristic pinkish colour and the rubber, the coagulation of which is brought about by an addition of alum, is distinguished by the same colour. Originally the lumps were kneaded by hand and dried in the sun. The mass, which keeps its pink colour inside, while the outside turns brown, retained too much water, however, so that the rubber is now dried in thin sheets. These sheets command a good price; but the Professor is hardly correct in stating, as the *Gummi-Zeitung* points out, that it is valued as highly as Para rubber. Perhaps Warburg's account is a little optimistic; at any rate, the state of S. Paulo is encouraging the cultivation of the hancornia, and it may be quite right to introduce the tree in Togoland, although the climatic conditions of the South American continent and of the Gulf of Benin may differ widely. As there is little known about the habits of the tree, a further study in the home of the hancornia may be more advisable than experimenting.

Professor K. Schuhmann announces the identication of a new rubber tree of East Africa. It concerns the moga rubber tree of the Zanzibar trade. So far as branches and blossoms allow to determine, this product forms the mascarenhasia elastica, the special variety having been named after K. Schuhmann.

COFFEE-ROASTERS.

Some inquiry having been made in Queensland concerning coffee-roasting and preparation for market on the plantation, Mr. Howard Newport supplied the following account of a useful roaster. In a paper in *The Queensland Agricultural Journal* he says :—

Before going into this subject in detail, I would mention that the roasting and subsequent tinning, labelling, and retail selling of ground coffee do not seem to be worth the while of small coffee-growers.

The treatment of the coffee after it has left the huller, winnowing fan, and sizer is a business in itself, and would necessitate more attention and the expenditure of more time than a small grower would be able to spare for it.

I have not the space here to go fully into my reasons for thinking thus, but these will be mentioned in my report on the industry. While readily supplying the information, I do not advocate, as a general rule, the *manufacture* of coffee by the *grower*.

The Roaster.—A useful size of cylinder is 2 feet external length—which allows for the riveting in of the ends, 9 inches—about 1 foot 10 inches internal length, with about 12 inches diameter. To this is fixed a bar to act as axle, one end of which is bent to form a handle by which to revolve the cylinder. The bar may or may not go through the cylinder; it is often fixed to the discs at the ends merely, but it is difficult in doing this to have them so nicely and exactly fixed as to allow the cylinder to revolve evenly and truly. In any case, the fastenings should be by means of rivets, and not by any method of soldering.

The majority of coffee roasters have the bar fastened to the cylinder or drum, either run through it or attached to each end; but by far the most useful method is to have a piece of iron tubing inserted and riveted to the cylinder through which the axle bar can pass; the bar then having a collar attachment at one side to prevent the cylinder going too far back, and being fixed on to the axle by a flat piece of steel running in a shallow slot in the bar technically called a "key."

The axle bar should be about $\frac{3}{4}$ inch in diameter and about 7 feet long. This length is necessary to allow the cylinder being slipped along, as well as to allow the manipulator to work some little distance from the furnace. The tube running through the cylinder should be just large enough to run freely on the bar.

This method admits of the roaster being easily and quickly worked, since the cylinder can, by the removal of the fixing key, be slipped out of the furnace without the removal of the axle bar from its bearings.

The bearings need not be elaborate, or of brass, specially turned and fitted, though for constant work such would wear far better and last longer.

The door into the cylinder should be a sliding one, and need not be very wide; 4 inches would be enough. It should, however, run the whole length of the cylinder, and not for merely a portion of its length. This, with the cylinder, while still hot, is slipped along the axle bar and out of the furnace; a few revolutions will drop the contents into a receiving tray without handling, and a new lot may be put into the roaster, without having to wait for it to cool down.

The Cylinder should be made of 1/12 or $\frac{1}{8}$ inch iron; 1/16 inch will do, and roast quicker, but will not last so long, and is more liable to warp in the heat. The lid should be of the same material. Inside the cylinder there should be five or six strips of 1/16 inch iron, about 2 or $2\frac{1}{2}$ inches high, riveted along the sides at right angles to the ends, and running the whole length of the cylinder. These are to turn the coffee over, to separate beans and mix them and ensure uniform roasting.

The coffee roaster is not a complicated piece of machinery, and can easily be made locally by almost any blacksmith. . . . .

The size of the roaster may be reduced or increased to meet existing requirements, but the length of the cylinder should bear the proportion to diameter as nearly as possible of 2 or $2\frac{1}{4}$ to 1.

A roaster of the dimensions given will take 40 lbs. at a pinch, or can be worked satisfactorily with only 5 lbs. I would not use a smaller one, however, for a change of from 29 to 30 lbs.

BATAVIA QUININE-AUCTIONS.

According to a report in the *Batavia Nieuwablad*, a meeting of the Commercial Union of Batavia was held in that town on October 9, when the conditions regulating the first quinine-auction to be held at Batavia on February 28, 1900 were finally agreed upon. These conditions are stated to be as follows :—

Art. I.—(1) The sale takes place in lots as specified in the notices, the prices being calculated per kilo. net weight in florins and cents, the cost of packing included.

(2) The lots to be offered will consist of—

(*a*) Parcels of 1 case containing 25 kilos. net, in tins of 1 kilo. net each

(*b*) Parcels of 2 cases, each containing 11·34 kilos. net, in 4 tins of 100 oz. each.

(3) All tins are marked with the registered trade-mark of the Bandong factory.

(4) The Bandong factory provides efficient packing.

(5) The lots are sold in rotation in accordance with the notice.

(6) The net weight of quinine is marked on the outside of the cases, and, in accordance with the notice, must be accepted by the purchaser as correct.

Art. II.—(1) The following quantities will be sold :—

(*a*) About . . . kilos. of sulphate of quinine according to the Pharm. Neerl., edition ii.

(*b*) About . . . kilos. of sulphate of quinine according to the Pharm. Neerl,, edition iii.

(2) The Bandong Quinine-factory supply on application samples of the quinine offered for sale, such samples serving to indicate the kind and quality.

(3) All lots delivered to purchasers will be accompanied by a certificate of inspection concerning the quality, issued and signed

by the Director of the Government quinine-establishments in the Dutch Indies, representing the Dutch Government on the Board or the Bandong Quinine factory.

Art. III.—(1) Payment for the lots purchased has to be made in Batavia, at the offices of the Nederl. Ind. Escompto Maatschappy, within one month from the date of auction.

(2) In case of non-payment the sellers have the right, without notice, to sell by public auction, for account and at the risk of the purchaser, any quinine not yet delivered; and any loss resulting from such re-sale must be made good by the purchaser, but the profit, if any, shall belong to the sellers.

Art. IV.—If, previous to the payment of the undelivered quinine becoming due, such quinine should be lost either by fire or by *force majeure* (the last-named case to be decided by a committee of two, to be appointed by the Bandong Quinine factory and the President of the Batavia Commercial Union), all sale-contracts which have not yet been executed shall be considered as cancelled. If only part of the quinine is lost, or as in the case mentioned in the previous paragraph, only those contracts shall be considered as cancelled under which the quinine could not be delivered.

Art. V.—The quinine can be left without payment of rent in the warehouses of Messrs. Maclaine, Watson & Co. for a period not exceeding two calendar months after the sale.

Art. VI.—All expenses charged by the auction-office for the costs of the sale, including the charge of 1 per cent. for the poor, are payable by the sellers.

Art. VII.—Brokers shall receive from the sellers, after due payment, a commission of ½ per cent. on the value of their purchases.

Art. VIII.—(1) Agents or brokers shall disclose to the sellers or their representative, on the day of the auction, the names of their principals and the quantities purchased for each.

(2) The sellers or their representative have, however, the right, if they should consider it desirable, to demand before adjudication that the name of the principal be disclosed.

It was further agreed by the meeting that it is essential for successfully carrying on the quinine-auctions that they should be held at regular intervals, and that any quinine remaining unsold shall be reserved for future auctions at Batavia; also that the Bandong Works should arrange to offer their whole production at the Batavia auctions, work for the planters at reduced rates, and when the quinine-market is low charge planters only the actual manufacturing-cost. It was also agreed that the auctions should be well advertised in Dutch and English, and that not more than 10,000 to 13,000 oz. should be offered at the first auctions.—*Chemist and Druggist.*

THE PLANTERS' ASSOCIATION OF CEYLON.

The Annual General Meeting of the Planters' Association commenced at Kandy, at 3 o'clock on the 5th instant. There was a very large attendance of planters.

The minutes of the last meeting having been taken as read, the Chairman then, in the course of his opening remarks, referred to the important scientific aid granted to planters by Governor Sir West Ridgeway, who gave them last year an Entomologist and had promised also a Mycologist, both important appointments, which would mark a new scientific era in the Ceylon Planting Industry. The appointment of a Mycologist was a wise and statesmanlike act of the Governor, and he hoped the Governor would complete the scientific staff by appointing an Agricultural Chemist. The Chairman also spoke in high commendation of the prompt, excellent and vigorous measures adopted by the Government to keep plague off the Island. Regarding the paucity of labour the Committee of the Association was fully alive to this matter, and special reports on this subject, drawn up by a Special Sub-Committee, would be submitted later on. It was strongly felt by planters that the Government should not recruit coolies for their own requirements in the same fields as planters drew their coolies from. The Chairman also announced that a Commissioner for the Continent of Europe had been appointed for three years certain. The Chairman concluded by asking the planters to support the Colombo market with the view of helping the development of foreign markets, especially of Russia, in Mr. Ryan's name, and said the matter was very important.

With regard to the Planters' Commemoration building, he hoped that the annual meeting on the 17th February will be held there. The Thirty Committee hoped for a better state of things in America. Mr. Mackenzie was more sanguine. Mr. Mackenzie was rather despondent, owing to the 5 per cent. duty and cheapness of coffee in America, which resulted in a decrease of 26 millions lbs. tea. Mr. Mackenzie had an exceedingly uphill work, and he was glad to say that the Thirty Committee was going to help Mr. Mackenzie further. The next point touched on was the appointment of Mr. Renton as Commissioner in Europe and Paris Exhibition for three years. He hoped, at the end of that time, there would be reported great progress in the tea industry.

Mr. Melville White proposed his resolution in a forcible speech, withdrawing reluctantly the third part of the resolution.

Mr. Ryan seconded.

Mr. Rosling moved an amendment, which was seconded by Mr. Forsyth.

Mr. Charles Gibbon having spoken, the Hon. Giles F. Walker addressed the meeting in favour of the amendment

THE CEYLON TEA TRADE.

At a meeting of the Royal Colonial Institute held on the 9th ultimo at the Whitehall Rooms, Hotel Metropole, London presided over by Sir Cecil Clementi Smith, an address was given by Mr. John Ferguson, of Colombo, on Ceylon.

The Lecturer said that the closing years of the century had witnessed a rapid extension of cultivation of the cocoanut and other palms both by Europeans and natives, and the full establishment of a great planting enterprise, chiefly in the hands of colonists, in tea. In 1825 Sir Edward Barnes distinguished himself by encouraging systematic coffee cultivation by opening a plantation of his own, and in 1837 great impetus was given to the industry by the introduction of the West Indian mode of cultivation by Robert Boyd Tytler. By 1877 the export of coffee rose to 1,000,000 cwts. which in the markets of Europe was worth between 4,000,000*l.* and 5,000,000*l.* sterling. The leaf fungus wrought disaster to the industry, but many planters remained at their posts and carried on the trade with great economy, until the day came that tea, a much hardier plant, was found to grow where coffee failed. The export trade in Ceylon tea began in 1873 with 23 lbs. By 1879 it rose 100,000 lbs.; in 1889 to 34,000,000 lbs.; and 1899 would probably show a total export of 125,000,000 lbs. There were now of all ages about 380,000 acres, including native gardens, cultivated with tea, and were it not for the check given by fixing the value of the rupee at 1s. 4d. (a blessing in disguise to planters, as discouraging over-production) they would ere now have seen 400,000 or more acres covered with the staple product. Many of them hoped that the Indian Currency Commission would have compromised by selecting 1s. 3d. as the value of the rupee, and in the interests of the general development of India and Ceylon this would have been better. But considering how very gradually, though surely, Indian and Ceylon tea was getting into consumption in the United States, Russia, and the rest of the Continent of Europe, it might be just as well that for some time to come they should be content with having attained, practically, their maximum production of tea in Ceylon. When the very commendable efforts of the planters, by means of a self-imposed cess, to advertise their teas in the United States, and, more recently, throughout the Continent of Europe, took fuller effect, there would be room for a greater outturn from Ceylon. A good deal of progress had been made in North America, and there were promising openings, he was glad to learn from a city friend, in several parts of South America, where Ceylon began to take the place of Maté tea. Much was expected from the Paris Exhibition next year, where the Ceylon Court and tea, as well as other products, would be greatly in evidence. Altogether no effort was being spared by the producers and by many merchants to bring their pure, wholesome teas, carefully prepared in factories equipped with the latest and best machinery and other appliances, under the notice of likely consumers in all parts of the world. The direct trade to countries other than the United Kingdom fostered by public sales in Colombo was represented last year by a total of 23½ million pounds against 93 million pounds to London, and the proportion had been well maintained—indeed, improved—during the present year. It went without saying that the tea plant had enemies, and much had lately been heard of fungoid blights which

had for many years damaged tea in Assam. It must never be forgotten, however, that tea was a far hardier plant than coffee, and its crop was one of leaf, not of fruit, with chances extending over nine out of twelve months in the year, in place of only one or two gatherings of coffee berries. Tea could be pruned down, and all affected portions burnt in a very complete way, without much loss of time in cropping. So far as he could judge, therefore, with the attention henceforward to be given to pests, and to judicious liberal cultivation, the tea industry of Ceylon in the large majority of districts and estates was a stable, reliable enterprise for many years to come. Turning to some of the other estate products, there was cacao cultivation, which, began practically some twenty years ago, now covered 23,000 acres in Ceylon, the export rising from 10 cwts in 1878 to 37,000 in 1898, while it promised to exceed 40,000 cwts. in the present year. There was no prospect of this product being overdone in Ceylon, the area of rich sheltered land suited to its cultivation being very limited. They had next cardamoms—a spice for which there was a special demand in the Indian presidency towns as well as in Europe. Some 6,000 acres were planted with cardamoms on Ceylon plantations, the export rising from 16,000 lbs. in 1880 to 531,473 lbs. last year. For poor old coffee there was little or no hope of revival in Ceylon, and from the million hundredweights of the "seventies" the export fell to a little over 13,000 cwts. last year; but in 1899 there appeard to be an increase, though it could only be temporary, for the Liberian variety did not seem to succeed any more than the Arabian. No doubt the day would come when a trade in preserved fruit would spring up between Ceylon (as it has already done between Singapore) and Europe. It was the custom nowadays to despise Oriental fruits as wanting in flavour. Macaulay, writing from Calcutta, said he had seen no fruit on his table he would not readily exchange for a pottle of strawberries in Covent Garden; but those who had enjoyed a really good "rupee" mango in Ceylon or India, or a feast of mangosteens, would scarcely condemn all Eastern fruit. —*The Grocer.*

REMINISCENCES OF THE AMERICAN COFFEE TRADE.

Mr. Walter J. Peck writes:—

I feel some diffidence in complying with the request of the *American Grocer* to furnish an article for the 30th Anniversary Number of that paper. I will, however, endeavor to give the history of the coffee business from an importer's standpoint in as interesting a manner as possible, coupling the names of some famous men whom I have known and been associated with during my twenty-five years' experience in the coffee industry.

It was with Messrs. Wm. Scott & Sons that I became first connected with the trade who, at that time and for years subsequently, held a very unique position in the coffee industry.

They started in 1858, and were, at the time I was with them, representing as agents such well-known importers as G. Amsick & Co., Busk & Jevons, Wright, Brown & Co., Johnson, Perry & Co., E. D. Morgan & Co., and J. L. Phipps & Co., and the meaning of the coffee law with these firms was that no line should be broken. Cargoes were imported, handed over to two or three first-hand brokers by whom sales were made on the Street The difference was as great at that time between first and second-hand brokers as now exists between the seat members of the Stock Exchange and the "Curbstone brokers of Wall Street." In the late seventies coffee was graded by quarters, whilst now 5-100 is the standard grading.

To explain thoroughly the radical change effected, I would say that coffee was then graded on an imaginary standard called fair, and in this connection it is perhaps as well to explain that W M. Scott & Sons were the authority on the grading of coffee; in fact, whenever it became a question of arbitration either of European or Brazilian shipments, "Jim Scott" was called in, and his ruling was law—seldom was his opinion criticised. Frequently, of course, possibly from indigestion or some similar cause, the grading of coffee was not as regular as to-day, but all the same every one in the business submitted to the ruling. How strange must it now appear to those who knew the times of '80 and the present to realize the difference between the process of grading. Now the grading is done and approved by the New York Coffee Exchanges' official types numbered 1 to 9. No man's word is taken to-day, and all questions of grade are left to the licensed graders of the Exchange.

Well do I remember an article being written by Mr. Carruther of the firm of Arbuckle Bros., and published in the Shipping L attempting to depress the coffee market. This was in 1[illegible], and replied, supporting the market, and argued strongly there was necessity for values to be depreciated. Friends told me I gain the day; anyway, a great commotion was created by the publicatio of the two articles, and the result was a firmer attitude of th market.

It is just seventeen years since the first lot of coffee was sold o the New York Coffee Exchange. It was with me that the bon stood and I appreciate the fact to-day. Many million bags hav been dealt in since, but that 250 bags sold on May 6, 1882, t Mackey & Small at 8¼c for May delivery, will ever be remembere

There was a curious circumstance in connection with that sal Mr. Mackey, now of the firm of Mackey & Small, bought th option. Then the classification committee decided that the type should be more uniform in the differences in grades and this dec sion was delivered shortly after the sale.

Mr. Mackey refused to abide by the new types. This necessitate a fight, and the matter was forthwith referred to a committee. M Mackey appeared before the committee, representing Small & Co while I attended in the interest of my firm. The decision was de livered against my opponents, and Mr. Mackey was expelled fro the Coffee Exchange, though shortly afterwards reinstated wit full honors.

Mr. B. G. Arnold was elected the first President of the Coffe Exchange, in which capacity I believe he continued for some years and I am fully qualified to speak of the many virtues of Mr. Arnol as I was brought daily in contact with him. He was, without ex ception, one of the grandest characters it has ever been my pleasur to know.

Two years later I left the firm of Wm. Scott & Sons, and joine my brother under the title of E. H. & W. J. Peck, which remain our trade heading to-day.

Of all the men in the business twenty years ago very few no remain, and I think the following names comprise the whole list John Donohue's Sons, H. W. Banks & Co., Hard & Rand, Arbuckl Brothers, Wells Brothers, and my own firm.

Great excitement was created on February 3, 1883, by the ex traordinary sale on the New York Coffee Exchange of 57,000 bag of coffee We can hardly realize now that so little could make suc a great fuss. A sale of twice that amount would create no sensa tion in these days.

In July, 1886, options were sold at 7.35 cents, and it then looke as if the price was going lower; but when it came to eleven month later, the crops failed, and speculative interest had been employe 22.25 was the figure.

To demonstrate even further the force this speculative move ment had attained over our product, I may say that my firm fiv times ever owned one cargo of coffee. The crucial time came an the culmination of the "bull" campaign demonstrated itself o June 15, 1887, when options dropped to 15 cents, and the marke closed that day with sales of half a million bags.

Why, you say, is it that the prices of the different grades ar so disproportionate? Why is it that there is not a wider range i prices?

This is a most natural query, and will say in answer that No. 7 at the present figures are either too high or No. 3 are far too low but do not forget that the last few crops have been exceptionall good, and of the finer grades, while roasters of the 6, 7 and 8 grade have been demanded by the trade, therefore the only explanation t give is that the better grades are abnormally low, while the lo grades, say standard grade if you will, are preposterously hig because of scarcity.

Let me say a few words on the importation now carried on by th interior buyers In 1882 there were but five wholesale grocers im porting coffee. and their whole importations did not amount t 20,000 bags. I do not think I should be wrong if I said the import ations by the wholesalers to-day amount to fully ten times tha figure.

Is is not a pertinent question to ask why the out-of-town dealer who seldom take more than 500 to 1,000 bags of coffee, go to Braz to buy, thereby incurring the expense of importation, while the could, as a rule, buy at least 5 per cent. cheaper in this city? O course it is feasible and reasonable to suppose it would be im practicable for the leading roasters to depend on this market t

draw their supplies, but the practicability of the country jobber in assuming the risk of importation is a question in the minds of many of the largest importers yet unanswered.

A question, which is now agitating the coffee market, not only of America, but also Europe and Brazil, is, what the Revision Committee, which meets each year in November, will do regarding the difference in grades at their next meeting, but from the composition of that committee I feel fully assured the result of their deliberations will be equitable and just to the trade in general.

The supply during the last three years of over 28,000,000 bags is to my mind the only cause for the existing prices of coffee, and is based entirely on the law of supply and demand, and the future of coffee depends upon the same law. All estimates agree that the present crop is undoubtedly a large one, and, unless some unforeseen circumstances arise, prices will undoubtedly rule at a low level. At the same time possibilities may occur, seriously affecting future values, such as impost of duty, a question long since mooted; the abandonment of plantations which Brazilian advices lately to hand assure us has already begun, and last, and but by no means least, decreased crop estimates—not an impossibility in a tropical country. The existing distress in Central America, which is constantly increasing, may play no unimportant part in making quotations in the near future.

As a last item. I would strongly speak on the question of money value in the coffee trade. Can it be conceived that the money value of the world's supply of coffee represents considerably less than one hundred million dollars, the bulk of which is held in Europe, where indefinite time loans can be negotiated at a very low rate of interest—in fact, within a fraction of the absolute market value? The visible supply of this country of about a million and a quarter bags represents too small an amount of money to be considered as affecting future operations.

Again, a fact worth remembering is that speculators the world over have long been watching this product, and when they have the slightest encouragement and the present "bear" leader changes his tactics, an impetus will be given to higher prices, which may possibly carry figures too high, as was the case in 1887; and in reference to this, it is well to remember that, while supply played its part, speculative demand was solely responsible for the dizzy heights attained that year.

THE COFFEE-STEALING BILL.

The following is the Report of the Select Committee on the Bill to amend the Madras Coffee-stealing Prevention Act, 1878:—

We, the undersigned members of the Select Committee to whom the Bill to amend the Madras Coffee-stealing Prevention Act, 1878, was referred, have considered the Bill, and have now the honour to submit this our Report, together with the Bill as amended by us annexed thereto. With the exception of two the amendments we have made in the Bill are all of them merely verbal. While not prepared to go so far as to abolish whipping altogether as a punishment for offences under the Madras Coffee-stealing Prevention Act in the case of old offenders, we propose to amend the Act so as to prevent whipping being awarded in addition to the punishment of fine. We are of opinion that in the case of the class of persons specially liable to be dealt with under this Act, whipping is in many cases a more suitable and less objectionable penalty than fining and we have no wish to see the punishment of whipping removed from the Act. We, however, consider that whipping should not be added as a punishment where a fine has been awarded, but that it should be in the discretion of the Magistrate to substitute whipping for fine. We propose to amend Section 13 of Act VIII. of 1878 accordingly. We also consider that the power to grant rewards to informers which is given under Section 14 of the Act should not be exercised without due consideration. We therefore propose to add to the Section a provision making it necessary for the Magistrate when ordering the grant of a reward to record his reasons in writing for so doing. The obligation thus to record his reasons will necessitate the consideration by the Magistrate of the special circumstances of each case, and the Appellate Court will then be able to review the order if it sees fit to do so. We recommend that the Bill as amended be passed into law.

ADULTERATION IN THE UNITED KINGDOM.

The Local Government Board Report says:—

Coffee.—Of the 1,879 samples of coffee examined, 10 per cent. were condemned. As usual, many samples were reported to contain large quantities of chicory. In one case in Cheshire a sample was found to contain sugar. The analyst states that "this was probably due to the practice of roasting coffee with a certain proportion of sugar, which will increase the weight of the coffee from 5 to 10 per cent. This admixture is so skilfully done that each berry is coated with sugar, and anyone buying his coffee in the berry would think he was obtaining it pure. Some may say this is an innocent adulteration, but it is at the same time a most profitable one, for the sugar, which is not much more than one penny a pound, is sold at the rate of a shilling or more." Another sample taken in the West Riding of Yorkshire was found to contain 10 per cent. of ingredients other than coffee. Respecting this, the analyst writes:—"These ingredients consisted partly of chicory and partly of a preparation containing starch, the exact nature of which I was unable to identify, but which was probably derived from maize. The composition of this sample is of peculiar interest, seeing that the foreign ingredients are just those which would be present in an article ground from the fictitious coffee berries now manufactured and sold largely in Germany, and which occasionally find their way into this country. This fraudulent product is manufactured with such skill that even a close inspection does not suffice to distinguish it from genuine coffee berries. Hence a perfectly honest retailer may be supplied by the wholesale dealers with an article composed in part of these fictitious beans without having any suspicion that he is being defrauded." Legal proceedings were taken in respect of 121 out of the 187 samples condemned, and 104 penalties were inflicted, amounting in all to 110 *l.* 4s. 8d. Two of the fines were of 4d.

Tea.—The report shows that the Commissioners of Customs during the year had examinations made by their analyst under the thirtieth Section of the Sale of Food and Drugs Act, 1875, of imported teas before they are taken out of bond. The report of Mr. W. Cobden Samuel, tea analyst, is as follows of the 938 samples analysed:—70 samples of green tea faced, 20 samples of green tea unfaced, 46 samples of green tea capers, 595 samples of black tea congou, 160 samples of black tea dust, 47 samples of black tea siftings. Of the total, 854 were, on analysis, considered satisfactory, and the importations represented by them were accordingly delivered on the certificate of the analyst. The remaining 84 samples represented teas of doubtful character, the results of analysis of which were reported to the Board for their decision, with the result that the whole of these, representing 1,603 packages, were restricted to exportation or for manufacture of caffeine. In regard to samples of tea examined by public analysts, it was stated in the Annual Report for 1896-97 that of the 4,289 samples examined in the previous five years only four had been reported against. In 1897 one sample was condemned, but during the past year, out of 486 samples taken, as many as 15 were adulterated, while 8 more were returned as of inferior quality. Many of these were of the variety known as caper tea, and were reported to contain excessive quantities of mineral matter. Respecting this revival of an old and somewhat ingenious method of adulteration, which consists of the addition of stones and sand to tea in order to increase its weight, and the analyst for the county of Derby writes:—"The practice is defended by interested persons on the ground that the mineral matter is unavoidably introduced during the process of the preparation of the tea for the market. This contention, however, cannot be sustained, as genuine tea practically never contains 1 per cent. of mineral matter in the form of sand. Where sand and stones are present in the proportion found in the samples under observation, these foreign substances must have been purposely introduced, and possibly caper tea is chosen as the chief medium for the operations, because the shape of the leaf after its preparation for sale is favourable for the concealment of the stones. The tea certified by me to contain 4 per cent. of sand and stones was sold at the high price of 3s. 8d. per lb., and the adulteration, which was actually in the excess of the amount certified by me was obviously of a fairly remunerative character." Legal proceedings were taken in 5 instances of tea adulteration, and 2 fines were inflicted.

Cocoa.—As usual, more than one-fourth (56 out of 207) of the samples of cocoa were condemned, and in one case a fine of 20 *l.* was inflicted.

AUXILIARY PRODUCTS : COFFEE.

"Producer" writes to *Capital* :—

Now that tea planters in North East India are turning their attention to other products to supplement the profits from their staple, it may be of some service to state the experience of South Indian planters who have always given much attention to these products. The first to be noticed, *viz.*, coffee, is or was till lately the staple of South India plantations, and it is rather curious to find tea planters turning their attention to coffee at the very time coffee planters here are turning their attention to tea. There are, of course, many very successful coffee districts still to be found in Southern India, but Travancore has become mainly a tea district, a good deal of tea is being planted in the Wynaad, and a commencement has been made in Coorg. There is far more risk attending the cultivation of coffee than of tea, but when coffee succeeds, it pays as only products, which cannot be grown, save under exceptional conditions, do pay. This refers, of course, to periods of normal prices. At prices ruling this year, it is doubtful if even the best estates do more than pay their way. But with products like coffee, which are liable to violent fluctuations in price, and take three or four years to come into bearing, a period of low prices is the best time to open. It is said leaf-disease is unknown in Sylhet, and coffee should, therefore, do well there, if other conditions are favourable. It may be doubted, however, if a scourge, which afflicts such widely scattered countries as Java, Ceylon, and South India, where it has extinguished whole districts, will not appear in North India, if coffee is opened on any scale. Should it appear, the best preventive against it assuming formidable dimensions is a light rainfall, well distributed over eight or nine months of the year, and varying from 70 to 140 inches per annum, with an unbroken drought of three to four months every year to kill leaf-disease and ripen the bearing wood. The other great scourge in South India is the borer, which has been known to kill out whole estates. The remedy against this is to grow coffee under shade, and in districts, where borer is very prevalent, all the trees attacked are uprooted and burnt, and the vacancies carefully replanted. The best trees for shade are Jack (*Artocarpus integrifolia*), the numerous species of Indian fig, and Silver Oak (*Grevillea robusta*). Some indigenous trees make good shade. Some are so bad they have to be carefully uprooted, and many planters prefer to destroy all natural shade and plant their own. The shade should not be all of one sort, but is best of different kinds mixed up. Coffee in South India cannot be grown on a large scale to pay, except on virgin land of the best quality. This may be either bamboo, or primeval forest. Some of the best plantations were formed of primeval forest on mountain slopes at an elevation of 3,500 to 5,000 feet, the soil of which consisted of rich dark mould mixed with large and small rocks. Others were made out of bamboo forest, at an elevation of 3,000 to 3,500 feet, on the plateau some distance inside the Western Ghâts, the soil of which was a stiff loam free from stones. It is in the latter, borer is most dreaded, and coffee cannot be grown, except under a continuous, but light, cover of shade. All the best estates in both kinds of land are steadily manured, partly to counteract leaf-disease, and partly because no land, however rich originally, will continue to crop well for any length of time without manure. The last and, perhaps, the most important requisite for success in coffee-planting is that the annual drought alluded to above shall be followed by regular blossoming showers. These depend entirely on local conditions, and are secured in South India by the situation of the plantations on the inner slopes of the Western Ghâts, or on the plateau between the heated centre of the peninsula and the mountain range near the sea. The clouds form up about noon some distance from the inland slopes of the mountains, and advancing towards them in the face of the sea breeze, drop their showers on the mountains and on the plateau lying at their feet. The neighbourhood of a prominent mountain peak often secures regular showers for the plantations around it, while plantations near less prominent portions of the range often have the showers drawn away from them, and have had to be abandoned on account of the frequent failure of crop for want of timely rain. The writer has seen a fine blossom spike knocked off unopened by too late rain and lying on the ground like so much raw rice, because the bud had perished from drought before the rain came.

The cost of opening coffee may be reckoned as rather less than that of tea, being about Rs.300 an acre, though it has often been done for Rs.200 an acre. All depends on the style of opening and the class of buildings and machinery. The latter are not nearly as expensive as for tea, and, at first, may be of a very inexpensive nature. The cost of cultivation varies from Rs.100 to Rs.150 an acre a year, though some planters spend as much as Rs.200 an acre, chiefly in heavy manuring, with of course proportionately heavy crops. Good estates give an average of 5 to 7 cwts. per acre, though occasional crops of 10 or more cwts. per acre are not uncommon. On the other hand, owing to the ravages of leaf-disease many estates do not average over 1½ to 2 cwts., and these are going into tea, or are being supplemented by cinchona and pepper. Liberian coffee has been extensively tried in South India, but has failed owing to the prolonged droughts. It requires rain in every month of the year, and does well in such a climate as the Straits at almost sea level. A hybrid between Arabian and Liberian has, however, been established, which promises to resist both leaf disease and drought. Great things are hoped of this on account of its marvelously vigorous growth and heavy cropping powers. The experiment is yet in its infancy, but hybrid seeds are being offered for sale early next year for the first time.

DISTRICT ASSOCIATIONS.

SHEVAROY.

Proceedings of a Meeting of the Committee of the Shevaroy Planters' Association held in the Victoria Rooms, Yercaud, at 1 p.m., on Monday, the 4th December 1899. PRESENT:—Messrs. W. J. Lechler, C. G. Lechler, Thurston Short, T. B. Nicholson, Rev. M. Anderson, Messrs. C. Rahm, R. Gompertz, (*Honorary Secretary*).

1. *Read* circular from Secretary, U. P. A. S. I., saying that Mr. G. L. Acworth had suggested that a subscription list should be opened for the relief of sufferers in the Transvaal War.

Resolved that Honorary Secretary be requested to reply that as some of the planters had already subscribed to the fund being collected by Messrs. Arbuthnot & Co., and others to that being locally raised in the station of Yercaud, we are unable to support Mr. Acworth's suggestion.

2. *Read* letter from Mr. A. G. Nicholson proposing that Government be requested to remit the kist for the next fusli on account of the damage done by the long drought and also of the unremunerative prices obtained for the past and present crops.

Resolved that, in view of the difficulties with which Government has to contend on account of plague and famine, no remission should be asked for at present.

3. Read circular from Secretary, U. P. A. S. I., giving five names of gentlemen suggested as successors to Mr. Frank Mangles, and requesting that we should nominate one of them as the representative of the U. P. A. S. I. on the London Chamber of Commerce.

Resolved that, in the opinion of this Association, any one of the five gentlemen named would represent us admirably, but that we should prefer Mr. P. Macfadyen.

Read and *Recorded* the following letters:—

Circulars from the Secretary, U. P. A. S. I.

85/U. W. Modifications in the Draft Labor Bill suggested by the L. P. P. A.

96/U. W. Forwarding letter from Mr. Mangles to the effect that it is of no use moving further at present to stop adulteration of coffee.

86/U. W. Suggesting that the agitation about the adulteration of coffee should be postponed till a more favourable time.

87/U. W. Enclosing letter from Mr. Romilly saying we ought to support the Indian Tea Association in their action with regard to abolition of import duties (see 93/U. W.)

88/U. W. Asking the meaning of the words "in proportion" in resolution at last meeting regarding our subscription to expenses of Paris Exhibition.

89/U. W. Insisting on the necessity of accuracy in statistics furnished to the Association.

90/U. W. Necessity of liberal subscriptions to expenses of "Paris Exhibition."

92/U. W. Giving a number of questions put by Mr. David-son regarding the Paris Exhibition and Secretaries' answers to them.

93/U. W. Enclosing letter from Mr. Romilly saying that the nation having become involved in war since he wrote advocating

the abolition of tea duties, he thinks it would be unpatriotic to press for a reduction of taxation at the present time.

95/U. W. Sending sample of the common seal adopted by the U. P. A. S. I.

38/C. Correspondence about Mr. Pope, Assistant Surgeon, which stood over from last meeting.

The following papers were laid on the table :—

Planting Opinion (3 copies), dated November 11th, 18th and 25th.

One copy of the Journal of the Royal Agricultural Society of England.

Proceedings of the Nelliampathy Planters' Association.

Proceedings of the Coorg Planters' Association.

YERCAUD, *7th December*, 1899. (Signed) R. GOMPERTZ, *Honorary Secretary, S. P. A.*

THE BIG PRIZE TURKEY.

"A Merry Christmas, Bob," said Scrooge, with an earnestness that could not be mistaken, as he clapped him on the back. "A merrier Christmas, my good fellow, than I have given you for many a year. I'll raise your salary, and we will discuss your affairs this afternoon over a bowl of smoking bishop. Make up the fires and buy another coal scuttle, Bob Cratchit."

And as to the big prize turkey which the regenerated Scrooge sent to Camden Town, do we not all know what sort of bird it was? That turkey never could have stood upon its legs, Mr. Dickens says. They must have snapped short off like sticks of sealing wax. How they managed to cook and eat that phenomenon the author doesn't say, as it was twice the size of Tiny Tim. Yet they did it somehow, and it was a mercy if the family (previously half starved) didn't all fall ill of the unwonted gorging of that wonderful Christmas day.

Even assuming (as we easily may) that the transmutation of an old skinflint like Scrooge into a high priest of charity was quite beyond the common run of modern miracles, and that dinners from such sources are as rare as they are welcome, it still remains true that human nature is apt to be at its best at Christmas, especially in England, where, of all countries in Christendom, most is made of that gentle and kindly holiday.

Yet, sad to tell, the very jollity and generosity of Christmas leads to regretable excesses. People eat and drink too much, and suffer accordingly. The roast and the boiled, the mince pies, the plum puddings, the tremendous flushings of wine, beer, and other beverages, these things overload the stomach and give the digestion more work than it can do, and punishment follows. For Nature has no favourites; she treats those who violate her laws on the 25th December exactly as though they had committed the offence on the first Monday in August.

And as to the chronic dyspeptics, of whom there are enough in this old island to cram all the parks in London, *they* catch it fearfully about Christmastime. For, in spite of all warnings, they will go in for heavy meals and take the chances. Often the penalty is an acute attack which may threaten life, and nearly always weeks of pain and digestive disorders, whereof there are as many kinds as the body has organs and functions.

To them Christmas may be "merry" for an hour or two; then their merriment turns into misery, as October fogs and rains succeed a hot summer.

Now the writer is far from advising a free indulgence in the gustatory and bibulous festivities of the country's most popular holiday, but there is no use protesting against the fixed resolution of the people to enjoy themselves on that occasion. The customs and traditions of centuries are behind it, and you might as well whistle in the teeth of a north-east gale.

As a prophylactic and a cure for the evils alluded to, I can only recommend the universal use of Mother Seigel's Syrup, known to all as the best stimulant and digestant in the world.

In a letter dated January 10, 1899, a gentleman of Birmingham, who loves the pleasures of the table, and has money enough to buy whatever he wants, writes thus :—It is only fair that I should thank you, as I do with all my heart, for the good done me by Mother Seigel's Syrup For years I have been vexed with indigestion, and always had a tormenting spell of it after any public banquet or uncommon intake of rich food. Still, I was seldom able to resist temptation, although I understood perfectly well what yielding to it was sure to cost me. I have sought a preventive or a cure in vain at the hands of the best physicians, all of whom assured me that there was but one way, namely, to live on a low diet, and let luxuries alone.

"But this did not suit me, and I broke through the regulations frequently, with the inevitable results. However, when I began to use Mother Seigel's Syrup I had (almost) a license to do as I pleased. After an inviting but most risky dinner last Christmas I took a double dose of 'Mother Seigel,' and scarcely suffered at all. I told my experience, and a dozen friends adopted this amazing remedy right off. I am convinced that, with a little caution, and a dose of Mother Seigel's Syrup now and then, *one may bid defiance to dyspepsia* and the abominable ailments it sets up. Thanking you a thousand times, I am, yours truly, JOHN MACFARLANE."

With these facts we wish a merry (and a *healthy*) Christmas to the British people.

MARKET REPORT.

[*Per Mail Advices of 17th November* 1899.]

COFFEE.

The London Commercial Record says :—Supplies at auction during the week have not been excessive, but demand has shewn some irregularity. The market opened with a strong tone, and prices generally favored sellers, but subsequently there was less disposition to operate and the best prices were not always maintained, except for really colory samples, which are very firm. In consequence of varying rumours from the Brazils the markets for "futures" has been subject to sharp fluctuations, advancing 1s early in the week, but losing this and an additional 1s later on, closing at 6d decline, *viz.*:—

London ...	Santos ...	May	delivery	... 32s. 0d.
New York	No. 7 Rio...	„	„	... 5·65 cents.
Hamburg...	Santos ...	„	„	... 31¾ pf.
Havre ...	Santos ...	„	„	... 37¾ francs.
Holland ...	Good ordinary Java ...	...		... 31 cents.

The Dutch Trading Company announce their next public sale for Tuesday 21st instant at Amsterdam when 24,770 bags will be offered; good ordinary Java is valued at 31 cents.

Imports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
Tons	18,301	17,253	43,465	42,072
	Home Consumption.		Export.	
	1899.	1898.	1899.	1898.
Tons	14,575	12,321	25,000	22,189

The preceding figures exhibit— Tons.

In the Imports an increase this year of ...	... 1,393
Home Consumption an increase of ...	... 2,254
Export an increase of...	... 2,811
Stock an increase of	... 1,048

Auctions this week have gone off as under:—

CEYLON—*Plantation.*—15 casks 3 barrels 8 bags sold, smalls 61s, middling 80s, bold 90s to 91s, pea-berry 80s. 255 bags *Native* brought in.

EAST INDIA.—1,158 bags partly sold as follows: *Coorg*, smalls 31s to 40s, low middling to middling 41s 6d to 53s, common to fair bold 59s 6d to 66s, good colory 73s 6d to 75s 6d, pea-berry 58s to 75s 6d. *Wynaad*, low middling 38s to 42s.

NYASALAND.—239 bags half sold—smalls 38s to 42s 6d, low middling dull greenish 42s 6d, bold colory 63s, pea-berry 47s 6d to 50s.

MOCHA.—70 half-bales withdrawn.

JAVA.—80 bags imitation and 131 bags LIBERIAN were bought in.

JAMAICA.—59 barrels 13 bags offered, but only 12 barrels sold—ordinary greenish 29s 6d, middling brownish 47s, pea-berry 52s 6d.

COSTA RICA.—Of 640 bags offered only 60 bags sold—smalls 30s, low middling 49s 6d, good middling 67s 6d to 68s, ordinary bold 57s, fine bold blue 95s, pea-berry 50s.

GUATEMALA.—Of 752 bags catalogued 540 bags sold—low middling 42s 6d to 48s 6d, middling to good middling blue 51s 6d to 67s, fair colory bold 70s, pea-berry 50s to 57s.

SALVADOR.—Of 685 bags offered 515 bags sold—smalls 36s, low middling polished green 40s, middling 48s, common bold 56s to 58s, pea-berry 55s.

Nicaragua.—52 bags half sold—good ordinary greenish 35s 6d.

Colombian.—4,389 bags mostly sold—small 28s to 41s 6d, low middling to middling colory 42s to 53s, good to fine middling 53s 6d to 65s 6d bold 68s to 77s, good to fine 78s to 85s, extra bold 90s 6d, pea-berry 50s to 86s.

Venezuela.—22 bags mostly sold—low middling dull gray 46s 6d.

Peruvian.—154 bags sold, smalls 39s to 40s, middling brownish 49s 6d to 51s 6d, pea-berry 48s to 55s.

Brazil.—Of 2,229 bags offered 460 bags sold—Dumont Santos, good bright greenish foxy 32s, pea-berry 30s to 40s quay terms; washed ditto, smalls 31s 6d, medium 33s 6d, pea-berry 47s 6d to 53s landed terms

Auction supplies to-day comprised:—220 bags East India, 631 bags Nyasaland, 18 bags Bornea Liberian, 21 packages Mocha, 133 bags New Granada, 34 bags Vera Paz, 1,234 bags Columbian, 275 bags Salvador, 153 bags Guatemala, and 250 bags Santos. The sales went off at irregular prices, but all good qualities sold well at full rates. Nyasaland cheaper.

Receipts in Rio and Santos.

Since July 1	1899-1900. Bags.	1898-99. Bags.	1897-98. Bags.	1896-97. Bags.
Rio	1,741,000	1,483,000	2,183,000	1,717,000
Santos ...	3,868,000	3,118,000	3,720,000	2,875,000
Total ...	5,609,000	4,601,000	5,903,000	4,592,000
Crop .	—	8,772,000	10,461,000	8,680,000

Rio Exchange —d, previous day $7\frac{1}{16}$d.

Havre, Nov. 16.—Santos good average December opened steady at 36¼f. and closed steady at 36¾f., March opened at 37f. and closed at 37¼f.

Hamburg, Nov. 16.—Good average Santos December opened steady at 30¼pf. and closed steady at 30½pf., March opened at 31pf. and closed at 31¼pf.

New York, Nov. 8.—Closing prices of No. 7 Rio were as follow:—

	Nov.	Dec.	Jan.	Feb.	Mar.
Nov. 15 ...	5·30	5·30	5·35	5·40	5·50
Nov. 14 ...	5·25	5·30	5·30	5·40	5·45

IN AMERICA.

The deliveries continue large—not quite up to the previous week, but far ahead of corresponding week last year. The market is fairly strong for all grades and sorts of coffee. There was a slight reaction in Rios, which fell to a basis of 6 1-16c for No. 7, but at the close the feeling is better; No. 3 held at 7¼c, with sales of No. 3 Santos at 7c, c. and f Padang interior firm at 24@25½c; fancy mats, 28@34c, and possibly higher for very fine, which is scarce. Good Cucuta strong at 8½c, or better. Mocha, 17@19¼c, and higher for fancy. Washed Central American and Mexican of the better grades, 10@13c.

MR. ARNOLD SCHRAMM ON MILD COFFEE.

"Since my last the coffee market has continued firm, with prices hardening for desirable goods. From Venezuela (whence come all the Maracaibo and Laguayra coffees) we get news of a new uprising against DeCastro, the revolutionist, who had just driven the President (Andrade) out of the country, and it looks as though there would be considerable trouble there before the political atmosphere can be cleared, and during the time that this will take, it is reasonable to expect very light shipments of coffee from there.

"In Colombia, also, there is a general insurrection against the Government, and the river boats have been seized for war purposes, which will result in the total stoppage of shipments of Savanilla coffee. Colombia produces the various kinds of coffee known as Savanilla, and which comprise Bogota, Bucaramanga, Ocana, Cauca, etc.—the coffees known to the trade.

"There are no changes in quotations since last week, but I should judge that if the receipts continue very light (which must be) from Venezuela and Colombia, we will probably see a further advance in the grades of coffee coming from those countries."

TEA.

China.—The steady tone for Congous of the better grades continues, and even the commoner kinds shew a rather improved position. Auctions during the week have offered 5,245 packages the greater part selling as follows:—Scented Caper 6¼d to 7½d, Scented Orange Pekoe 5¾d to 8¼d, Paklin 6¾d, Souchong 6½d. Green.—Gunpowder 7½d to 1s 0½d, fine 1s 6¼d, Imperial 4½d to 7¾d; Young Hyson 4¼d to 8¼d; Hyson 4d to 4½d. Sou Mee 7¼d to 1s 3d. Moon Mee 8¾d to 1s 2d per lb.

Indian.—About the same quantity was brought forward, *viz.* 51,000 packages, compared with 50,200 packages in the preceding week, and 46,800 packages a year ago.

The market opened with a steady tone, previous rates being fully maintained for nearly all kinds; later on, however, there was less disposition to purchase unless at a slight concession. Calcutta bought Pekoes were more plentiful at 6½d per lb., while common to fair Broken Pekoes, except when possessing strength, sold easier. Good medium, both leafy and broken, with attractive cup rules firm, but others were often neglected. Fine and finest which were in rather limited supply elicited considerable competition, particularly some of the Darjeelings, the following results being noticeable:—Assam:—Pabbojan Co., 120 packages, 1s 3¼d; Doomur Dullong Estate, Am.Co., 322 packages, and Khoontai Estate, Am.Co., 167 packages, 1s 0½d per lb. Darjeeling:—Phuguri Estate, A.T.E.Co., 72 packages, 1s 10d; Nagri Estate, A.T.E.Co., 157 packages, 1s 4d; Rungmook Estate, 144 packages, 1s 1¾d per lb.

For 39,500 packages on Estate account 8¾d per lb. was realised, contrasted with 8⅝d per lb. for 32,800 packages and 8⅝d per lb. for 32,200 packages in the two former seasons.

Entries for export to the United Kingdom for the first half of the month were 13,000,000 lbs. versus 9,810,000 lbs. in 1898, making the totals from 1st April 109,592,000 lbs. and 100,847,000 lbs. respectively.

Ceylon.—Auctions were lighter, embracing 23,200 packages against 27,800 packages on the 7th instant, and 18,300 packages for this period last year.

On the whole the selection was hardly so desirable, but taking this into account prior quotations were about upheld. Pekoe Souchongs and Pekoes for price were again in strong request. Medium to fine especially when assisted by orders from abroad, also passed well. The good value recently obtainable in Broken Pekoes from 8d to 1s per lb. has somewhat stimulated the demand, therefore bidding for them was more brisk. Consequent on the scarcity of "tippy" and choice flavoured parcels, much eagerness was displayed to secure the few available, among the best Broken Orange Pekoe being:—Dimbula 1s 7¾d, Mount Vernon 1s 7¼d, Talawakelle 1s 5¾d, Warleigh 1s 5¼d, Cranley and Lindoola 1s 3¼d per lb.

The average is the same as on the 9th instant, *i.e.*, 8¼d per lb. On the 16th November, 1898, it stood at 8½d per lb.

Java.—Only 154 packages of direct import were submitted, which commanded attention without any material change. No further catalogues have been at present issued.

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns are, *viz.*:—

	Lbs.
From 1st to 14th Nov., 1899	9,781,07
Do. do. 1898	9,036,68

During the week the following have been printed for sale by public auction:—

	Sold. Pkgs.	Withdrawn. Pkgs.	Total offered Pkgs.
India	43,337	7,763	51,100
Ceylon ...	21,207	2,023	23,230
Java	121	33	154
Total ...	64,665	9,819	74,484

Also 119 packages from second hands.

Messrs. Gow, Wilson & Stanton's Indian, Ceylon, and Java Tea Report, dated November 17th, 1899, says:—

Quantity brought to Auction in London from 1st June to Date.

	Indian. Pkgs.	Ceylon. Pkgs.	Java Pkgs.
1899-1900	739,174	580,946	28,33
1898-1899	632,912	568,882	21,43

51,209 *pkgs.* Indian
23,417 „ Ceylon
154 „ Java
} Total 74,780 packages were offered in public auction this week.

The new regulations concerning Taring, which it was hoped would come into force on the 2nd October, are to commence on the 1st December, *viz.*:—

The empty package to be weighed to the ½-lb.

(*a*) Should it weigh the exact even pound it is to be entered as such.

(*b*) If it weighs the even ½-lb. or over it is to be entered as the next pound above.

(*c*) If it weighs below the ½-lb. it is to be entered as the 1-lb. below.

The Custom House authorities have informed the Indian and Ceylon Tea Associations that they are about to issue an order to this effect. With a view to obtaining a correct average, more packages than at present are to be tared, the option of taking separate tares for Teas bulked in London being left to the trade, as at present. The method of weighing gross now in force will still be continued.

INDIAN.—Sales were rather heavy this week totalling 51,209 packages. No material change took place in rates current last week, the demand for all grades being very firm, and price Teas steady at the late advance. The official wire gives exports to U.K. for first half of November as 13,000,000 lbs., against 9,810,000 lbs. same period 1898, making the total from 1st April to date 109,592,000 lbs., against 100,847,000 lbs. to same date last year. The following averages are worthy of note:—"Amal. T. E Co. Nagri," 1/3¾; "Pabbojan T. Co." 1/3; "Con. T. & L. Bloomfield" and "Rungmook," 1/1⅜.

Week's av. of Tea sold on Garden Account 1899, 39,742 pkgs., av. 8·81d. 1898, 32,988 pkgs., av. 8·23d.

Total Tea sold on Garden Account 1st June to date 1899, 541,594 pkgs., av. 8·60d 1898, 516,042 pkgs., av. 8·60d.

CEYLON.—Only 23,417 packages were brought forward, against 28,804 last week. The auction passed with strong general competition, all descriptions being freely bid for at firm rates. Private telegraphic advice gives exports to U.K. for first half of November as 3,500,000 lbs., against 3,500,000 lbs. 1898, and estimates the total for the month as 7,000,000 lbs., against 6,500,000 lbs. last November. The following averages may be mentioned:—"S. T Co. St. Leonards," 1/-; "Nuwara Eliya T. Co. Park," and "Madulseema Co. M." 11¾d. Avge. for week 8·15d., against 8·38d. in 1898.

Ceylon Tea sold on Garden Account 1st Jan. to date 1899, 958,236 pkgs., av. 7·98d. 1898, 994,850 pkgs., av. 7·74d.

JAVA.—Only 154 packages were brought to auction, and so far no catalogues are issued.

Bank Rate 5 per cent. Exchange on London three months sight:—Calcutta 1/4⅜. Colombo 1/4⅜.

IN AMERICA.

The imports of tea in September were 14,313,573 lbs. valued at $1,769,341, against 5,876,420 lbs. valued at $808,734, in September, 1898. Total imports for nine months ending September 30 were 60,116,703 lbs. valued at $7,566,957, against 47,299,008 lbs. valued at $7,844,749, for corresponding period in 1898 and 68,973,105 lbs. valued at $9,198,356 in 1897. This is a good showing, and indicates that conditions in the tea trade are again normal; that old stocks have been wiped out and that the volume of imports from now on will be more in accord with former years than was the case in 1898.

Of the total imports 29,448,946 lbs. came from China, 25,661,541 lbs. from Japan, 1,744,003 lbs. from the United Kingdom, 1,384,552 lbs. from British North America, 1,768,438 lbs. from East Indies, 104,044 lbs. from other places in Asia and Oceanica, and 5,179 lbs. from all other countries.

At the last auction sale on October 25 the Montgomery Auction and Commission Company sold, net cash, in bond, unless otherwise stated, 9,302 packages tea, *viz.*, 554 Moyunes, 3,951 Pingsueys, 126 pan-fired and 233 basket fired and sun-dried Japans, 115 Dust, 695 Congous, 113 Indias, 182 Foochows and 3,333 Formosas.

COCOA.

No auctions have been held this week, but privately a very fair trade has passed at full rates, transactions including—800 bags Trinidad at 75s to 77s for good to fine and 73s to 73s 6d for middling, 100 bags Grenada at 65s to 67s, 200 bags African at 64s 6d for fine, some Puerto Cabello at 105s to 145s, 600 bags Guayaquil at 66s for greyish Caraquez and 68s to 72s 6d for ordinary to fine Arriba, and 600 bags Ceylon at 58s to 62s for fair to good Native and 74s to 77s per cwt. for good red.

PEPPER.

BLACK.—There has been a continued good demand for Black Singapore on the spot at 5¾d cash less interest; of near at hand parcels sales have been made at 5 3/16d, October shipment at 5⅞d and February-April at 6 3/32d; about 150 tons sold.

At public sale on Wednesday all the offerings passed the hammer unsold, *viz.*, 293 bags Singapore, 43 bags Estate Penang, and 125 bags Tellicherry.

The shipments of Black Pepper for the first half of November compare as follows:—

	1899. Tons.		1898. Tons.	
U. K.—Singapore	50	120	80	80
„ Penang	70		*nil*	
Continent		70		20
United States		*nil*		60
Total ...		190		160

WHITE is inanimate with business of small importance. A small quantity of Singapore near at hand done at 8⅞d.

At auction on the 15th instant, 28 bags 15 cases Singapore, 11 bags Gapis, and 159 bags Penang were all bought in.

The shipments of White Pepper for the first half of November compare as follows—

	1899. Tons.		1898. Tons.	
U. K.—Singapore	310	350	110	240
„ Penang	40		130	
Continent		50		50
Total ...		400		290

GINGER.

COCHIN.—The volume of business has swollen considerably this week, demand having been brisk, and holders have given several turns to the screw, compelling buyers to pay materially higher prices in many instances. The special feature is the rapid rise in cut descriptions—which some few weeks ago we pointed out was almost sure to result—and at the enhanced rates the position seems even better than before. Private sales, which have been fairly heavy, include the following:—Medium and bold Native cut 64s to 66s, small and medium ditto 42s, small cut 35s to 37s 6d, good to fine Calicut rough Sorts 29s to 32s, fair to good medium and small washed rough Cochin 27s 6d to 30s, and mouldy and wormy ditto 25s to 26s Catalogues on Wednesday comprised 186 cases 799 bags, of which 54 cases 218 bags sold, cut descriptions bringing further advances, whilst firmness prevailed for other kinds; bold, some medium, roughly cut and scraped, limed, realised 80s, medium ditto 65s, medium, some small, ditto 61s to 61s 6d, medium part boldish very rough and heavily limed 46s 6d, small and medium 45s, and medium and small washed rough, wormy, 25s 6d to 26s per cwt.

CINCHONA.

At the auctions on Tuesday ten brokers brought forward supplies amounting to 4,105 packages—a larger quantity than has been seen for some months past. At the opening of the auctions there was a brisk demand, which, however, became quieter towards the finish. The bulk was disposed of at a general advance of about 10 per cent. on the last auction in Amsterdam, the unit averaging 1¼d. to 1⅜d, against 1d. at the last London auctions and 1¼d. at the Dutch sales.

The following table shows the quantity offered and sold:—

	Packages offered.		
East Indian cinchona ...	2,742, of which 1,931 were sold.		
South American cinchona ...	541	„	329 „
Ceylon cinchona	410	„	352 „
Java cinchona	412	„	321 „
	4,105		2,933

The following are the approximate quantities purchased by the principal buyers:—

	Lbs.
The Brunswick factory	199,374
The Mannheim and Amsterdam factories ...	135,694
The American factories	125,391
Messrs. Howards & Sons	62,246
The Frankfort-on-Maine and Stuttgart factories ...	38,380
The Imperial quinine-factory	7,855
Sundry druggists	75,281
Total amount of bark sold ...	644,221
Bought in or withdrawn ...	266,506
Total amount of bark offered ...	910,727

SOUTH AMERICAN.—A bid of 1½d. per lb. was refused for 64 bales of Cuprea imported in 1884. Twenty bales of Cartagena and 8 bales of New Granadian were bought in. Bolivian cultivated Calisaya sold at 8⅞d. for good rich quill, and from 7¼d. to 7⅞d. for fair,

down to 6¼d. per lb.; fine flat, 9⅜d. per lb. for sound. Of 76 packages soft Colombian, 48 sold at 1¾d. to 2d.

Java.—Ledgeriana, original stem chips and shavings 3¾d. to 4⅛d Red original stem 4⅛d. to 5¾d.; root, 4⅛d. to 4½d. per lb.

Ceylon.—Officinalis, natural stem chips, fair to good 3¾d. to 5½d. Hybrid, chips, 4d. to 4⅛d. per lb. Succirubra, ordinary to fair original stem chips, 2⅝d. to 4⅞d. per lb.; shavings, 3¼d.; branch, 2¼d. to 2¾d.; root 3⅛d. to 3¾d.; fair red quill, 4⅛d. per lb.

East Indian.—Ledgeriana, original stem chips, 3⅜d. to 6⅜d. branch, 3¼d.; and root, 3⅞d. per lb. Hybrid, original chips, 2⅜d; renewed ditto, 2½d. to 3½d. per lb. Officinalis, stem, chips, and shavings, 3d. to 6⅞d.; goed root, 3⅞d. to 4½d. per lb.; renewed chips and shavings, 2½d. to 8⅜d.; broken quills and chips, 2d. to 7⅝d.; stem chips, 5⅛d. to 6d. per lb.

The exports from Ceylon from January 1 to October 24 have been—

	1899.	1898.	1897.	1896.
Lbs.	534,640	764,408	611,926	1,231,359

QUININE.

Quinine has been in more demand this week, and up to Tuesda prices in second hands were unchanged at 1s. 1¾d. per oz. fo December, and 1s. 2d. for March delivery. After the bark-sale however, the market was firmer, business being done at 1s. 1⅞d. t 1s. 2d. for December, and 1s. 2⅜d. for March. On the spot 1s 2¼d was quoted on Wednesday. with buyers at 1s 2d. per oz., bu to-day 1s. 2¼d. was reported paid for December, and 1s. 2½d. fo March. Makers' quotations are unchanged so far.

The shipments from Java during August were 404 cases, all o which were shipped to the United Kingdom. From July 1 t August 31, 132 cases have been shipped, against 346 cases for th same period of 1898. By the SS. *Cyclops* 33 cases Java quinin (Ed. II.) arrived last week in Amsterdam containing 396 kilo (13,860 oz.), and 17 cases Java quinine (Ed. III.) 204 kilos. (7,14 oz.) from the Bandong quinine-factory.

(Average for all India 8·81d.), November 17th.

Garden.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust, and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.
Travancore ...	419	7·38												
Isfield T C Isfield...	98 p	6⅜	39 p	†7 7½	38	6¾	...	...	21	6½	...	...	...	..
Kanan Dev Hil M...	160½c	8¼	35½c	†8¼	46½c	7¾	32½c	10½	47½c	7¼	...	...	...	...
Vembenard ...	161	7¼	...	...	45	7¼	61	7⅜ 8	21	6¾	21	7	13	6¾

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DOMESTIC OCCURRENCE.—The fee for inserting a domestic occurrence will be *One Rupee* for each insertion, payable in advance.

N.B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," Agra Bank Buildings, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 22nd instant. Season reports should be sent direct to the Printers, Messrs. Higginbotham & Co.

Coorg.

Polli Betta, 13*th December*.—*Weather*.—Bright, cool. Some east wind. A drop in latter yesterday, and some clouds came up. *Plant-diseases*.—"Leaf" has not quite passed off. Pruning, which is now in progress, will clear off what remains of it perhaps. Coolies being paid off this month. Price of grains still continue high. *Ragi*.—12 seers the rupee. *Gram* is cheaper. *General Health*.—Good.

THE IMPORTATION OF SEEDS.

At a recent meeting of the Chamber of Commerce and Agriculture, Blantyre, B. C. A., one of the members referred to the importation of Albizzia seed from India, and suggested that more drastic measures should be taken to preclude the possibility of infected seed coming into the country. This matter was left in the hands of the Committee to be dealt with. In a recent number of the *Queensland Agricultural Journal* appears a paper on "Coffee-leaf Disease and Seed Importation," which shows that Queenslanders, as well as "British Central Africans" are being asked to consider the perils attaching to the importation of seeds. The Queensland article is apparently based on the now famous packet of seeds that was ordered from "Mr. Chisholm, India," by a Queensland coffee-planter. The journal gives us a brief history of the fate of this packet. It was seized and confiscated by the Post Office authorities in Brisbane. The consignee protested against the seizure on the ground that the seeds in question came under the head of "grain,"

against the importation of which there is no prohibition. Apparently, the result of the appeal is not yet known, but at least no intimation is forthcoming that the seed has been admitted into the colony to which it was despatched.

We are quite at one with our Australian contemporary in the belief that the matter is one that deserves the serious attention "not only of planters and agriculturists but of the whole community as a body"; but beyond this our opinion branches off from that of the *Q. A. J.* Our contemporary's remarks may be briefly summarised as follows:—Whilst many years ago coffee-planting was the principal industry in Ceylon, at the present day coffee in that island is a thing of the past, owing to the ravages of the parasitic fungus *(Hemileia vastatrix)* known as the coffee-leaf disease. Of late years spasmodic attempts have been made to revive the industry, but without avail. The existence of quantities of wild coffee in the jungle operates against the planters. The disease remaining with the wild plants cannot be eradicated, and what was once a source of great wealth to the planters and consequent prosperity to Ceylon has had to be finally abandoned, and cinchona, cacao, and tea have successively taken the place of coffee. This, it is argued, shows how very necessary it was to make stringent laws against the possible introduction of the disease into the young plantations in Queensland, and to carry out those rules regardless of sentiment. Mr. H. TRYON, Entomologist to the Queensland Department of Agriculture, reported that the disease might be imported in various ways, and particularly by the vehicle of seeds. He stated that, since its appearance in Ceylon, *Hemileia* has been reported on coffee in Continental India, Mauritius, Samoa, Fiji, Java, Sumatra, New Guinea, Natal, German East Africa, and Guatemala, though not at the present day, it is thought, existent in all of these countries. In the case of its occurrence in Fiji, Sir WILLIAM MACGREGOR, who had exceptional opportunities for investigating the subject at the time, pronounced the opinion that it had been brought from Ceylon, its spores having accidentally become attached to the charcoal in which seeds had been packed. So in the case of German East Africa, its origin was traced to seeds imported from India. As for Queensland, it is said that, in the case of one fungus disease occurring within a circumscribed area in the Cairns district, there are grounds for concluding not only that it is identical with a malady of the coffee-plant occurring in India, but also that it has been imported on seeds from that country.

Under these circumstances, it is not surprising that there should be a disposition on the part of scientists in Queensland to follow the example of Jamaica and some other places, and exclude coffee-seed shipped from countries where leaf-disease is known to prevail or to have prevailed. The regulations under "The Diseases in Plants Act of 1896" absolutely prohibit the importations of all trees, plants, fruits, or seeds from India, Ceylon, the East Indies, East African Colonies, and from all other countries in which the coffee-leaf disease is known to exist, although the Minister for Agriculture may, at his discretion, import any such plants or seeds which shall, when so imported, be suitably disinfected and detained and grown in close quarantine for not less than twelve calendar months. This is a very stringent limit on the discretionary powers afforded, and yet we should like to have seen the *Queensland Agricultural Journal* lay more stress upon the expediency of putting these powers to some practical use. What it says is, that importations of the nature and sources contemplated should alone be made under special safeguards. To this end it is recommended that the assistance of the Director of the Royal Gardens, Kew, be invoked. "This great establishment has, for some years past, paid continuous attention to the subject of leaf-disease and is fully alive to the importance of developing the tropical industries of the dependencies of the Crown, in which work it has in the past laboured so successfully. Moreover, owing to its important and numerous agencies throughout the world, it possesses exceptional facilities for meeting any demand that might be made upon its resources." We cannot but think that there is too much of the negative element about all this. Men, like plants, are liable to disease, and special precautions against importation from infected areas are taken even in regard to human beings. Think, however, what would happen if, because plague prevailed in parts of India, any man wishing to travel from India to Queensland had to go first to some substitute for Kew, there to be inspected, disinfected, and, perhaps, quarantined for a long time! It seems to us that with plants as with men, only *reasonable* precautions should be taken. The Queensland Act referred to becomes reasonable only when the discretionary powers it confers are exercised with a discretion untainted by bigotry or cowardice. For our own part, we hold that careful importations of seed, under reasonable restrictions, should tend more towards the strengthening of plants, and the building up of disease-resisting species than towards the dissemination of particular diseases. Science is instructive on the subject of the improvement of strains, as well as in regard to the propagation of infectious diseases.

TOBACCO.

II.

We propose to give in our next issue some account of native methods of cultivation in this country, but before doing this we extract from the *Queensland Agricultural Journal* a paper by Mr. R. S. Nevill, Tobacco Expert, so that the more scientific side of the subject of Tobacco-growing may be first studied by our readers. Mr. Nevill writes as follows:—

TOBACCO-GROWING.

Preparation of plant-beds.

"I wish to say in the beginning that improved methods do not imply more labour, but they do imply more painstaking. It means the taking advantage of favourable conditions or creating conditions that are needed, and, more than all, it means the getting of exact results, leaving nothing to chance. It is not necessary to give the many reasons suggested to show that plant beds well-burned give the best results, except to say that it destroys the vegetable and insect life, and permits the plants to occupy the entire soil undisturbed. Select for your seed-bed fresh land on a hill slope, where it will not be shaded, and near water not subject to overflow, as the land will be moist and need less watering. Black soil is to be preferred, as it absorbs a greater degree of heat.

Clear the ground of undergrowth and stone, and then put on a layer of brush and leaves to the thickness of two or three feet, and then on top of that put wood and logs, covering it well over, so that when it is burned off it will leave a heavy bed of coals.

The ground should be burned until it is red or brick-dust colour in order to destroy all seeds and insect life, and so as to completely pulverise. Do not burn when the ground

wet. When it has cooled, rake off all unburned wood, but allow the ashes to remain on the bed, and then spade it up to the depth of 6 inches, being careful to reverse the soil. It should then be well chopped with a hoe and raked until the ground is thoroughly pulverised and the ashes well mixed with the soil, all sticks, roots, and stones, being removed.

Do not make the beds too narrow, as they will get too dry; 6 feet is a very good width, but they may be as long as desired. Sow a teaspoonful of seed to 100 square yards of ground; this will make the plants thick enough, as the quantity of seed will yield 12,000 to 15,000 plants. A teaspoonful will hold from 18,000 to 20,000 seed, and a yield of 75 per cent. is as much as the best seed will give. It is better to have the plants too thin on the bed than too thick, as crowded plants grow weak and spindy, having no strength to overcome changed conditions; and when transplanted many of them die. They do not start to grow readily, and are more subject to the ravages of cutworms and other pests, causing many missing plants, making your field very irregular in growth, and entailing much extra work in topping and cutting, as the field ripens irregularly. But if plants are thin, they grow stocky, with good roots, and are strong and healthy growers, requiring less moisture when transplanted. They grow off readily, soon getting out of the way of pests, and you have a more uniform field of topping and at cutting time.

If you desire to test the vitality of your seed before sowing, take a few on your fingers and sprinkle them on the stove; if they are good they will pop and crackle, but if not they will burn and crumble away. When ready to sow your seeds, mix them with cornmeal or slaked lime, as this will show on the bed, and you can see what you are doing. Lime is preferred, as it is a good fertiliser. After sowing do not rake, but tramp or pat in the seed with the back of a spade.

Do not sow all your seed at once, but at intervals of two weeks, that you may have plants of the proper size for transplanting when wanted; sow more than you are likely to need, that you may be able to select the strongest and best plants. In order to keep your plants free from disease and insects, and to get the very best results, it is necessary to canvas your beds. Take boards and set them on edge all around the bed, driving stakes on either side to keep them in place, and thus form a box around it, closing the joints with earth so as to make them insect-proof. The boards should come 5 or 6 inches above the top of the bed. Drive a row of nails on the outside of the box, 10 or 12 inches apart, all around, leaving 1 inch projecting; have a sheet made, of the thinnest cheese cloth, the size of the bed, with holes around the edges to correspond with the nails driven into the box; stretch this this sheet over the bed, slipping the holes in the edges over the nails. If the bed is large, lay small poles across the box frame at short distances, to keep the covering from sagging. Be sure to get the very thinnest cloth, that light and air may penetrate.

This covering usually stays on all the time until the bed is abandoned; but watch your plants, and, if they do not appear strong and healthy, you can remove the covering during the heat of the day, say, from 11 to 3 o'clock, when insects are not moving about. Make a ditch around the bed to carry off the water during rainy weather. If it is necessary at any time to water the plants, it should be done about sundown; the covering laid off, and, as soon as the watering is finished, replaced.

It is best to draw the water for this purpose in the forenoon, and let it stand in the sun and get warm, as cold water chills both the plants and the soil. It will be found that a canvas-covered bed retains the moisture better than any other, and also induces a more uniform temperature.

If you desire to fertilise the plants, it is better to use liquid manure, either stable or chicken-house, the latter preferred on account of the lime in it; and care should be taken not to have it too strong, or it will burn the plants. To make the liquid, take a barrel of water, put in the manure, and stir until dissolved. If the farmer will follow the above directions, he will have healthy vigorous plants that will stand transplanting, will grow off readily, and free from insects, and I believe blue-mould will be unknown in his beds. He will have a start ahead of the insects, and will find that he will get his crop to grow with less labour.

BRAZILIAN COFFEE AND THE PLAGUE.

Allusions to the bubonic plague are sprinkled freely about the issue of the *Brazilian Review* dated 24th October 1899. There is apparently a doubt as to whether the disease noticed at Santos is the plague at all, and at any rate the town has not been isolated. We read that Coffee continues to go forward as before, or even more feverishly, nor is there any reason to fear that it will fail to do so in future. Cables received by the most important shipping firms state that no impediment will be put by the respective Governments to the entry of coffee at either New York or Hamburg; nor is there any reason to suspect that the other great distributing market, Havre, will act differently. At Santos on Tuesday, the 17th October, "when Rio people, especially exchange speculators, showed so much concern about our welfare by putting the rate of exchange down by leaps and bounds, the sanitary commission, aided by several doctors in government employ, undertook further investigations, pathological, bactereological etc., and in the afternoon we got the startling news that the death certificate of a dock-labourer declared the *causa mortis* to be bubonic plague." Yet there are doubting Thomases at Santos still. However, as the *Review* observes:—"Anyhow, whichever way you look at it, it seems equally fatal, seeming to kill in 24 hours and to be positively contagious." In its money review of the 21st October, the same paper remarks:—"That exchange had taken a turn for the better on Monday is not to be disputed. The current was directly upwards and speculation recognising the fact changed its tactics and commenced selling. On Tuesday the first reports of something wrong at Santos were received and things changed immediately; from being at least hopeful, if not optimistic, the market abandoned itself to despair and rates commenced to slump. At first the most exaggerated ideas of the effect of an epidemic upon exports obtained currency, and even as these wore off, the feeling of hopelessness prevailed. It must be confessed that the fates have not been kind of late: that in spite of Government's doing its best and religiously burning paper money, things get more and more contrary every day, and what with coffee stuck in the mud, the crisis in the European money markets, the peste-bubonica is after all but the last straw that forces us to review the whole situation. Is it possible, it is being asked, that a country in such circumstances should resume the suspended burden of its foreign debt again in 1901? No, it is not. Unless things take a considerable change meanwhile it will be impossible

for the Government to renew payments by the stipulated time. There are, however, good reasons to believe that there will be a change: that so soon as the present cause for weakness disappear, the improvement will be solid and lasting because wrought by our own resources without outside assistance of any kind. Meanwhile the reaction is certain as soon as things settle down again, as the firmness with which rates closed this evening unmistakeably indicate. Produce of every kind is going rapidly forward and sterling prices improving abroad, whilst imports are diminishing and consequently the demand for bills."

In the "Coffee Market" section we read :—"There is no reason for the present, at any rate, to expect that entries will be much interfered with in consequence of the pest. Should Santos by any chance be isolated entirely, so long as Rio were free, São Paulo coffee would be sent here over the Central Railway. Should this occur there would probably be some delay in delivery as the Central Railway would be entirely unable to deal with 40,000 bags per *diem*. The probabilities are, therefore, that although a little more São Paulo coffee may find its way here than usual, the great bulk will continue to go to Santos so long as shipment there is possible." Yet again, "the freight markets" bring the same matter under consideration, and it is remarked :—"The leading shipping agents of this city are unanimous in believing that however the shipment of coffee from both this port and Santos may be delayed in consequence of the appearance of the pest at the latter, there is no reason to expect any stoppage even should it develope into a serious epidemic." It is clear, therefore, that the plague scare has exercised a very disturbing influence, and that hopes and doubts are mingled in the minds of coffee merchants, shipping agents, etc., in Brazil.

In India, at least so far as coffee districts are concerned, the ravages of plague this year are comparatively mild, but the epidemic cannot yet be said to have run its course.

THE BATTLE OF THE BEVERAGES.

In the United States, as in the United Kingdom, progress may be said to be positive with Coffee, comparative with Tea, and superlative with Cocoa (and Chocolate). We commented the other day on the latest Board of Trade returns for the United Kingdom. Now, we read in the *American Grocer* that, notwithstanding that chocolate is subject to a high duty, it seems that the imports of the article are increasing. In September they were 103,985 pounds, against 88,789 pounds for the same month in 1898 ; for nine months ending September, 1899, they were 711,212 pounds, against 670,959 pounds for the corresponding time in 1898, and 78,049 pounds in 1897. Again, the imports of cocoa show a large gain over previous years. For nine months ending 30th September 1899, they were 28,926,474 pounds—a gain of over 10,000,000 pounds over the same time in 1898, and 8,000,000 pounds over 1897. In only two previous years have the imports for the entire year exceeded the imports for nine months of 1899. The cocoa industry is growing fast.

This is not exactly pleasant reading for tea and coffee-planters, but they are growing accustomed to the receipt of tidings such as the above. More cheerful is the news concerning Coffee. The Government Report, issued by the United States Bureau of Statistics, gives the total imports of coffee for the first nine months of 1899 at 671,759,324 pounds, a gain over the same period in 1898 of 39,895,835 pounds and 91,706,483 pounds over 1897. Brazil, of course reaped most of the direct advantage from this, as she furnishe 4,990,008,217 pounds, or over 74 per cent. of the total import As, however, this takes very large supplies of Brazilia Coffee off other markets, Indian planters need not lamen because the above percentage has risen 3 since 1897. appears that the imports into the United States from countrie growing mild coffee do not increase over previous year The imports from Mexico, Central America, the East Indie and other South American countries than Brazil have no been as large as in 1897. Mexico is behind the record fo 1898 ; Central America about 9,000,000 pounds ahead ; th East Indies 2,469,269 pounds less, while there is a differenc of little over three million pounds between the imports fro South America, other than Brazil, in favor of 1899.

TEA FROM SEED TO CUP IN SOUTHERN INDIA

(By Thomas Brown, Glendale, Coonoor.)

XXII.

Rolling.—The old system of performing this operatio was by hand on tables ; sometimes roughened a little, bu generally smooth. For fine teas, a finishing by hand is sti necessary to get the pretty curl, peculiar to good tea. quantity of leaf is taken into the hands and rolled alternatel first with one hand, then with the other, in a manner simila to the kneading of dough. It needs a little practice to kee the leaf together in a ball, a rolling twisting motion bein needed to accomplish this. Pressure is obtained by th palms, the fingers forming a hood to hold the leaf together The ball is broken up from time to time, and coarse leaves that do not readily roll, are sorted out to be separately dea with. This shaking-out exposes every leaf well to the actio of the atmosphere, which is so necessary for the efficien oxidizing of the leaf. Rolling is continued until the sa exudes freely, indicating a breaking-up of the cells. Shoul the leaf be under-withered, the excess of sap prevents efficien rolling, a simple and efficient remedy being to squeeze ou the sap into a vessel and to allow this to oxidize separately returning it to the roll before firing. Very flavoury teas ar in this way obtained. Similar treatment of leaf in roller gives most gratifying results, the tea being much better i every way.

In Machine-rolling—the roller is filled with the fu charge of leaf and the machine started. Rolling continue for from 40 to 60 minutes, the latter being more genera than the former. The pressure upon the leaf, while in th roller, must be most gradual and continuous, until the weigh will go down no more. Pressure should then be relaxe completely and the whole mass allowed to break up, afte which gradual pressure is resumed and so on for the ful 60 minutes.

Teakwood Trollies—running on rails should be provide under the rollers for quickly discharging and removing th rolled leaf. The pinewood trolly supplied by some maker is quite useless and had better not be purchased. It is fa better to make the trollies locally or order them of th required size from a good coast firm.

Pinewood in Tea Rollers—too, is most objectionable an must be removed and replaced by good teak. Before order ing a roller always enquire if there is any pinewood about it. It is most unfortunate that any firm ever turned out roller

with this wood. We have been sadly taken in this way and have had to have the whole of the woodwork remade at considerable cost. Our pinewood trolly was never used and lies with the lumber after costing £3. It will be as well here also to sound a note of warning *re* the cheaper form of Little Giant Tea Roller. This has not the hand-driving accessory, and is quite unsuitable for small estates where there is no power. Several are in difficulty from not being aware of this.

Heating in Rollers—must be carefully guarded against, and, should much heat be generated, the speed must be reduced. A great amount of heat is soon generated in every large roller and for this reason it seems advisable to have a series of small rollers in preference to on a large one. The loss from extra coolies is more than compensated by the higher prices obtained.

A second Rolling—is advisable always. This should be put on as soon as the roll shows a decided change in colour, not before. The time will vary with the leaf and the weather. Usually two hours must be allowed from completion of the first roll. From 15 to 20 minutes will suffice for the second rolling, and it is usually ready to go into the drier at the end of 20 minutes more. It is impossible to fix the time for these operations. A good deal will depend upon the style of tea required.

Oxidation—or as it was formerly called, fermentation, is a process all decaying animal and vegetable substances go through after death. It is taking place from the moment the leaf is severed from the bush: slowly so long as the leaf is not bruised; rapidly after masceration. Withering quickly by means of heated pans, rolling immediately, and then drying off, gives us green tea. For the leaf to oxidize well, it is necessary that the masceration be complete. Parts of the leaf not mascerated will remain green or turn a blackish greenish colour. The same thing will happen to leaf that catches the sun or is over-withered on the racks.

Pungency—depends on the extent to which the leaf has been oxidized. The oxygen of the atmosphere having a strong affinity for the tannic acid of the leaf combines with it and forms an insoluble compound that goes to the bottom of the tea pot (if the union has been complete); hence the longer we oxidize the less pungent will be the tea, and *vice versâ*. The presence of a large amount of soluble tannic acid is indicated by the liquor creaming in a short time after getting cold. Teas that are tasteless and inferior never cream even if left standing all day. The application of a little heat to a liquor that has creamed will immediately restore it to its original colour.

For London—creaming liquors are needed absolutely. It appears to us that the damp English climate causes the tea to oxidize somewhat, even in the dry condition and so reduces the astringency so much sought for by London brokers. The consumer is fast learning that astringent teas are not good for his stomach, and we hope soon to see a decided leaning towards the softer produce of Southern India. The Germans appear already to show a decided leaning towards well-made South Indian teas, and prices for these should rise. Too long have we suffered by the undervaluing of our teas, but the public taste is our hope. For our smaller produce per acre, we need higher prices than districts where produce is fully double what ours is.

Trays of Teakwood—30 inches square, 3 inches deep, are the best for oxidizing in. These should run on two-angle iron pieces fitted into a wall in a separate cool room, the temperature of which should be kept at 85°. Curtains hanging in front should be kept constantly damp to prevent drying of the leaf, and to provide a moist atmosphere for the roll.

Various other means—are adopted for securing a good colour, a few estates having secret plans of their own by which they hold. The matter is full of difficulty yet. That which we here recommend will be found both cheap and efficient.

Turn the Roll—over in the trays from time to time and for this purpose set them about 12 inches apart on the wall, so as to admit the hands freely. A ladder to reach up to the higher trays will be required.

For the Washing of the Rollers—washing soda, that can be had very cheaply down at Madras, will be found very good. Great care should be taken to see that the rollers are cleaned daily and dried off. All oil spilled about should be carefully wiped with waste.

Nails in Rollers—frequently work great mischief, tearing the leaf to bits. These should be attended to and driven down every week, a small punch being used to drive them below the level of the wood.

A Roll Breaker and Sifter—may be used to separate the coarse unrolled leaf from the fine. Messrs. Davidson & Co.'s machine is the best for the purpose, performing its work noiselessly. We do not recommend the use of such a machine, as but little good results from it. The flavour of the coarse leaf has already permeated the fine and after separation accomplishes but little. Much fine tea adheres to the coarser leaves, while broken portions of coarse leaves go through the mesh with the fine It is difficult to keep such a machine clean, as can be readily seen, and a good deal of the sap is taken away from the leaf, forming a thick crust on the mesh and other parts of the machine. The old style of rattlers used in Ceylon are an unmitigated nuisance, making a continual and fearful clatter the whole time and spraying oil plentifully over the leaf!

Quality of leaf—is after all what makes fine tea chiefly. Manipulation in the factory will not "make a silk purse out of a sow's ear"! For fine teas, grow fine leaf and pluck fine, and the result will be, with ordinary care, most satisfactory. If we grow Brussels sprouts, we cannot expect sugar-loaf cabbages. It is much to be hoped that the tea-bush will soon receive the tender care that the coffee tree does: then only can uniformly satisfactory results be obtained. We do not hold with those who say that manuring spoils flavour. As well say that tea grown on a laterite ridge is better than on a chocolate loam!

NOTES.

A Water Famine in Wynaad.

Fears are entertained in Wynaad that there will be a water famine this year. A correspondent informs us that everything is already as dry as an ordinary March.

Tea at the Paris Exhibition.

Mr. J. H. Renton, the Commissioner for Ceylon, asks for exhibits of golden tip and silver tip, bulked. The Indian Tea Association proposes to give away a large number of sample packets of tea.

Excitement. A Home paper remarks :—"We have seen Coffee almost excited over a private wire transmitting the statement that the Rio crop would not exceed 2½ million bags." Certainly, to use a Hibernicism, the sender of that message "went the whole hog in his attempt to bull the market."

The Future of Coffee. In the columns of the *Madras Mail*, and in our own, a good deal has been written of late on this subject. The letter from Messrs. W. H. Crossman & Bro., of New York, that we publish to-day, will give "Coffee-men" food for much thought. We can but hope that it is the letter of men whose pessimism is beyond redemption.

Quinine and War. The *Medical News* says that more than 125,000,000 gr. of quinine have been taken by United States soldiers during the past year. It is said that some of the military patients in the hospitals in Cuba and Porto Rico took as much as 300 gr. a week during several weeks. Hardly any of those who were in service in the West Indies failed to take some quinine during their stay.

The London Tea Market. Cabling to Colombo on the 7th instant, Messrs. Gow, Wilson and Stanton reported a generally steady market. Fair liquoring Ceylon Pekoe Souchong, 6¾d.; average of Ceylon Teas for the week, 7⅛d. (unchanged). According to Reuter, 21,000 packages Ceylons and 35,000 packages Indians were sold out of 23,000 and 39,000, respectively, offered. The average price of Indian teas was 8d. (¼d. down).

Calcutta Tea Sales. Arrivals at Calcutta showed a material decrease last week, the quantity catalogued being 13,875 packages only. A much larger section of Darjeeling tea is on offer than has been shown for several weeks, few, however, being really fine. Duars teas continued in fairly full supply, although rather brown mixed and stalky. Cachar and Sylhet teas show signs of somewhat coarser plucking. Assams remain unchanged.

British-grown and China Teas compared. In a letter to the *Ceylon Observer* by last mail "Suum Cuique" writes as follows with regard to the position that Ceylon teas hold as they are turned out to the consumer at home :—"I may repeat that good China teas are now occupying the position, that good Ceylons occupied some years ago. British-grown teas have been blended and blended, until their individual character has gone and history is repeating itself."

New Economical Plants of East Africa. The *Notizblatt*, of the Berlin Botanical Gardens, says that one of these is a tree of the N. O. Apocynaceæ, viz., *Mascarenhasia elastica*, K. Schum., which yields caoutchouc. Another is *Canarium liebertianum*, Engl., the bark of which yields a resin that much resembles *olibanum*. Another is *Erythrophloëum guiniense*, Don, the wood of which is valuable and the bark contains *erythrophloëin*. The fruit of *Cordyla africana*, Lonr., yields an edible leguminous fruit.

Coffea stenophylla. Among a large quantity of seedlings raised in Trinidad from *Coffea stenophylla*, three were noticed which had larger and broader leaves than the rest. These were planted out, says the October Bulletin of the Botanical Department, and are growing freely. They have now leaves twice the size of ordinary *C. stenophylla*, and certainly show a very wide margin of variation over the type. It is possible, of course, that they may be chance hybrids ; but this cannot be seen until they have flowered and fruited. They are nearly twice the size of type specimens sown at the same time.

Attar of Roses. The growth of roses for the production of rose oil is most abundant in Arabia, India, Turkey, and Bulgaria, and within recent years has been introduced into Germany by Messrs. Schimmel & Co. Turkish rose oil, to the extent of 80 per cent, consists of geraniol and citronellol in the proportion of 3 : 1, and also contains a stearoptene, $C_{16}H_{34}$. Geraniol, $C_{10}H_{18}O$ is obtained from Indian geranium oil, and is employed in adulterating rose oil ; citronellol, $C_{10}H_{20}O$ is derived from citral, the aldehydic constituent of citronella oil. German rose oil contains a greater proportion of stearoptene than the Turkish essence.

Tea Drinking in America. The *Ceylon Observer* refers to the criticism of a Ceylon gentleman in the United States, who writes :—"I have not yet tasted a good cup of tea in America. In the restaurants of New York, and even in private houses, where everything else is of the best, the tea is worse than what you get in any of the boutiques on the way to Anuradhapura. I have seen advertisements of Nettley's Ceylon and Indian tea. They evidently mix the teas here, and, of course, the real flavour of our superior tea is altogether lost. The Planters' Association should wake up if they desire to save the reputation of Ceylon tea in America."

Seychelles Vanilla. The export of vanilla from Seychelles during October was very heavy, *viz.*, 124 cases, weighing 10,380 kilos., all of which was shipped to London. It is understood, however, that about 2,000 kilos of this would be immediately re-shipped to Paris. The prospects for next year's crop cannot be worse than they are now, writes the Seychelles correspondent of the *Chemist and Druggist*, and although we are almost in the middle of October, there is so far hardly a flower to be seen. This is due to excessive rainfall. Even if the weather improves our 1900 crop cannot be otherwise than a wretched one. Prices for what remains of this year's crop keep very high, 16·75r. to 17r. per half-kilo. being freely offered for whole crops, pickings, shorts, splits, &c., included.

Agricultural Possibilities of Mexico. In a letter to the Department of State from Consul-General John K. Pollard, at Monterey, Mexico, we find the following :—"Parts of the country are adapted to the growth of tropical products, *viz.*, coffee, vanilla, rubber, cocoa-nut, cocoa, etc., the quality of all being first-class. It is said the best vanilla in the world comes from the State of Veracruz, and the best cocoa from the State of Ghiapas. The coffee of Michoacan is said to be equal to any ; the tobacco of Veracruz is preferred by many to that of Habana, and the sugar production of southern Tamaulipas or northern Veracruz is said to be surpassed by that of no other country save Hawaii in quantity, and it is more profitable to the producers for the reason that seven to ten crops are the result of one planting, whereas the Hawaiian planters get only two. Taken

s a whole, farming in Mexico is an inviting field for persons of capital and intelligence."

Poisoning by Vanilla. Several cases of poisonous effects following on the consumption of articles flavoured with vanilla have been recorded, but if a report taken by the *British Medical Journal* from a German contemporary is to be relied on, the toxic symptoms are only indirectly traceable to vanilla. It appears from experiments that while fatal to certain microbes and innocuous to others that vanillin assists the growth of anërobic bacteria (tetanus, anthrax, &c.). In the case in question mineteen persons were of a rendered seriously ill and one died, subsequent to partaking cream flavoured with vanillin (produced from coniferin), the ingredients were all shown to be harmless by themselves, but the milk when flavoured with vanillin caused fatal results when injected into mice, and it was proved that the milk had contained anërobic bacteria, whose development had been promoted by the vanillin. It may be noted that cases of so-called vanilla poisoning have occurred, where the natural pod had been the flavouring agent.

Pepper. The reported damage to the Lampong Pepper crop by weevils, which it appears attack the vines, has received confirmation, and it is estimated about 30 per cent. of the growing crop has been destroyed. The Singapore black crop is practically exhausted, and fresh supplies will hardly arrive before January. It is estimated that the crop by the end of April will yield about 70/80,000 piculs. As to Tellicherry Pepper, opinions as to the ultimate out-turn of the crop greatly vary, but it may be taken for granted that the exaggerated estimates either *pro* or *con* emanate from interested quarters, and that the total will fall but little short of last year's crop. The total shipments from January to October amounted to about 5,500 tons, of which India absorbed one-half, and Europe and America, the remaining half. It is confidently expected that, with the approach of the winter, the position of Pepper will steadily improve, as the statistical returns are bound to exercise a stimulating effect upon prices.

American Tobacco. The leaf tobacco exhibit for the Paris Exposition of 1900 is now being prepared for shipment in the Division of Soils of the Department of Agriculture at Washington. According to the *American Grocer*, this will be without doubt the finest collection ever exhibited by the United States. It includes the varieties, grades, types, and qualities of tobaccos from all of the principal tobacco-growing sections of this country. This display will comprise only the raw material, supplemented by a large collection of photographs and, in a few instances, samples illustrating the different stages of the tobacco in the process of manufacturing. The collection will include about 1,000 samples, and will be ready for shipment early in November. The exhibit is to represent the various tobaccos of the United States, rather than the display of any particular firm. With a few exceptions, the samples are in duplicates, the duplicates to be reserved for the judges of awards. The tobacco exhibit will be accompanied by many photographs illustrating the tobacco industry from seed bed to finish.

Mocha Coffee. E. S. Cunningham, American Consul at Aden, makes the following report on Mocha coffee exports to the United States:—"Some time since a prominent merchant of Aden called my attention to a paragraph in an American newspaper in regard to Mocha coffee and its use in the United States. The paragraph contained this sentence: 'Indeed, there is practically no genuine Mocha coffee in our market.' This statement is quite unjust to American importers of the genuine Mocha coffee direct from ports of Arabia. As appears from the invoice books at this consulate and the consular agency at Hodeida, there have been invoiced for exportation to the United States during the year ending June 30, 1899, 32,156 bags (160 pounds each—5,144,960 lbs.) of Mocha coffee, I should think it but reasonable that at least 5,000 bags which are first shipped to Europe finally reach the American market without being mixed with inferior coffees. 'Doubtless, Mocha is mixed with cheaper coffee in Europe to a great extent, and is shipped to the United States as Mocha coffee; but it is hardly possible that an importer who buys his coffee at an Arabian port could get anything but genuine Mocha or Harrar coffee.'"

Ginger. The good demand which Ginger is at present enjoying is, says the *London Commercial Record*, wholly and solely produced by the glowing reports which continually reach us from the ginger-growing districts in India concerning the state and the prospects of the coming crop. Every year we have been treated to a tale of woe on the part of the planter, and we have naturally become somewhat sceptical and slow in believing these tales of damaged crops. But this year their outburst of grief seems to be fully justified, for we all know that the monsoon has been exceedingly poor, and that vegetation needing a lot of moisture, such as ginger, must have suffered greatly by the prolonged drought. Early in the spring this year, when unusual and exceptionally heavy rains visited the ginger districts, old Indians predicted—and we repeated their prophecy—a most unsatisfactory monsoon, and their prognostications have proved correct. It is now late enough to form a correct opinion as to the ultimate out-turn of the crop, and we believe that the moderate estimate minimum 50 per cent. short of last year's yield is a correct one. The quality will naturally be poor, although planters hope that rains which have recently fallen may improve the roots somewhat, but this is open to doubt. At any rate, leaving the root in the earth longer will considerably delay the arrival of new supplies.

The Germination of Seeds. The last number (420) of the *Proceedings of the Royal Society* contains an account of some experiments on the influence of liquid hydrogen on the germinative power of seeds, by Sir William Thiselton Dyer and Professor Dewar, which are of a very remarkable character. Sir William Dyer took seeds of *Brassica alba*, *Pisum sativum*, *Cucurbita pepo* (vegetable-marrow), *Mimulus moschatus*, *Triticum sativum*, and *Hordeum vulgare*. The germinating power of the seeds from which these samples were taken was tested previously by Messrs. Sutton & Sons. These seeds were entrusted to Professor Dewar, who exposed them for half an hour to a temperature of — 250° C. All these seeds germinated at Kew. A second set of seeds were subjected by Professor Dewar to actual immersion in liquid hydrogen for six hours; whereas the first set were cooled in a vacuum, being sealed in a glass tube. The second set of seeds germinated as well as the first, although they had been subjected by Professor Dewar to the

almost inconceivably low temperature of —453° Fahr. below the temperature of melting ice. On the contrary, protoplasm is known to be disintegrated by a temperature of 75° C. (167° F.) : and if seeds have germinated after exposure to a higher temperature than this, it must be because the investments of the embryo are non-conductors, and the extreme heat mentioned has never reached the embryo.

Tenacity of Life of the Coffee Plant.

Mr. D. Buchanan, late Manager of the State Experiment Farm at Mackay, Queensland, mentions the wonderful tenacity of life in the coffee plant. During the cyclone of February, 1898, the plants at his farm were levelled by a cyclone from the south-east. Two-thirds of them were killed outright, but all those that had any roots left were hauled-up and fastened to strong stakes. They were almost leafless, and fruitless, for the ground was strewn with both leaves and green fruit They appeared to be total wrecks. By January, 1899, they had made young wood 13 to 14 inches long, with fine large dark-green foliage, and were fast filling up the south-east sides of the stems that had been stripped of branches. Then came the second cyclone at the end of last January. This time from a point west of north. Although the bushes were tied to the post with strong tarred twine, the fury of the gale so chafed the twine that most of them were blown down again, and this time the roots were broken on the opposite side. Several plants had all their roots broken off, and of course were thrown away; but, where it was seen that there was still a root intact, they were pulled up again and secured to fresh stakes, and by the end of May they had shoots 20 inches long, fine dark foliage, and what berries were left were plump and ripening well. No doubt what saved them was the fact that they had made fresh roots on the south-east side, and these being flexible were not broken when the plants were blown down from the north-west.

LETTERS TO THE EDITOR.

THE FUTURE OF COFFEE.

SIR,—Monsieur Conty's account of the condition of the coffee industry of Brazil, given in "Coffee Planter's" letter in your issue of the 2nd instant, is very interesting; but your correspondent seems to lose sight of the fact that it is not a correct description of the present state of affairs. He quotes the price of average Brazil coffee at 31*s.* 6*d.* in *Santos*. This means a price of 37*s.* in London or New York when all charges are paid. Grade No. 7 Brazil Coffee has not been over 8 cents a lb. since April 1897, and 8 cents a lb. is about 36*s.* a cwt. In 1898 Brazil coffee was never over 7 cents, and every month of that year was as low as 5⅞ to 6¼ cents. In 1899 it was between 4½ to 6 cents.

	s.		s.
7 cents a lb.	= 31·36 a cwt. gross in New York & say	26/	cwt. net in Santos
6 "	" = 27/	"	" " 21/6d " "
5 "	" = 24/6d	"	" " 19/ " "

When the price in Santos is about 19*s.* a cwt., it is obvious that 10 cent per cent. profit on it at 31*s.* 6*d.* has nearly vanished, more especially as that profit is calculated without taking into account the proprietors' expenses and interest on loans and mortgages. It is probable, too, that Monsieur Conty's calculations were only for the best estates yielding hea crops. We know that coffee crops fluctuate in amount ve considerably from year to year, and an estate said to avera so many cwt. an acre, often gives that yield only in favoura years. To curtail production in Brazil, however, it is o necessary that the less favourably situated estates should put out of the running. That such curtailment is going is evident from the complaints in the Brazil papers as to t unprofitableness of the coffee industry at present, and fr the fact that the growing crop is put at only ten million ba in an exceptionally favourable season against eleven milli bags in 1897-98. If there were no such curtailment, all t young clearings coming into bearing we hear so much of, shou have made the production this year much larger than 1897-98. Meanwhile consumption has been so stimulated low prices, that it has nearly overtaken the average yield the three years of increased production, 1897–99. In oth words, the whole of the increased production in Brazil ma be required to meet the world's yearly consumption, and a falling off in that yield, such as is by no means improbab under the present conditions of scarce money and a sho labour supply, will cause prices to rise as they did in 18 under similar conditions.

W.

COFFEE.

NEW YORK, *November 14th*, 1899.

DEAR SIR,—On the 8th instant, the Revision Committee the Coffee Exchange held their annual meeting, and decid not to make any change in the official differences betwe grades. This leaves matters unchanged for another yea the Exchange differences between No. 3 and No. 7 remai ing at 2 cents, and No. 4 and No. 7 at 1½ cents, whereas t *market* differences between those grades are only about on half the official figures. From this it is seen that buye of the *futures*, say, September, at 6 cents, will have to p 1½ to 2 cents additional, basis of No. 7 for the grades no delivered.

In September last, option contracts, with same differenc as now exist, were liquidated at about 4·25 cents, yet spec lators are paying about 6 cents for September options in fa of the certainty that supplies of Coffee throughout the wor will be larger in September, 1900, than last September.

The reasons for the recent advance were entirely sen mental.

The first advance was created out of sympathy with t higher values for Cotton. The Cotton crop, originally es mated at 11,000,000 bales, or more, has been reduced about 9,500,000 bales. The current Coffee crop in Rio a Santos was estimated 9,500,000 bags, but according to receip so far, it looks likely to run in excess of 10,000,000 bags- practically opposite results in the two articles, yet sentimen decides for an advance in Coffee, because higher values a reached for Cotton !

The next advance in Coffee was engineered on the repor of Bubonic plague in Brazil. There is no doubt there we some cases of this disease and some still exist. It has n been epidemic, simply sporadic, of the same character as appeared in the River Plate in August. It has not interfer with receipts or shipments of Coffee, and Consular reports the United States Government show it is not nearly as dange ous as occasional outbreaks of yellow fever have been. B

for sentimental purposes in the Coffee market the word "Plague" was sufficient, the correct details or the fact that it played no particular part in regard to Coffee were disregarded—the reasoning process is not wanted.

Reports about Italian laborers leaving Brazil in large numbers furnished another excuse for an advance in Coffee. We understand that a number of Italians annually leave Brazil after the picking of the crop, but just as many and even more return for that work. An instance is quoted of the steamer *Colombo*, which arrived in Genoa from Brazil, October 7th, with 300 Italians, and left Genoa again for Brazil with 1,500 immigrants, October 23rd. Whatever the facts or changes may be in these matters, there is no shortage of labor when 3,600,000 bags Coffee can be moved and marketed in four months as was done in Santos this season.

Another point sentiment has exploited is the statistical decrease in the world's visible supply for October of 337,000 bags. This has been represented as consumption overtaking production, but in truth it is just the reverse. The total quantity of Coffee that came into sight at or from producing countries during October was 1,450,000 bags.

Deliveries for the 1897-1898 season averaged 1,214,000 bags per month.

Deliveries for the 1898-1899 season averaged 1,123,000 bags per month.

Does anyone believe the world *consumed* 1,712,000 bags Coffee because that quantity figures to have been delivered?

Instead of the world's supply of Coffee decreasing, the interior (or invisible) supplies have increased about twice the quantity of the visible *statistical* decrease. Deliveries in Europe and the United States are no proof of consumption. *Deliveries* include the large quantities of direct importations from Brazil, which are always heaviest at the height of the crop season, while the quantity of speculative purchases, put down as consumption, depend upon the price and feeling prevailing.

Does anyone believe that consumption in 1898-1899 was about a million bags smaller than the previous season, 1897-1898, because the *deliveries* showed that much decrease?

If statistics for the month of October are analyzed there will be seen a discrepancy of 193,000 bags, taking the Rio and Santos stocks and receipts, less the shipments, compared with the stocks remaining in Brazil. Heretofore statistics were correctly kept in Santos by deducting shipments from stocks, when actually cleared. The Rio shipments are never properly cabled, the stocks being reported less *purchases*, instead of following the safer method formerly used in Santos. But Mr. John Jones has chosen the defective system for Santos too, which makes it possible to lose sight of one or two hundred-thousand bags of Coffee in those ports in a month. From New Orleans, La., the stock on November 1st was reported as 10,000 bags, whereas actual stocks in public warehouse there are considerably more than 100,000 bags. Thus *statistics* are wrong, and instead of a decrease in the *visible* of 337,000 bags on November 1st, correct figures would show the visible about 8,000,000 bags in spite of the unprecedented deliveries of 1,712,000 bags in Europe and the States, only once before approached, in April, 1898, when the duty scare started here. If sentiment was controlled by reason, sentiment would also analyze figures and prove the results we explain above; but sentiment spreads, runs its erratic course and collapses long before the calm mind can detect any merit in its claims.

The low value of Coffee results from over-production. Sentiment of the kind lately exhibited actually stimulates production. The only real help for genuine better prices for Coffee is diminished production.

Up to now prospects of the growing crop in Brazil are reported favorable. Not a single exporter of good standing in Brazil reports the slightest doubt of this, yet we all know how popular it is in Brazil to report disparagingly on the crop on the least excuse, while it is most unpatriotic or unpopular to cable the truth of encouraging prospects.

On the weight of supplies alone Coffee values declined to the lowest point, say—

In Havre,	Sept. '99 Frcs. 31.	but sentiment last week put	Sept. 1900 at Frcs. 40.
In Hamburg,	„ „ 26 pf.		„ „ „ 33 pf.
In New York,	„ „ 4.10c.		„ „ „ 6·10c.

and this in the face of indications of larger supplies next September than ever known before, with the 1900-1901 crop, if anything, in excess of the present—which shows positively that over-production is in full swing. The Coffee trade must remember bull sentiment does not consume Coffee, but higher prices so created stimulate production. Coffee values finally are not decided by sentiment, but entirely by supply and demand, and it is probable the present sentimental rise will bring the same experience that has attended the different attempts to lift values artificially during the past three years.

Prices of Frcs. 37·50 in Havre, 31 pf. in Hamburg and 5·50c. in New York may appear low to the average mind, especially the outsider, but the prices Brazil gets to-day are not low, Rs.45$000 to 50$000 per bag, according to quality. From 1882 to 1886 Brazil received only Rs.15$000 to 20$000 per bag, and in the years of high prices in consuming markets, with extreme Sterling Exchange rates in Brazil, say, 1888-1889, the Milreis price was from Rs.30 to 38$000 per bag. As the price in Brazil is the basis for smaller or larger production, a high figure in Brazilian currency is at once a danger signal for still further increasing production.

W. H. Crossman & Bro.

GENERAL ARTICLES.

AUXILIARY PRODUCTS: PEPPER.

"Producer" writes to *Capital*:—

Pepper is a very ancient staple of Malabar and was a monopoly under the rule of the Dutch, Portuguese, and the Honourable East India Company. Till some fifteen years ago it was grown only in the low country, but has since been proved to do well at 2,500 to 3,000 feet above sea-level, and even up to 3,500 feet. There are at least six or seven varieties of cultivated pepper, and two are three of wild pepper, which latter are found in primeval and secondary forests up to about 3,000 feet. The wild varieties are valueless, and only two of the cultivated are worth planting. The good kinds are the Balamcottah and the Kullyvully. The former has a large pale leaf raceme and berry, and is the heaviest cropper in suitable places and favourable seasons. The latter has a smaller dark green leaf raceme and berry; the berry is heavier, the vine is more hardy, and does better at the higher elevations; and it is a more certain cropper in unfavourable seasons. Both came from Tellicherry, which produces the best pepper in the low country of Malabar. Good kinds of pepper have broad rounded leaves (with small sharp points), which give a delicate aromatic odour when crushed, and the young shoots have liver-coloured tips. Bad kinds have small, narrow, or elongated leaves which give a coarse rank smell when crushed, and the tips of the young shoots are white or pale. Buchanan in 1802 mentions that pepper was grown chiefly on the Maurica (*Coral tree—Erythrina indica*), and this is still largely used, especially on land bare of trees, as it grows readily

from stakes. The best standard is, however, the jack (*Artocarpus integrifolia*), and next to it the Indian varieties of fig which have a rough bark. Almost any hardy tree, however, with a rough bark will make a good standard. The silver oak (*Grevillea robusta*) grows readily in almost any land, and is a good standard after its bark roughens in the fourth or fifth year from planting. Pepper keeps constantly slipping down off smooth bark trees, but can be made to climb them by nailing narrow strips of bamboo to the bark vertically and about six inches apart. What is desired is a tree with a straight slender stem with a small head, and trees with big heads, like the jack, must be well-lopped as soon as the pepper vine is established. For the first three years a considerable amount of shade is beneficial to prevent the young vines dying in the hot weather. After the fourth year the standard must be lopped to admit plenty of light and make the vines bear from top to bottom. Without plenty of light the crop will be very small, but it is a mistake to remove all the shade as some advocate, as pepper is naturally a shade creeper, and, though it may bear heavily for a short time in the open, the vines are apt to suffer. Besides excessive lopping is apt to kill the standard, when the vine also dies. About 25 feet apart is the best distance for standards, or say 100 to the acre, and abandoned coffee clearings, regularly shaded in this manner, form ideal sites for pepper clearings. Pepper is also planted amongst shaded coffee, and if the trees are far apart no harm results, but if very close the coffee soon becomes unproductive. Still a coffee clearing which is becoming unremunerative may be made to give good profits again by planting pepper.

The cost of planting pepper, when standards are established and cuttings have not to be purchased, is very small. About Rs.5 to Rs 6 an acre the first year and rather less for succeeding years. The vines need only be weeded for some 4 to 6 feet round the tree, and earth carefully heaped up over the roots twice a year, once before or during the monsoon and once as the hot weather sets in. The land may be grazed by cattle to keep down the exuberant growth of grass. In open land, when Maurica stakes have to be planted and cuttings purchased, the cost will be about Rs.20 an acre for the first year and Rs.10 for succeeding years. About 1,000 cuttings per acre are required, as only about 33% can be relied on to grow, and the price this year was Rs.5 per mille. for the best sorts. These are planted three or four in a pit, 6 inches across and 18 inches deep. Two to eight pits are required to each standard according to its size. The cuttings should be two feet long, care being taken to make the cuts immediately above and below a knot.

The cuttings should be put one foot deep in the pit, and the earth pressed firmly round them, or they will die. The earth should be banked up over the pit, and a small trench, two inches wide, left between the stem of the standard of the bark to prevent superfluous moisture entering the pit. The knots on the upper foot of the cuttings should be pressed, or tied firmly against the standard, as it is from these knots the roots come which cling to the standard. It is best to plant only in showery weather, though, provided they are shaded and rain follows in a short time, pepper cuttings may be planted in airy but very wet weather. Pepper is readily grown from seed, but the natives assert, and European experience proves, that vines from seedlings take much longer to come into bearing than those grown from cuttings.

Pepper begins to bear in the third or fourth year from planting, but the yield is very small. About the fifth or sixth year about two cwts an acre may be gathered, and from the tenth year an average crop of about four cwts per acre. Individual vines yield much more than this, 2-5ths of a cwt. per vine being not uncommon, and record yields of 1 to 3 cwts. of dry pepper from a single vine being known. A vine which gives the latter yield however really equals 4 vines of 20 feet or more high each, one in the stem and three in the branches of the standard, and such huge standards could not probably be grown more than 5 or 10 to the acre Europeans picking 15 to 40 tons a year from fairly large acreages but the average yield from vines over ten years old at 3 to 4 cwts. per acre. Pepper; like other fruit crops, varies from year to year with the season, and a larger yield will probably be followed by a smaller. At present prices, say 5d. a lb. net in London, 4 cwt. is a very paying crop; but it must not be forgotten that only two years ago the price fluctuated about 2d. for two or three years. 1½d. per lb. is said to be the cost of laying down pepper in London, but this cost would, of course, vary with the crop and the locality. Some Europeans manure pepper with cattle manure dug into the ground at some distance from the standard, as, if applied directly to the roots, it is thought to be apt to kill them and the vine. Natives say leaves and earth well heaped over the roots are all the manure that is good for pepper. It will be seen from the above that pepper is not a crop which will bear the cost of a heavy establishment, but, grown in conjunction with other products, it may at a pinch bring in a welcome sum of money. When coffee prices were down in 1882-5, pepper was as high as 6d and 8d a lb. and now coffee is down again, pepper, has experienced a welcome rise. For those who have suitable spare land it will grow almost while they are sleeping, as it requires little attention. The fact however, that the crop ripens with a rush at one time, and is all over in a month requiring a large labour force for a short time, would make it difficult to manage a large acreage. It must be picked green as a rule, as soon as the foremost berries turn red. and dried into black pepper. If left to ripen, probably much of the crop will be lost unless there is a small crop and an ample labour force. White pepper is made from ripe pepper husked. Finally, pepper requires a sheltered position, will not stand much wind, and does best in hollows.

TARING RULES AT THE LONDON CUSTOMS.

The following letter has been circulated by the Ceylon Association in London :—

LONDON, 15th November, 1899.

W. Martin-Leake, Esq., Secretary to the Ceylon Association in London, 61, Gracechurch Street, E. C.

SIR,—I duly submitted to the Board of Customs the letter of the 1st instant, signed jointly by yourself and Mr. Ernest Tye, Secretary of the Indian Tea Association, expressing the acquiescence of the Indian and Ceylon Tea Associations' Joint Committee in a Draft Order which the Board have it in contemplation to issue in respect to the taring of teas, for purpose of the Customs' Landing Account with an added half-pound weight in the scale, and I am now instructed to acquaint you, for the information of the Joint Committee, that the Board, with the approval of the Lords of the Treasury, are now about to issue an Order in the terms of that Draft, such order being in the absence of any expression of opinion to the contrary on the part of importers of China teas, made applicable to teas of all kinds, instead of being limited, as originally drafted, to teas from India, Ceylon and Java.

The Board propose, also, to take the opportunity of the issue of this new Order, to introduce into it a direction for an increase in the number of the "tarers" taken for averaging as already agreed to by letter from this Office of the 14th August last on the proposal to that effect as contained in letter of the 4th preceding, addressed to the Board by the Indian and Ceylon Tea Associations in London and the Tea Buyers' Association, jointly, and it is intended to bring both of these new rules into effect on and after the 1st proximo.

I have also communicated to the Board the substance of the conversations which I have recently had with you and other representatives of the tea importers, with respect to the point in discussion between yourselves and Tea Buyers as to the establishment of a rule for the separate taring of each package of tea bulked in Bonded Warehouse in London, *i. e.*, in effect, abrogating that portion of the Board's General Order 102/1894 which authorised the retention of average tars for packages of bulked teas as an alternative to the separate taring of each package. as well as of the substance of interviews which, as you are aware, I have correspondingly had with representatives of the buyers.

The Board, having thus been put in full possession of the views held by the different branches of the tea trade on this subject, regret to find that there is not, with respect to it, such a decided preponderance of opinion on either side as would justify them in the conclusion that, if they should decide to withdraw the alternative, such decision would prove acceptable generally to all the interests concerned, and would tend to prevent further controversy on the point.

Under these circumstances, therefore, and the matter being one which does not directly affect the interests of the Revenue in either way or the other, the Board are driven to the conclusion that the only course open to them is to allow the existing freedom of choice to continue, thus leaving it to the different interests concerned to

make whatever arrangements they may think best, within the range of the alternatives allowed by the rules of the Department for meeting their particular views.

It seems to the Board that those Members of the trade who have expressed themselves in favour of the separate taring of each package of bulked tea, have means at their disposal for giving adequate weight to their wishes without the intervention of this Department.

Whilst, therefore, it would afford much pleasure to the Board to give their sanction to any change in their existing Regulations which might be generally desired by the whole of the tea interests, so long as the Revenue was not affected, or material increase of expense thrown upon the Department, they think that they would hardly be justified, in the absence of a general agreement on the part of all the interests involved, in taking the step desired by certain members of the trade.—I am, Sir, your most obedient servant,

(Signed) R. T. Prowse,
14th November, 1899. Custom House, London.

PRODUCE AND PLANTING.

Low-priced Tea.—On the subject of low-priced tea, a correspondent of the *Grocer*, Mr. Hicks, of Leman Street, writes:—"Some time since you were kind enough to insert some letters for me upon the position of the tea market and the inadvisability of pushing low-priced tea. I pointed out then that no provision was made for a rise in the market. The position to-day is one which is worth the attention of every grocer. The facts are that, with a low exchange, some three years ago, and a considerable amount of over-production, tea reached a very low level, and a very uneconomic one The rate of exchange has greatly increased, making it quite unprofitable to sell tea at the prices which ruled some time ago. At the same time, the consumption of tea abroad has largely increased. The stocks of China tea, which used to be a large factor in low prices, have been consumed, and as practically there is nothing to be seen on tea laid down under 6d. in London, there is no reason why for some time the market should be under that price. Up to the present time high prices have generally produced large supplies, but as parts of some tea plantations have actually been abandoned, it does not seem as if there were any new inducements to put new ground to tea to any large extent, and until that is done, and the tea is ready for picking, there is not likely to be over-production. After all, the shilling canister is not one to reflect credit either to the retailer or to the wholesale man, and, I think, that every retailer would be studying his best interests if he threw the weight of his influence with his customers into educating them to higher things. We hear a lot of talk about cheap tea, but tea is not a particularly cheap thing. It costs a good deal to produce, to place in chests, and lay down ready for the grocer, and a heavy exchange adds largely to the cost; and, with so many steamers taken up for transports, freights will be exceptionally high. It is difficult to see what the advantage ever was to the retailer to have tea advertised at a price which was practically impossible to maintain. There never was any real profit in ten-penny tea, neither was there any likelihood of there ever being any; and, as most people worship the god of low prices, it would no doubt successfully divert their purchasing powers from better teas in the direction of no profit."

The Brazil Coffee Market.—In its weekly report on the Brazilian coffee markets, dated October 31, received by the mail, the *Rio News* remarks as follows:—"The market has been much firmer during the past week, and prices have materially advanced, owing to the increased demand abroad. It is probable that the fear that Santos may be closed has had something to do with the advance, as well as the Transvaal War. The sales reported during the week aggregated about 102,000 bags, against 135,000 bags in the preceding week. The receipts were 75,014 bags and the shipments 119,785 bags. The foreign sales during the week are reported to have been 128,000 bags at New York, 123,000 at Havre, 67,000 at Hamburg, and 77,000 at London, a total of 395,000 bags, against 289,000 for the same period of last year and 590,000 in the preceding week." *H. & C. Mail.*

THE PLANTERS' ASSOCIATION OF CEYLON.

THE COMMITTEE.

Extracts from minutes of proceedings of a meeting of the Committee of the Planters' Association of Ceylon, held at Kandy on Monday, the 4th day of December 1899, at three o'clock (3 P.M.) in the afternoon. *Present*:—Messrs. F. G. A. Lane (Chairman, Planters' Association of Ceylon), A. Philip, Secretary, Planters' Association of Ceylon, Hon. J. N. Campbell, M.L.C., (Kandy), Messrs. Wm. Forsythe (Chairman, Kelani Valley Association), A. Melville White (Kandy), Joseph Fraser (Northern Districts Association), T. C. Huxley (Kandy), J. A. Spence (Kandy), A. J. Denison (Kandy), Edgar Turner (Maturata and Hewaheta Association), R. S. Duff Tytler (Chairman, Pussellawa Association), G. C. Bliss (Honorary Secretary, Pussellawa Association), Chas. Gibbon (Northern Districts Association), J. Anderson (Northern Districts Association), James Westland (Northern Districts Association), E. Rosling (Chairman, Dimbula Planters' Association), R Morison (Kalutara Association), C. H. Hood (Maskeliya Association), W. Saunders (Dikoya Association), J. H. Renton (Kandy), A. Cantlay, Dimbula Association), Ernest Hamilton (Chairman, Dolosbage and Yakdessa Association), A. H. Roe (Kelani Valley Association), C. E. Bonner (Udapussellawa Association), E. Webb (Kandy), L. Stuart (Dolosbage and Yakdessa Association), A. E. Wright (Kandy), J. H Sproule (Badulla Association), A. C. Kingsford (Chairman, Maturata and Hewaheta Association).

OFFICIAL ESTIMATE TEA CROP FOR 1900.

Considered the question of the official estimate of the tea crop for 1900, and intimated that to avoid delay (the matter having been overlooked at last meeting) a circular letter had been transmitted to the Honorary Secretaries of all District Associations drawing attention to the following resolution:—"(1). That an official estimate of the tea crop of Ceylon be compiled by the Planters' Association from the 1st January to 31st December, 1900. (2). That District Associations be asked to compile such estimates for their district, and furnish them to the Secretary, Planters' Association of Ceylon, by the 30th November or as soon thereafter as possible. (3). That district estimators be requested to obtain their estimates from acreages as far as possible, the statistics received to be considered confidential, and not be published by the estimators, and the total district acreages only to be given. Such returns should, in the opinion of the Committee, be: (*a*). Total acreage in tea (*b*). Acreage in bearing (*c*). Total crop. (4). That forms be issued separately to each Superintendent to be returned by him in a closed cover. That the foregoing resolutions be forwarded to the Secretaries of the various District Associations, with a request that they will kindly take immediate steps to furnish the Committee with the desired data." Resolved:—"That the action thus taken be approved, and the same hereby is confirmed. (2). That a Special Committee be appointed to consider the returns received in due course from District Associations, and to report to the Committee before 17th February (1900). (3). That the following members be asked to serve—Mr. Campbell, Mr. Huxley, Mr. W.D. Gibbon, Mr. White, Chairman and Secretary, and that the Ceylon Chamber of Commerce be invited to nominate two members of the Chamber to confer with the Special Committee of the Planters' Association, especially as regards the probable distribution of the crop."

ANALYSIS OF MANURE: DRAFT ORDINANCE FOR REGULATING THE SALE OF MANURE.

Read letter from the Secretary, Ceylon Chamber of Commerce, acknowledging roceipt of report. Resolved:—"That the Chamber be reminded of the matter and asked to expedite the perfecting of the Draft Proposed Ordinance, so that report may be made to the Committee at next meeting.

REDUCTION OF BRITISH TEA DUTY.

Resolved:—"That the discussion on the question be deferred until the General Meeting on the 5th December, 1899."

ANNUAL REPORT: NOMINATION OF SUB-COMMITTEE.

Resolved:—"That the Chairman of the District Associations, Messrs. J. R. Martin, W. D. Gibbon, A. Melville White, J. A. Spence, T. C. Huxley, J. H. Renton, E. Rosling, A. J. Denison, Hon. Mr. J. N. Campbell, the Chairman, Planters' Association of Ceylon and Secretary, Planters' Association of Ceylon with power to add to their number to form a Sub-Committee to draft the Annual Report, two to form a quorum."

THE "THIRTY COMMITTEE."

Extracts from minutes of proceedings of a meeting of the "Thirty Committee" held at Kandy on Tuesday, the 5th day of December, 1899, at half-past seven o'clock (7·30 A.M.) in the morning. *Present*:—Messrs. F. G. A. Lane (Chairman), A. Philip (Secretary), Hon. Mr. J. N. Campbell, Messrs. J. H. Renton, Joseph Fraser, James P. E. Ryan, A. E. Wright, Gordon Pyper, A. C. Kingsford, J. A. Henderson, James Westland, E. Rosling, A. Melville White, W. Forsythe, Edgar Turner, T. C. Huxley, W. Saunders, and A. J. Denison.

CEYLON TEA ON THE CONTINENT OF EUROPE.

Mr. Renton addressed the Committee on the subject.

Resolved:—"That a sum of £10,000 sterling be voted for 1900, to be expended by Mr. Renton under the heads named in his letter of November 18th, 1899, as follows:—

	£
Paris Exhibition	1,000
France	6,000
Germany	2,000
Austria	500
Holland	300
Scandinavia	300

Note by Ed., *T. of C.*—The sums mentioned total £10,100—not £10,000.]

Resolved:—"That the sanction of the Governor in Executive Council be obtained to this appropriation."

CEYLON GREEN TEAS.

Read letter and annexure from Mr. J. A. Henderson.

Discussed the question generally. Resolved in view of present information:—"That the green tea bonus be continued until the end of 1900, or until the grant of £2,000 has been expended; (2) that Mr. A. E. Wright be asked to draft a pamphlet on the manufacture of Ceylon green teas for the guidance of producers."

Read letter from the Agents and Secretaries, Upper Maskeliya Estates Company, Limited, claiming grants on 3,000 lbs., Brunswick estate green tea. Intimated that the payment had been made.

Submitted memorandum showing the appropriations under the grant as follows:—

	Lbs.		R. c.
Oct. 1898	2,010	Tillyrie Green Teas	201 00
Do.	2,137	Dehiowita "	213 70
Nov. 1898	7,800	Brunswick "	780 00
Dec. 1898	1,355	" "	135 50
Jan. 1899	6,655	" "	665 50
Do.	5,008	" "	500 80
March 1899	5,971	" "	597 10
Do.	5,145	" "	514 50
April 1899	3,080	" "	308 00
Do.	5,154	Dewalakanda "	515 40
Do.	4,740	Brunswick "	474 00
May 1899	4,500	" "	450 00
June 1899	5,340	" "	534 00
July 1899	4,500	" "	450 00
Do.	6,060	" "	606 00
Aug. 1899	4,020	" "	402 00
Do	3,060	" "	306 00
Sept. 1899	8,580	" "	858 00
Do.	1,974	" "	197 40
Nov. 1899	3,000	" "	300 00
	90,089		9,008 90

leaving the balance of R20,991·10 still available at date.

AGRICULTURAL CHEMIST.

Submitted proofs of Mr. M. Kelway Bamber's report. Resolved:—"That 2,500 copies be printed, and one copy issued free on application to every tea estate; (II) that the printers be instruct that the pamphlet is to be protected as copyright of the 'Thir Committee' and thereafter treated as such protected publicatio (III) that the price of the pamphlet to the public be fixed late (IV) that the attention of the printers be drawn to the necessi for having the printing well and clearly executed in every w equal to the Book of Proceedings of the Planters' Association Ceylon."

CEYLON TEA IN AMERICA.

Discussed the question generally. Resolved:—"That the Cha man be empowered to inform Mr. William Mackenzie that a sum of £10,0 0 sterling will be voted for the year 1900; (II) that t sanction of the Governor in Executive Council be obtained to th appropriation."

THE ANNUAL MEETING.

Much, perhaps most, of the time occupied by the Annu Meeting this year was taken up in the discussion of matte of no great interest to Indian planters. We give the follo ing extracts from the proceedings as reported in the Colom Press:—

ABOLITION OF THE TEA DUTY.

The following resolution was moved by Mr. E. Rosling:—

That this Association considers that it is in the interest of pr ducers to join action with the Indian Tea Association in agitati for the abolition of the English import duty on tea when the tim for such agitation is deemed advisible.

He said that he would like to explain to the gentlemen who we not present at the last Committee Meeting the reason for brin ing forward a resolution regarding the British tea import duty th day. They would remember that at a meeting held last year vote was given adverse to the abolition of the import duty, a this resulted in a good deal of correspondence with the Indi Association, and finally at the last Committee Meeting of the Ass ciation a letter from that body was laid on the table which now r quired an answer. That letter was a very clear, well-reason document, worthy of their best attention. The subject-matter w of extreme importance. It was decided to take the sense of t general meeting before answering it. The letter in question h been published in the press, so that they would all have seen The question they had to consider in connection with the aboliti of the duty was how they as producers would benefit, and he wou ask them not to look upon it as a merely academic question. it were that, he considered that he should be wasting their time an unjustifiable manner, but he believed it to be the most impo ant question that had come before them since the closing of t Indian mints. He thought all of them agreed that lowering t price of any commodity to the consumer increased the consum tion of that commodity, and if any gentleman doubted that would refer him to the quotations in the Indian Association's let from John Stuart Mill & Co., and Professor Nicholson. If th increased the consumption of a commodity, and the producti remained stationary, stocks decreased and prices rose. but th had to consider what governed production. That he thoug was the common ground from which abolitionists and their op nents took diverging paths. He thought there could only one answer, and that was the amount and profit they w making. If they were making large profits, they increased p duction; if on the other hand they were making no profits all, production would fall off, and eventually became stationar He said eventually, because tea took some years to come into be ing, and so they did not immediately see the result of prices production. They practically came to this—that the abolition the duty could only affect production to the extent that it ma the industry sufficiently profitable for them to increase their p duction. They had also to consider how Ceylon fared as compar with teas grown in other countries. When the duty was reduc from 6d. to 4d. China tea continued to be used in diminishi quantities, because the British public taste was in favour of eitl Indian or Ceylon teas. Was it likely that abolition would al this taste? Was it not more likely to foster it, by bringing go Ceylon tea within the reach of those who could only afford to b the cheapest blend in which a large amount of China was m The public did not work out what percentage of duty it was pay on the lb. of Ceylon tea as compared with China; they took eit what they liked or what they could afford. He had heard it s

that the Customs Act was an Act for keeping out spurious teas. With their permission he would read what the Indian Association's letter of 17th August said:—"I am to point out that whether an article of food is taxed or not it is subject to the same laws in respect of its fitness for human consumption. Abolition would not remove any of the checks imposed as obstacles to cultivation, so far as the law went, and the question resolved itself therefore into this, as to whether or not the Customs no longer having to carefully weigh the tea would relax their vigilance, and whether, if they did, other checks in existence, or which might readily be introduced if required, would not operate sufficiently." That was not a thing on which one could do more than express an opinion. How were other food stuffs looked after, and why should tea be different to provisions, &c He might mention that the customs officers who weighed the tea for calculating the duty weighed it before it had been opened unless the weights ran very uneven. As regarded rubbishy teas that were fit for human consumption, they were allowed in now if there was any demand for them, and he maintained the demand for such teas would tend to fall off with abolition, as a good sound tea would then be brought within the reach of all. Another important point to consider was how would abolition affect the relative position of the producer to the middleman or distributor. With no duty the tea trade could be worked with less capital which must mean increased competition amongst the buyers. He had heard some gentlemen say that this increased competition amongst buyers would result in the profits of the middlemen being reduced as they could no longer afford to pay the same amount as at present. According to the gentleman who held that view, an increased number of buyers meant reduced prices to the producers, as presumably if they could reduce the number of buyers they would pay them higher prices, which of course was absurd. Did they suppose for one moment that the middleman was satisfied with his profits that day, and was paying them more than he was, or that, when in the early part of the year prices for common teas rose some 50 per cent.; he paid this increased price out of friendship to the producer, or was it that for the time being consumption out-ran production? To sum up, abolition meant increased consumption, increased consumption meant increased prices if production remained stationary, and production was governd by whether the industry was profitable or not. The Custom apparently was of no value as a safeguard to keeping out spurious teas; and finally the more competition amongst the buyers the smaller their profits, and this must go to either producer or consumer according to the ratio that production bore to the consumption. The last words of his resolution were added on the suggestion of one or two gentlemen, because there was a feeling in certain quarters—he hoped uninfluential quarters—to burk the question or rather not fan it straight in the face because the time was inopportune. Personally, he considered that the agitation had been opportune for years, and would continue to be opportune so long as the duty remained, but he was perfectly willing to leave the matter in the hands of the Joint Committees of the Ceylon and India Associations to decide as to its opportuneness. He suggested in conclusion the changing of the word opportunity to importunity. (Hear, hear and laughter.)

Mr. Westland said he had much pleasure in seconding the motion. Mr. Rosling, however, had spoken so fully on the subject that he had left nothing for him to say, further than with reference to the bonded warehouse question. He thought that the abolition of the duty would absolutely do away with the warehouse charges, and would considerably benefit them (the planters). Just now the charge for the bonding of teas were so high that they all, more or less, felt it. There had been an agitation against it, but he thought the reduction of the duty would be found far more effective in breaking down the monopoly than anything else they could do. He had very much pleasure in seconding the resolution.

AN AMENDMENT.

Mr. Melville White remarked that as Mr. Rosling had proposed an amendment to his resolution he begged to propose an amendment to Mr Rosling's motion. (Laughter.) The amendment which he proposed was really one which the Committee had adopted. Of course he did not say that as a proof of its desirability in any way. It was simply to show the consistency of the Committee and of the Association. His amendment was

"That this Association deems it undesirable to take action in the matter at present.

Mr. Rosling's motion was somewhat skilfully put together. He apparently wished to discuss and settle the academic question—whether it was in their interests to abolish the duty or whether it was not. And having settled that he went on to say, or at least to imply, that the present moment was inopportune to bring the matter before the Government at home. Well, as long as the time was inopportune—and he did not think there could be any two opinions about that—he failed to see that they could do any good in settling the academic question as to whether they would derive benefit from it or not. The amendment he asked them to carry was mainly supportable on the ground of expediency. If they went to the home Government at the present moment and asked for the abolition of the tea duty, he believed Mr. Rosling shared his opinion, and that of a good many others present, that they would be met with a blank refusal. They had war bills to meet and they must recollect that with the tea duty inevitably came the coffee and cocoa duty. He did not think any Government would abolish the tea duty and maintain the coffee and cocoa duties. If one went, the others must go. They would see, therefore, that the question was a considerable one, even to the wealth of the home Government. Another reason which he thought ought to act against their going for abolition at the present moment was the fact that the step was an absolutely irretraceable one. That was an argument which had been brought forward in Committee. He thought, when they were taking a step of that nature, they should be very cautious indeed, and at least clearer than they were then as to the benefit to be derived. (Applause.) They all knew that if they suceeded at the present time in getting the duty removed, and if it should happen that there would be no increase of consumption—he did not say there would be no increase, and had never made that assertion—there would be no advantage to them in the abolition of the duty, and it must be patent to the whole of them that by no means within their power or within the power of Indian Association would they ever get the duty re-imposed. It was an absolutely irrevocable step and one which ought to be taken with great caution. (Hear, hear.) The Indian Association had, he thought, been rather making fun of their political economy, or at least they had tried to, and the Indian and Ceylon Press had, to a certain extent, done the same They had attempted to ridicule them for supposing that a reduction in prices would not give them an increase in consumption. That Association and no member of the Association had, so far as he knew, put forward such a ridiculous statement. But the Indian Association, while they quoted to them, Professor Nicholson and various other authorities in political economy, had overlooked the one phrase which was of paramount importance in a statement of law—"other things remaining the same." As the price of any article fell, "other things remaining the same," the quantity demanded increased, and conversely as the price rose the quantity demanded decreased. Neither the Association nor any member of it, so far as he was aware, had ever attempted to controvert that statement; but to state boldly that a fall in prices meant an increase in consumption was not the fact. (Hear, hear.) If political economy was such a very simple matter as all that, it would be perfectly legitimate for them to say, "How does your law apply in the case of China tea?" The price had suddenly fallen—why had the consumption not increased? Simply because other things did not remain equal. There were such things as the development of wealth, the difference of taste, and a hundred and one other things; and because other things did not remain equal

THE PRICE OF CHINA TEA

fell, and the consumption with it. The Indian Association overlooked the fact that other things had to remain the same. The whole question was one of probabilities so far as the benefit to the producers went. They all admitted that there would probably be an increase of consumption, but they wanted a great deal more than that—they wanted to know that they would benefit thereby. If they were going to get an irrevocable step taken, he thought they required to have something much more definite than they had at present as to the result which would happen if the reduction of duty was obtained. It was not simply for them to say that, if they exported 120 millions this year to average 7d. and the cost 5d., they would make 2d. a lb. profit, and that it was equally clear that if they exported 140 millions next year at the same cost of production they could afford a loss of a farthing. They would still be as rich; they would not lose. But was there any gentleman in the room or outside who was prepared to say that the increase of 20 millions would result

only in the reduction of a farthing in the price. If it amounted to the smallest fraction more, so far from being gainers they would be losers. In the circumstances in which they were placed, it seemed to him that there were four remedies or courses open to them. One was to reduce the cost of their tea, the second was to improve the quality of their tea, the third was to exploit new markets, and the fourth was the reduction of the supply until the demand overtook it. Now, he would like to go backwards. He said that the fourth remedy—the reduction of the supply until it overtook the demand—was outside their power at present, so that they might pass it by. The third remedy, they all knew, they were carrying out as much as they could and with all the funds they could possibly raise to do it. The improvement of the quality might possibly tend to a reduction of the quantity, but at any rate it was a course open to them. They might endeavour to improve the quantity and so raise the price. The reduction of cost was a very difficult matter for them to deal with. There was very little margin for reduction, and any reduction that might now take place must, it seemed to him, take place at the London end in the Warehouse bulking and taring charges; and when he saw the Indian Association proposing to take up the question of Warehouse bulking and taring charges, and when he saw them tack on the question to which they knew they would get an unfavourable reply then he would have less confidence in them. One of the Indian papers, he believed, threw out the suggestion to Ceylon that their Committee was possibly interested in the bonded warehouses. He thought the assumption was a very gratuitous one. He did not think there was a single member who was interested in them; but they happened to know that there were members of the Indian Tea Association who were interested in them. He asked them, therefore, for these reasons, to pass over the academic question altogether, and to adopt the resolution which the Committee had at various times passed—and, he thought, sensibly passed—"that this Association deems it undesirable to take action in the matter at present. It left them a free hand to take up the academic question, or the other question, at any moment when they saw their way to do so. (Applause).

SECONDING THE AMENDMENT.

Mr. Turner had much pleasure in seconding the amendment. He had been accused of saying that a reduction of duty did not tend to increase the consumption. He had never actually said such a thing. What he maintained was that the increased consumption in 1890 could be explained away. He would call their attention to the speech which Mr. Stanton made in London. What the Custom-house authorities said at home must be of some importance. With regard to the falling off in the tea duty, Mr. Stanton said. "About 1885 a very curious circumstance was taking place, which caused some trouble to the Chancellor of the Exchequer. Though afternoon teas were, perhaps, more in vogue than they had ever been before, and tea drinking had become so general that even the medical faculty were crying out against its possible abuse, the tea duty instead of bringing a better revenue every year, suddenly became almost stationary, and continued so for some four or five years and yet less tea did not seem to be drunk." In the first letter from the Indian Tea Association they give "Statement A" and "Statement B," which were rather curious. Statement A referred to the tea drunk in New South Wales in 1892. The total amounted to 12 millions in 1892, 11 in 1893; 12 in 1894; 12 in 1895; 10 in 1886; 12 in 1897; and 12 in 1898. There was no increase, apparently, and yet they heard so much of the amount that Australia drank. In 1898 there were, approximately, 8 millions of Indian and Ceylon tea drunk in New South Wales, and 3½ millions of China. It could only be accounted for by the assumption arrived at by the Custom House authorities in a letter which he had read. Since 1890, Ceylon tea had fallen 3d. to 4d. in value in the London market. They all heard that it was over-production. As a matter of fact, the stock in hand in December, 1899, was 113 millions, about seven months' stock, and in 1898 they had but 101 millions, or about five months' stock in hand. It was due doubtless to the law of supply and demand. He feared that to take off the duty on tea would be to lower the margin of profit. (Applause.)

Mr. Campbell said it seemed to be considered an axiom that the reduction of price would increase consumption. Mr. White had argued that that would not increase the profits. Still the question was what were they going to do with the large amount of tea which they were going to put on the market in the next few years, if the prices continued to go down? They had to find a market for these teas, and the fact that the duty was taken off was acknowled to increase the consumption of tea in England. They had asked why they should vote upon the question now. He thou the time had come when they ought to make up their minds a Association. They had been sitting on the fence a long ti Surely they could make up their minds on a subject of that n and he thought Mr. Rosling's resolution put their position in a way that they could make up their minds so that their intent could be carried out at the proper time; otherwise, nobody wo know what their views were, and they would continue to sit on fence. Hitherto China tea had been displaced by Ceylon tea, cause Ceylon tea was better than China tea, and it would conti to be so even if the duty were taken off. Some people thou that China tea would get the advantage by being a cheaper t but Ceylon tea being a better tea, continued to command market in the way it had hitherto done. Mr. White referred an increase of some 20 millions, which he expected might be upon the market in the near future.

Mr. White: That was purely a supposition.

Mr. Campbell, continuing, begged Mr. White's pardon, and s "supposed" to be put upon the market. What were they goi to do with it? How were they going to get it sold if they did get some reduction of the tea duty? How were they going take it off the market? There was also the question of warehous which had been touched upon by Mr. Westland. They knew th that was a great and very important question, and that if the du were removed the warehouse charges would be done away wi It would do away with the monopoly, and have a very great effe upon the result as regarded selling Ceylon tea. He thought th ought to make up their minds to vote one way or the other, and his opinion make up their minds to vote in favour of Mr. Roslin resolution. (Applause.)

Mr. Forsythe remarked that, after what had fallen from the plan ing member, he would like to point out that he thought they shot continue to sit upon the fence. He felt certain that every gent man in the room was as prefectly convinced as Mr. Rosling th by taking the duty off tea, the price might improve, and wou vote for the duty being taken off. But the point was, were th perfectly certain of that? Supposing that price did not ris and supposing, as Mr. Turner had pointed out, that as the price a commodity fell so did the ratio of profit fall. They were in a sa position, and they could afford to sit down and wait. There w not the slightest chance, with war charges, that any duty wou be taken off. He was not, as a rule, one who sat on the fence, b he was quite willing to do so on that occasion to see how the co was going to jump. (Laughter.)

Mr. Ryan said that one point had been lost sight of, and th was that, by abolishing the duty, they could get rid of the bonde warehouse charges. Now there was no chance of their getting r of this duty, but there was a chance of their possibly getting r of the bonded warehouse charges in another way, and the way which it might be done would be by getting the duty levied by th Ceylon Government when the tea was exported for London u sworn invoices. In that way, when the tea arrived in London, would be accompanied or preceded by a draft for the amount British duty forwarded by the Treasury in Colombo. The t would then be free to be handled in any way they thought fi In that way there was a possibility that they would be able break down the monopoly of the bonded warehousemen at Hom That would be one means by which they could evade the bonde warehouse charges, even if the abolition of the duty were refuse

Mr. Rosling, in reply to the discussion, said that they wished have a definite expression of opinion as to whether they believ that the abolition of the duty was good for them or not. Un they got that, they would not have any action taken at Home o way or the other. They had had a letter from the Ceylon Assoc ation in London saying that, as they had expressed no opinion this matter, they would not take any action. Apparently, from M Forsythe's remarks, he was still going to sit on the fence. M Ryan's fiscal scheme was rather too large. He could not grasp and he thought there was very little use in bringing it before the that day. With regard to the statement that no member of th Committee ever said that reduction of prices increased consum tion, he quoted from an article bearing out his contention.

Mr. Turner said this could be explained by figures, but he d not go into them.

Mr. Rosling, continuing, remarked that Mr. Turner said that they could prove anything by figures. But he seemed to have changed his mind rather suddenly and brought them sheathes of figures from the early portion of the century. He took it that the opinion of the majority of the room that these were absolutely valueless. Mr. Turner went on to say that, although the consumption remained stationary, so many fluid gallons of tea were consumed. But they did not sell fluid gallons of tea, they sold dried tea, and he did not see any use of bringing in a side issue. He did not refer to the Bonded Warehouses, because it was a very important subject. If they swept away the duty, they swept away the monopoly of the warehouses. But in his opinion it was a side issue, though important. The abolition of the duty on tea was sufficiently strong to stand on its merits. He apologised to Mr. Westland for using the word "English;" he meant "British."

The Chairman summed up, and, on the vote being taken, the amendment was carried by 19 votes to 10.

A REMARKABLE COFFEE MOVEMENT.

The regular monthly official statement of the New York Coffee Exchange for October shows some remarkable and somewhat unexpected changes. There is a reported decrease in the world's visible supply of 336,768 bags, an increase in deliveries in October over September of 510,671 bags, and a gain of 436,219 bags over the average monthly deliveries for the first four months of the present trade year.

The following statement shows the stocks and movement for the month:—

	Bags.	Bags.
Stocks, October 1,1899—		
United States	1,190,650	
Europe	3,705,906—	4,896,556
Receipts during October—		
United States	648,141	
Europe	1,200,140—	1,848,281
Total supply ...		6,744,137
Less stocks, November 1—		
United States	1,190,628	
Europe	3,841,160—	5,031,788
Deliveries, October—		
United States	648,163	
Europe	1,064,886—	1,713,049
Deliveries, October, 1898		1,050,270
Deliveries, September, 1899 ...		1,131,838
Deliveries, August, 1899 ...		963,052
Deliveries July, 1899		822,450

In view of the remarkable gain in deliveries, we give in detail the monthly deliveries of the United States and Europe, as follows:—

	United States. Bags.	Europe. Bags.
July	433,364	636,246
August	520,966	601,318
September...	479,874	722,504
October	648,163	1,064,886

In 1898-99 the total deliveries were 13,480,904 bags; in 1897-98 they reached 14,571,902 bags, making for the two years a total of 28,052,806 bags, or a yearly average of 14,026,403 bags—equal to average monthly deliveries of 1,168,867 bags or 544,182 bags less than the October deliveries which are on the basis of yearly requirements over 20,000,000 bags.

It will be noted that the October deliveries in the United States were 170,095 bags more than the monthly average for the first three months of the trade year, or a gain of about 35½ per cent.; and in Europe, 411,530 bags more—equal to an advance of nearly 63 per cent. over the average monthly deliveries. This sudden jump is unexplainable, except on the theory that the entire trade at home and abroad have been free buyers of coffee and taken it from licensed warehouses.

Undoubtedly there has been a marked increase in consumption here and in Europe, but it is very improbable that it took a sudden leap within one month of 63 per cent. in Europe and over 35 per cent. in this country.

Many prominent in the trade claim that the rise in deliveries is due wholly to normal causes; that trade increased heavily throughout October; that the sale of roasted coffee is fast increasing in Europe, and everywhere is a tendency on the part of distributors to carry heavier stocks. They argue that coffee is very cheap; that estimates of the present crop, some six days earlier than usual, are too large, and, with rapidly increasing stocks, coffee is likely to advance. Aside from the causes given it is certain that for several months there have been large speculative purchases of coffee by outside interests, and that there is a growing faith that higher prices must rule.

During the first four months of the preceding four crop years, an average of 48½ per cent. of the total Brazil crop was marketed; and if that average holds good this year, then the total Rio and Santos crop will reach 10,696,000 bags. It is claimed, however, that conditions have placed a premium on planters hurrying forward their coffee, and that a much larger proportion of the crop than usual has come forward. In 1897-98 the receipts for the first four months were 51 per cent. of the total crop of 10,462,000 bags, and, on the assumption that a like proportion has come forward this year, the total crop will reach 10,270,000 bags.

Naturally the question arises, What are the present annual requirements of Europe and the United States? During the three years 1893-'94-'95-'96—in fact we may go back to 1891-'92—the deliveries showed little change from year to year, as the following table proves:—

	Bags.
1891-92	10,804,551
1892-93	10,946,228
1893-94	10,571,533
1894-95	11,212,851
1895-96	11,142,813
Total, five years ...	54,677,976
Average per year	10,935,595
Average three years, 1893-96	10,975,732

The five years was a period of high prices, No. 7 selling between the range of 18⅜ to 13 cents, and, with cheap teas, there was almost no gain in consumption. If the increase in population is considered, the steadiness of deliveries might be taken as an indication of the reduced use of the article. Undoubtedly the trade depression from 1893 to 1897 contributed to keep consumption from advancing, and that this view is correct finds confirmation in the gain which began with the return of prosperity and has steadily increased. The agitation about a duty led to heavy deliveries in 1897-98, but, by taking the last three years together, we get a statement that shows present requirements very fairly, as follows:—

	Bags.
1896-97	12,244,204
1897-98	14,571,902
1898-99	13,480,904
Total ...	40,297,010
Average per year	13,432,337

The above figures show a gain in consumption in three years of 22 per cent. over the preceding three years—a gain never before recorded.

The deliveries last year were about equal to the yearly average for three years, and little over 10 per cent. greater than in 1896-97—a gain that is quite in harmony with former records.

This year coffee is relatively a cheaper beverage than tea, and it is undoubted that, unusual prosperity coupled with a campaign of advertising and premiums such as the United States never witnessed before, have led to a marked increase in consumption which might rise to 20 per cent. or more over last year. During the first three months of this year, it was 16·3 per cent. above the corresponding quarter of 1898-99, when suddenly it leaped up in October to over 51 per cent. above the monthly average for the preceding three months—a gain that indicates withdrawals from warehouse far beyond consumptive requirements.

What does it mean? Has there been a sudden change in sentiment all over the world that this year's crops are inadequate to meet requirements without cutting down the visible supply to

one-third of the 7,699,788 bags held November 1, and which has led to free buying by distributors? If so, we are just seeing the commencement of an upward movement in coffee that might easily advance prices 50 to 100 per cent.

What, then, is the outlook? The year began as follows:—

	Bags.
Visible supply, July 1	6,200,000
Rio and Santos crop (estimated) ...	10,600,000
All other crops	4,300,000
Total supply, 1899-1900 ...	21,100,000
Actual deliveries, four months	5,107,321
Available supply for 8 months... ...	15,992,679
Estimated requirements balance of the year ...	11,000,000
Visible supply, July 1, 1900	4,992,679

The above estimate for the balance of the year is based on actual deliveries, November 1 to July 1 last year of 9,513,294 bags, *plus* an estimated increase of 16 per cent. in consumption. If, however, the gain is equal to that already made this year over last—amounting to 28.5 per cent. requirements will reach 12,224,000 bags, reducing the visible supply to less than 2,500,000 bags.

There is an error in the Exchange reports showing stocks in Brazil, which may make a difference in the visible supply of over 200,000 bags. Efforts are now being made to adjust this difficulty, due to the peculiar method of compiling stocks in Santos.

The sales on the Exchange in October foot up 517,750 bags—the largest business in any month for a long time. The lowest price for options was 4.15 cents for October; the highest, 5.65 cents for September. The official spot quotation of No. 7 was 5½ cents as the lowest; 6⅛ cents the highest. Present price, 6½ cents. The outlook is for a "bull" market.—*American Grocer.*

CEYLON AND THE RUSSIAN TEA MARKETS.

A meeting of local buyers for the Russian tea market was held at Colombo the other day. Mr. F. M. Mac wood presided, and the others present were Messrs. Tokmakoff, Heath, W. Kingsbury, J. H. Renton, F. G. A. Lane, W. Seale, A. A. Hankey, C. M. Wright, L. O. Leefe, W. Kenny, Cooke, H. M. Waldock, G. Alston, H. G. Rois, A. Wilson, A. H. Ayden, Geo. Thompson, G. Croll, T. C. Huxley, J. H. Adams, Lampard, Walthew, Spence, the Hon. Mr. J. N. Campbell, and Mr. Nunn.

The Chairman, having explained the object of the meeting, called upon anyone desirous of addressing the meeting to do so.

Mr. Tokmakoff in a few words thanked the Chamber of Commerce for their readiness in holding that meeting, and moved for the appointment of three or four local buyers to write to the Thirty Committee asking them to increase the sales of tea, so as to allow of local buyers obtaining more tea for the Russian market than could now be got. He testified to the increase of the consumption of Ceylon tea in Russia, and produced figures to prove this.

Mr. Heath said he had much pleasure in seconding the resolution. He had visited China and Moscow, and he could testify to the desire of the Russians for obtaining Ceylon tea. He complained of the limited quantity available in the Colombo market, and said that if there was tea available at reasonable prices a good deal of it would be bought.

Mr Walthew pointed out that at the last sales 169,000 lbs. had been bought for the Russian market.

A general discussion followed, and remarks were offered by Messrs. Renton and Lampard. The former observed that they wanted suppliers, and most of their sterling companies reserved their teas for the London market.

Mr. Lampard spoke in favor of teas being distributed generally, instead of the sale of it being centered to one particular place.

Mr Lane said he was glad to find such a large gathering present. The P. A. and Thirty Committee were much interested in the spread of tea in Russia, and he thought that Mr. Tokmakoff's resolution was a good one, as the Thirty Committee would consider what should be done. As to the kind of teas the Russians liked, it would be a good thing if planters were told what was wanted. They would be glad to have the hint. He wished to know something about the reduction of the Russian Tea duty, and asked if any of the local buyers could give him any information.

Mr. Tokmakoff said that efforts were made to get a reduction, but they had failed.

The Hon. Mr. J. N. Campbell rose to observe that last year the tea from one of his estates had all gone to the Russian market, and this year half the teas of two other estates he knew of were being sent.

The Chairman then put the motion to the meeting, and suggested that the following be appointed to draft a letter to the Thirty Committee:—Messrs. Tokmakoff, Tchokoff, Heath, Geo Thompson and G. Croll.

Mr. Thompson suggested that a copy of the letter be sent to all the sterling companies This suggestion and the motion were both agreed to, and the meeting terminated with a vote of thanks to the chair.

GINGER, AND WHERE IT IS PRODUCED.

Ginger is the root of a kind of reed, grown both in the East and West Indies and China, also largely in Malabar, and to a certain extent in nearly all tropical countries. It is also, remarks the *Merchants' Review*. New York, to be found, though of poor quality, in most of the Gulf States. The stem, or reed, is an annual, and grows directly from the root every spring to the height of about three feet, with long blades or lanceolate leaves, resembling very much in style and colour American maize or corn. This reed, or stalk, terminates in an oblong scaly spike, and from each of the scales grow a little blue and white flower. This plant is now cultivated in very great quantities in the West Indies, especially in the Island of Jamaica, from which place the finest and most esteemed is imported.

Jamaica ginger is not only cultivated to very great perfection, but the selecting, scraping, drying, and all the necessary details in its preparation are observed with the utmost care and nicety. Ginger is imported into this country either in the form of the dried roots or as a preserve in syrup, and comes from Cochin China, Africa, and the East and West Indies. The preserved ginger from the West Indies is much esteemed and commands a very high price. The ginger root grows in knotty, branched pieces, in low, fenny, or marshy soils, and has a pleasant, aromatic odour and biting taste. There are

TWO KINDS OF GINGER.

viz.: the black and the white. Black ginger consists of the inferior roots, which have been steeped in boiling water previous to being dried in the sun. The colour of the darkest kinds, however, is not black, but more of a dirty brown or stone colour. White ginger consists of the roundest and finest roots scraped clean and then dried carefully without being scalded. It is firmer, less fibrous and more pungent than the black, and, from the fact that the finest and soundest roots are always selected, white ginger is, independent of the manner of its preparation, superior to black, and always realizes a much higher price in the market; but the difference of colour depends wholly upon the manner of curing or preparing. For both of these kinds the tubes or roots are allowed to ripen, that is, they are not dug up until after the annual stalks are withered.

THE PRINCIPAL VARIETIES OF GINGER

known in commerce are, white ginger—Jamaica, Cochin China, Africa, East Indian or Bengal and Tellicherry; black or dark ginger - Jamaica and Malabar. Gingers imported into Europe are subjected to various modes of treatment, which tend greatly to improve and preserve them, for the finer its quality the more susceptible is ginger to the ravages of the fly or ginger worm. These various modes of treatment are washing, brightening and bleaching, and the gingers are consequently known in the trade as "originals," *viz.*: the ginger as imported; "washed," that which has been cleaned in water slightly acidified; "bright," the ginger

which has undergone the preparatory course of bleaching: and "bleached," that which has received a coating or dressing of lime, etc. These latter modes of treatment of ginger until recently were carried on exclusively by experts in Europe, and it is only within the past few years that the art has been introduced into this country. When a

PRESERVED GINGER

is required, the roots are taken up in the sap, the stalks not being more than a few inches long; the young roots are scalded, then washed in cold water and afterwards carefully peeled. This process lasts for several days, during which time the water is often changed. When the cleansing is complete the tubers are put into jars and covered with a weak syrup of sugar. After a day or two this weak syrup is removed and replaced by a stronger one, and this shifting is two or three times repeated, increasing the strength of the syrup each time. The preserve thus formed is one of

THE FINEST THAT IS MADE.

The removed syrups are not lost but fermented into a pleasant and agreeable beverage, known as "cool drink," used very much in tropical countries. Preserved ginger, as manufactured here and in Europe, is dark and fibrous. but when prepared in the East or West Indies or China, the West Indies especially, from the young roots, it is almost transparent. It is imported in jars, and should be of a bright yellow colour. Ginger is imported from Jamaica in barrels of about 100 lbs. each, with actual tare allowance; from Cochin China and Malabar in cases of about 200 lbs. each, also with actual tare allowance. African and East Indian ginger comes in bags of 100 lbs. each, with tare of 2 lbs. each bag.—*Canadian Grocer.*

THE "MATE" TEA COMPANY.

The history of a tea company is thus given in a Home paper :—

In examination by Mr. Bowyer, assistant official receiver, the debtor (A. E Cumberland) stated that he commenced business in 1891 as a veterinary medicine manufacturer, which, in 1893, was transferred to "The Anticuta Syndicate, Limited," which had since been wound up. He started in March 1896 in Victoria Street, as the "Mate" Tea Company. He had a capital of £1,000 borrowed from his mother. It cost a lot of money to start the business, the expenses being between £6 and £7 per week travelling. While he was travelling, the business in London was looked after by his brother and a Mr. Dastis, the agent for the "Mate" Tea. He kept a full set of books for the business, but they did not show the moneys received from his mother. The expenses exceeded the receipts by over £1,000. The £1,000 received from his mother had all gone between March and August 1896. In that month Major Coghlan agreed to purchase the business for £2,000. He advertised the business for sale in the *Times*, the advertisment setting out that the business was a monopoly, producing £20 a week, and that no previous knowledge was required. He had an agreement with the Association of Planters growing this Mate tea not to supply anybody else. That was the monopoly he advertised It was a tea noted as having no tannin in it, and did not create indigestion. Of course, he had not the monopoly for the whole of the Mate tea, as it was grown all over South America. He would swear that for the two or three weeks prior to advertising the business for sale that it was making a profit of £20 a week. Of the purchase money, £1,000 was paid in cash, and the balance was charged on the business generally Of the £1,000 he gave half to his mother and spent the balance in living and law costs. Shortly after the purchase Major Coghlan started an action against him on the ground that the profits were mis-stated, and that the profits were never made. He (Major Coghlan) took his case in the Court of Appeal, with the result that he (debtor) was ordered to repay £1,000 and costs He was too ill to attend the trial and as he could not be found to serve the proceedings upon an order for substituted service was made. He had nothing to do with the statement made at the time that he was dead. He attributed his failure to the action of Major Coghlan in shutting up the business without giving him a chance to keep it going and make it pay. Mr. Bradbury appeared for Major Coghlan, the petitioner-creditor. The examination was concluded.

DISTRICT ASSOCIATIONS.

THE INDIAN TEA ASSOCIATION (LONDON).

The following is an abstract of portions of the proceedings of a meeting of the Committee held on Tuesday, November 21, 1899 :—*Present:* Messrs. D. Cruickshank (Chair), R. Lyell, J. Riddell, F. A. Roberts, A. G. Stanton, J. N. Stuart, W. H. Verner, C. W. Wallace, and S. A. Went.

1. The proceedings of the last meeting held on Tuesday, 7th instant, were read by the Secretary, and confirmed.

2. Copies of correspondence with Calcutta, which had been previously circulated to the members of the Committee, were laid upon the table.

REGULATION OF SALES.

The following has been issued to the members of the Association by the Secretary, Mr. Ernest Tye :—

Referring to the General Meeting of importers held on July 26 last to consider this subject, I have the pleasure to inform you that definite adhesions have been received from members and others, representing over 100,000,000 lbs of Indian tea. This represents the bulk of the Indian tea imported on garden account and also a good deal of Calcutta bought tea. The scheme adopted by the General Meeting of July 26 has now been in operation since the beginning of August, and has worked most satisfactorily. I am instructed by the general committee to hand you herewith copy of the report received from the Regulating Committee, to which I am to ask your special attention. You will observe that in the opinion of the Regulating Committee the work has tended to steady the market, and my Committee unhesitatingly endorse this opinion.

The following is the report of the Regulating Committee referred to in the foregoing :—

THE TEA BROKERS' ASSOCIATION OF LONDON,
118, Dunster House,
Mincing Lane, E. C.,
October 20, 1899.

The regulating Committee beg to report as follows :—

1. That in accordance with the rules agreed to by the Indian and Ceylon Importers' Sub-Committee they were elected by the General Committee of the Tea Brokers' Association to carry out the said rules, and commenced their work on August 11.

2. That up to the present time the scheme, so far as it concerns Indian Tea, has worked satisfactorily, no opposition having been shown by importers of Indian tea to the necessary postponement of the sale of their teas, when so decided by the committee; and buyers have in many cases expressed satisfaction at a limit being placed to the quantity offered weekly.

3. That the committee regret that so few importers of Ceylon tea availed themselves of the opportunity of submitting particulars of their teas for regulation at a time when it would have been advantageous to have done so.

4. That with a view of obtaining a more satisfactory result, and one fairer to the present subscribers to the agreement, this Committee would urge upon the Indian and Ceylon Associations the desirability of doing all in their power to induce those importers to join who have not already done so.

(Signed) ARTHUR THOMPSON.
Chairman of the Committee.

MARKET REPORT.

[*Per Mail Advices of 24th November* 1899.]

COFFEE.

The London Commercial Record says :—There is little change to report. Supplies at auction have again been only moderate, and sales have generally been at firm prices to a slight advance, closing, however, quiet. East India steady, second-hand parcels being held above the market's idea. Colombian and Guatemala very full up until yesterday, when an easier tone prevailed. Dumont Santos

in request at a rise of 3s to 4s per cwt. on recent valuations. In "futures" an active tone has prevailed and larger sales have been made at higher prices owing to adverse rumours in connection with the blossoming of the Rio crop, but closing at a decline of 3d to 6d per cwt. from the highest point, *viz.*:—

London ...	Santos ...	May delivery	... 33s. 9d.
New York ...	No. 7 Rio...	,,	... 6·10 cents.
Hamburg ...	Santos ..	,,	... 34 pf.
Havre	Santos ...	,,	... 40¼ francs.
Holland ...	... Good ordinary Java	...	... 34½ cents.

At the Dutch Trading Co.'s public sale, held on Tuesday in Amsterdam, 24,252 bags Java and 515 bags Menado were offered and sold at higher prices, good ordinary Java realising 34¼c. against 31c valuation, and 29c last sale. The following are some of the particulars:—

Lying in Amsterdam.

No.	Bags.	Valued at. Cents.	Result. Cents.
1	1,226	31	34 @ 34¾
4	650	31	34 ,, 34¼
5	908	31½	33¼ ,, 33½
6	207	30¾	34 ,, 34¼
9	400	12	14 ,, 14¼
10	1,909	41	46¾ ,, 47½
11	342	38	45½ ,, 45¾
12	439	42	47½ ,, —
15	1,000	47	51¼ ,, 51½
16	515	85	90¼ ,, 92½
18	226	29	33¼ ,, 33½
22	676	20	20½ ,, 20¾
23	521	21	21 ,, 21¼
24	484	20	21 ,, —

Imports, Deliveries and Stock of Coffee in London are as follows:—

	Stock.		Imports.	
	1899.	1898.	1899.	1898.
Tons	17,405	16,779	43,957	42,406

	Home Consumption.		Export.	
	1899.	1898	1899.	1898.
Tons	14,951	12,620	26,010	22,699

The preceding figures exhibit—

	Tons.
In the Imports an increase this year of ...	... 626
Home Consumption an increase of ...	... 2,331
Export an increase of...	... 3,311
Stock an increase of	... 636

Auctions this week have passed off as follows:—

EAST INDIA.—1,264 bags sold as follows: *Coorg*, smalls 34s to 36s, low middling 40s to 44s 6d, bold 48s 6d to 54s, pea-berry 44s to 63s 6d; *Wynaad*, small 42s, low middling to middling 47s to 52s 6d, bold 64s, pea-berry 62s 6d to 66s; *Neilgherry*, smalls 43s, low middling greenish 43s to 44s, middling 49s to 50s, bold 51s to 64s 6d, pea-berry 65s. *Naidoobatum*, smalls 34s, pea-berry 53s to 71s. *Pulneys*, dull bold 53s.

GUATEMALA.—913 bags rather more than half sold, smalls 32s 6d to 36s 6d, fine ordinary greenish 39s 6d to 40s, low middling 46s 6d to 47s, good middling dull colory 56s to 58s, fair colory bold 66s to 69s, pea-berry 46s 6d to 66s.

COLOMBIAN.—Of 3,642 bags catalogued 1,900 bags sold, smalls 31s to 50s, fine to fine fine ordinary 39s 6d to 40s 6d, low middling 44s to 46s, middling 47s to 53s, good middling 54s to 59s 6d, fine middling 72s, bold 61s to 75s, fine blue bold 95s 6d to 100s, pea-berry 48s 6d to 84s 6d.

COSTA RICA.—40 bags half sold at 40s for fine ordinary brownish.

NICARAGUA.—57 bags retired.

SALVADOR.—526 bags offered and 130 bags sold—low middling greenish 42s 6d to 44s 6d, pea-berry 37s to 39s 6d.

BRAZIL.—2,040 bags sold: Dumont washed Santos small brownish green 36s to 36s 6d, medium 42s 6d to 43s 6d, bold 47s to 53s, pea-berry 43s to 48s landed terms; and Dumont Santos, small fine green 30s to 30s 6d, medium to bold 32s to 34s, pea-berry 35s to 41s spot terms.

Receipts in Rio and Santos.

Since July 1	1899-1900. Bags.	1898-99. Bags.	1897-98. Bags.	1896-97. Bags.
Rio	1,844,000	1,534,000	2,275,000	1,[illegible],000
Santos ...	4,013,000	3,230,000	3,882,000	3,[illegible],000
Total ...	5,857,000	4,764,000	6,157,000	4,[illegible],000
Crop	—	8,772,000	10,461,000	8,680,000

Rio Exchange 6 1/16d, previous day 6 3/32d.

HAVRE, Nov. 23.—Santos good average December opened steady at 39½f and closed steady at 39¼f., March opened at 40¼f. and closed at 40f.

HAMBURG, Nov. 23.—Good average Santos December opened steady at 32¼pf. and closed steady at 32¼pf., March opened at 33½pf. and closed at 33½pf.

NEW YORK, Nov. 22.—Closing prices of No. 7 Rio were as follow:—

	Nov.	Dec.	Jan.	Feb.	Mar.
Nov. 22 ...	5·80	5·90	5·90	5·95	5·00
Nov. 21 ...	5·75	5·75	5·75	5·80	5·85

Prices realized at auctions for some of the principal marks of East India:—

WYNAAD.

	A	B	C	PB	T
Poothoondoo Peak	64-0	47-0	42-0	64-0	38-0

COORG.

	1	2	3	PB	T
Matheson's Coorg Polli Betta ...	51-0	41-0	35-6	57-0	32-6
Do. Mocha Estate ...	49-0	42-0	35-6	53-0	32-6
IM Bala Kadoo	48-6	41-6	34-0	50-6	34-0
Do. Netley ...	50-0	44-0	33-6	53-6	35-0
Greenfield Coorg	54-0	44-6	35-0	63-6	36-6
Charlotte Coorg	52-0	44-0	36 0	61-6	35-6

Landed last week 502 *tons* ... *Deliveries* 1,404 *tons* .. *Stock* 17,533 *tons.*
Do. last year 369 ,, ... ,, 824 ,, ... ,, 17,029 ,,

IN AMERICA.

COFFEE.—There is a very strong market for mild sorts at the advanced quotations. Good Cucuta, in an invoice way, commands 8¾c; Padang Interior, 23¾ @ 25c. with fancy mats at 28 @ 34c. Mocha 16 @ 20c, and possibly higher for extra fine. Stocks are given below.

Brazil sorts are doing better. Deliveries are large and exceed the same time last year. No. 7 Rio held at 6¼c and No. 3 at 7⅜c. The distributive movement is highly satisfactory.

The October deliveries were exceptionally heavy, reaching 648,163 bags, against 479,874 bags in September 520,592 bags as the monthly average for the trade year, and 379,403 bags for October, 1898. In Europe the deliveries reached 1,064,886 bags, making a grand total of 1,713,049 bags, against 1,050,270 bags in 1898-99. Further details will be given in our next issue.

ARNOLD SCHRAMM ON MILD COFFEE.

"The continuance of the revolution in Colombia is apt to materially advance the prices of Bogota, Bucaramanga, and other coffees. Centrals are becoming exceedingly scarce, and all the JRB's except about 700 bags are now sold. It is also reported that the fire which occurred in "Driggs warehouse," where the bulk of the Guatemalas and very many Colombian coffees (Bogota, Bucaramanga, etc.) are stored, has resulted in smoke and water damage to a great deal of coffee stored there, which additionally will tend to enhance the value of these kinds."

BRAZIL COFFEE.

(Quotations for invoice lines.)

Rio, No. 8	—@ 6	Rio, No. 6	—@ 6⅛
Rio, No. 7	—@ 6¼	Rio, No. 3	—@ 7⅛

Differences between grades as fixed by Exchange coffee standards:

No. 1	3·00 above No. 7	No. 6 ...	·50 above No. 7
No. 2	2·50 above No. 7	No. 7 ...	—— above No. 7
No. 3	2·00 above No. 7	No. 8 ...	·50 below No. 7
No. 4	1·50 above No. 7	No. 9 ...	1·00 below No. 7
No. 5	1·00 above No. 7	No. 10	—— below No. 7

TEA.

CHINA.—At auction Congous met slow competition, only a small part selling at prices favouring buyers; especially Oolong, but Green being of good quality experienced good competition, and the best sold at rather improved rates. Moning realised 5¾d to 6½d, Ningchow 6½d to 6¾d, Scented Caper 7¼d, Oolong 5⅛d to 7¼d. Green

—Gunpowder, fair to medium 7d to 8⅝d, good to finest 1s 0¾d to 1s 9¼d; Imperial 5⅜d, Foong Me 8d to 11¾d, Sow Mee 7d to 1s 6d, Young Hyson 3⅜d to 8¼d per lb.

INDIAN.—Public auctions were about on a par with those of last week, *viz.*, 51,400 packages, *versus* 51,000 packages. At this period in the previous year, 48,100 packages were brought forward. There was a falling off in the demand generally, and although good liquoring descriptions fairly held their own, ordinary and medium, particularly in Calcutta-bought invoices, were neglected. A fall of ¼d to ½d per lb. on Pekoe Souchongs and Pekoes under 7½d per lb., also ½d to 1d per lb. on Pekoes and Broken Pekoes from 8d to 1s per lb. was in many cases established. Finest and choice parcels did not evince much change, though occasionally meeting with rather less competition. The best Darjeelings were in request and commanded high figures, a consignment from the Dooterian Estate of 147 packages bringing 1s 3½d per lb.

As often occurs in November, business throughout the country is reported dull, but clearances continue to be above the usual scale, and it would seem therefore that the present lull is only a temporary one.

For 36,100 packages on Garden Account 8¼d per lb. was realised, compared with 8½d per lb. for 34,100 packages, and 8¾d per lb. for 24,700 packages in the two foregoing seasons.

CEYLON.—The quantity offered in sale was a little heavier, amounting to 25,200 packages, contrasted with 23,200 packages on the 14th instant, and 21,200 packages a year ago.

A quieter tone was apparent, the bidding being decidedly slacker and showing great irregularity, especially when quality was not equal to that of prior shipments from the same estate. Fair support from outside quarters was given to the leafy sorts of many well-known marks, and in those instances rates did not alter much. On the whole, however, quotations for common to fair grades gave way ¼d to ½d per lb., and the better kinds sometimes dropped ½d to 1d per lb., a considerable number of lots being withdrawn. Fine and finest passed very unevenly. Here and there dealers were eager to secure certain lines, and no decline was noticeable, while others received very little attention, and when sold denoted a depreciated range of value.

The average is barely 8d per lb. On the 16th instant it stood at 8¼d per lb. and 8⅜d per lb. in 1898.

JAVA.—Catalogues included 550 packages of direct import, which went off quietly, slightly in favour of buyers. Nearly 1,800 packages are advertised for the 30th instant.

Deliveries.—The clearances of all Tea (on which duty has been paid) from the London warehouses, as per official returns are, *viz.*:—

	Lbs.
From 1st to 21st Nov., 1899	14,446,190
Do. do. 1898	13,115,203

During the week the following have been printed for sale by public auction:—

	Sold.	Withdrawn.	Total offered.
	Pkgs.	Pkgs.	Pkgs.
India...	38,043	13,355	51,398
Ceylon	21,307	3,844	25,151
Java	550	—	550
Total ...	59,900	17,199	77,099

Also 1,121 packages from second hands.

Messrs. Gow, Wilson & Stanton's Indian, Ceylon, and Java Tea Report, dated November 24th, 1899, says:—

QUANTITY BROUGHT TO AUCTION IN LONDON FROM 1ST JUNE TO DATE.

	Indian.	Ceylon.	Java.
	Pkgs.	Pkgs.	Pkgs.
1899-1900	791,863	606,696	28,911
1898-1899	781,427	590,259	21,996

52,689 *pkgs.* INDIAN
25,750 „ CEYLON
572 „ JAVA
} Total 79,011 packages were offered in public auction this week.

The quantity of Indian and Ceylon Tea taken in foreign and Colonial markets during the first nine months of 1899 was somewhat in excess of that of the corresponding period in 1898.

	1899.	1898.	1897.	1896.	1895.
Indian ...	17,806,844	15,994,547	14,058,281	11,809,394	10,311,109
Ceylon ...	28,221,746	26,914,107	20,800,934	16,441,567	14,691,121
Total lbs.	46,028,590	42,908,654	34,859,215	28,250,961	25,002,230

The increase, although not large, is gratifying, considering the advance in the price of common Teas and the unsettled condition of the Tea market during 1899.

Export of Indian and Ceylon tea (in lbs.) to places outside the United Kingdom from 1st January to 30th September.

INDIAN.

	1899.	1898.	1897.	1896.
Re-exports from U. K. ...	5,194,514	5,085,095	3,758,006	2,461,673
Transhipments from U. K. *abt.*	231,611	941,000	2,534,862	1,679,694
Direct expts. from Calcutta...	12,380,719	9,968,452	7,765,413	7,668,027
Total lbs. ...	17,806,844	15,994,547	14,058,281	11,809,394

CEYLON.

	1899.	1898.	1897.	1896.
Re-exports from U. K. ...	8,912,789	8,831,540	7,804,955	5,885,257
Transhipments from U. K. *abt.*	516,085	1,255,000	1,654,474	942,203
Direct expts. from Ceylon ...	18,792,872	16,827,567	11,341,505	9,614,107
Total lbs. ...	28,221,746	26,914,107	20,800,934	16,441,567

INDIAN.—The quantity of Indian Tea brought forward this week again shows an increase; indeed the quantity has been becoming gradually larger during each of the last three or four weeks. The result is now shown in a distinctly weaker market, bidding lacking animation, and operators showing great unwillingness to add to their stock, Teas for price also participating in the decline. The following averages are worthy of note:—"Amal T. Est. Co. Dooteria," 1/3¼; "Margarets Hope," 1/1½; "Budla Beta" and "Jokai T Co. Hattiali," 1/0¼.

Week's av. of Tea sold on Garden Account 1899, 36,675 pkgs., av. 8·19d. 1898, 34,344 pkgs., av. 8·33d.

Total Tea sold on Garden Account 1st June to date 1899, 578,269 pkgs., av. 8·58d. 1898, 550,386 pkgs., av. 8·59d.

CEYLON.—25,750 packages were brought forward, against 24,417 last week. The position mentioned above in regard to Indian Tea was reflected in the Ceylons, a fall of ¼d. per lb. being noticeable in Teas for price, while other grades passed with less competition. The quality of Teas now coming forward is, in many instances, unequal to that of a short time back. The following averages may be mentioned:—"Carolina T. Co. Goatfell," 1/2¼; "Standard T. Co. St. Leonards," 1/0½; "Nuwara Eliya T. Co. Concordia," 11¾d.; "Haputale Co. Kelliebedde," 11½d.

Avge. for week 7·85d., against 8·23d. in 1898.

Ceylon Tea sold on Garden Account 1st Jan. to date 1899, 981,551 pkgs., av. 7·98d. 1898, 1,013,711 pkgs., av. 7·75d.

Comparative Prices of Ceylon Tea in London.

	1899.	1898.	1897.	1896.
Pekoe Soug. (Ordinary leaf; fair liquor)	6¾d.	6½d.	6½d.	6¼d.
Pekoe (Ordinary leaf, little twist; fair liquor)	7¼d.	7¾d.	7½d.	7¾d.
Pekoe Soug. (Rather bold leaf; indifferent liquor)	6¼d.	5¼d.	5d.	5d.
Pekoe (Somewhat bold leaf; indifferent liquor)	6¾d.	5¾d.	5¾d.	5¾d.

JAVA.—The small auction passed off at slightly lower prices, in sympathy with other growths.

IN AUSTRALIA.

Shipments from all ports to date are 19,910,000 lbs., as against 17,873,549 lbs. at same time last year. Stocks in bond in Melbourne on the 18th instant were 2,891,652 lbs. Stocks in bond in Sydney on the 17th instant were 2,811,610 lbs. Business during the month has, on the whole, been quiet, it having been difficult to bring buyers and sellers together, owing to the discrepancy between costs and notions of value prevailing locally. Indians, however, have had fair business at gradually hardening rates, but costs are reported to be now above local parity.

IN AMERICA.

The market is geting into decidedly better shape. Deliveries are increasing and the outlook is that there will be a marked change in the situation during the coming year. The old stocks of tea which menaced the market just after the tax was put on have about disappeared. The disposition is decidedly better than it has been in many years. There will be an auction sale on the 9th instant by the Montgomery Auction and Commission Company of 12,497 packages, as follows: 1,213 packages Moyune—many attractive

chops, including seasons 1899-1900; 1,598 boxes Pingsuey—invoices of all grades, including new crop 1899-1900; 50 half-chests Japan; 146 half-chests Japan—basket-fired and sundried, handsome leaf; 25 half-chests Japan Dust; 883 half-chests and boxes Congou—new seasons and including finest first crop Panyongs; 240 packages India, Java and Ceylon Pekoe—a large variety, including all grades; 1,157 half-chests Foochow—a variety, including large, attractive lines and very handsome leaf teas; 5,793 half-chests and boxes Formosa—an unusually attractive offering, including many fancy, rich summer and autumn crop invoices; 1,392 packages Formosa—new crop, seasons 1899-1900.

COCOA.

Auctions on Tuesday offered 6,376 bags, which quantity experienced a quiet demand, only 2,450 bags selling at rather irregular rates, Caraquez Guayaquil appreciating 1s, whilst other kinds, where any change was noticeable, were easier. Of 1,609 bags Trinidad offered 550 bags sold, very fine at 78s 6d, middling to good 74s 6d to 77s, or rather in buyers' favour. Grenada very quiet, barely 90 bags selling out of the 839 bags catalogued, at 66s to 68s for good to fine and 64s for fair. 30 bags fine Demerara brought 67s 6d. Odd lots of Jamaica and Dominica sold at 63s 6d to 64s 6d. Guayaquil in good request, and of the 2,420 bags brought forward about 1,600 bags were placed at 68s for Arriba and 66s to 67s for Caraquez, the latter showing a 1s improvement. 16 bags country damaged Bahia found a buyer at 60s 6d. 70 bags Colombian, 130 bags Venezuelan, and 308 bags Haiti passed the hammer unsold. Of 330 bags African only 30 bags fine sold at 64s 6d. Ceylon very quiet, but no change in price occurred; 468 bags offered and 135 bags sold—Native, fair to good at 61s to 65s per cwt. Private business includes 100 bags Grenada at 66s to 68s; 250 bags Bahia at 64s; 100 bags Puerto Cabello, fine at 130s to 145s, fair small 77s 6d; and 600 bags Guayaquil, Caraquez at 66s 6d to 67s, and Arriba at 68s to 72s per cwt.

Import, Home Consumption, Export and Stock of Cocoa in London are as follows:—

	1899.	1898.	1897.	1896.
	Bags.	Bags.	Bags.	Bags.
Imports, B.P. ...	115,700	115,777	107,779	118,744
Foreign ...	76,806	105,329	74,541	62,964
Home Con., B.P. ...	74,787	93,211	79,529	70,303
Foreign ...	52,830	56,629	52,102	48,669
Exports, B.P. ...	41,355	31,719	44,092	37,036
Foreign ...	27,261	27,185	45,852	29,829
Stock, B.P. ...	45,142	50,986	62,033	77,225
Foreign ...	49,289	55,015	36,805	62,007

PEPPER.

BLACK.—The market has been firm this week, with business at full rates, but the tone at the close is quiet. Singapore has been sold on the spot at 5¾d to 5 13/16d for fair, with parcels near at hand at 5 7/8d, and February-April at 6⅛d. Sales of good Tellicherry at 5 15/16d. In all about 100 tons sold.

Auctions on Wednesday offered 361 bags Singapore, 60 bags Tellicherry and 6 bags Ceylon, which retired unsold except 4 bags good heavy Ceylon which brought 5½d per lb. 389 bags chests and dust sold at 24s per cwt.

WHITE has ruled very quiet and sales have been small. On the spot sales of fair Singapore at 8 7/8d, fair Siam at 8¾d, and fair Penang at 8 7/16d to 8½d. Of Singapore, November-January shipment, about 20 tons have been sold at 8 7/8d per lb.

At public sale on the 22nd instant 280 bags Singapore were bought in at 8½d to 10d, also 81 bags Siam at 8 7/8d. 10 bags Ceylon realised 9⅛d for fine small and 8 7/8d per lb. for brownish.

GINGER.

COCHIN.—The advance in cut descriptions continues, auctions registering a further rise of 2s to 4s per cwt., but there has been no enhancement in the value of rough. Catalogues embraced 35 cases 565 bags, which modest supply was very well held; sales were only 18 cases 142 bags at 82s for bold and medium roughly cut and scraped, 50s to 50s 6d for medium—some small ditto, small cut and scraped (bags) 33s, good cuttings 19s, bright medium much small washed 27s, dull medium and small washed rough, mouldy and wormy 25s, dark and mixed shrivelled 22s per cwt. The private sales are about 700 bags mouldy and wormy washed at 25s 6d to 26s per cwt.

JAPAN is quoted at 24s per cwt.

JAMAICA.—Of 119 barrels offered only one lot sold at 64s per cwt. for good middling.

CARDAMOMS.

No fine quality was offered to-day, and where business was effected lower rates were accepted. Ceylon-Mysore sold at 3s. 3d. to 3s. 4d. per lb. for good medium pale; medium dull long, 2s. 9d. to 2s. 10d.; small pale, 1s. 10d.; long brown lean, 1s. 8d. to 1s. 9d.; splits and pickings, 1s. 8d. to 1s. 11d; Ceylon-Malabar, brown long, 1s. 10d.; Wild Ceylon, 3s. 8d. to 3s. 10; Tellicherry were held for 2s. 2d. per lb. Seeds, 2s. 1d. to 2s. 5d. according to quality.

CINCHONA.

The Chemist & Druggist says:—The bark-auctions to be held at Amsterdam on December 7 will consist of 7,127 packages weighing 606,704 kilos., divided as follows:—Ledgeriana, 451,907 kilos.; succirubra, 86,574 kilos.; hybrid, 67,728 kilos.; and Calisaya, 495 kilos. The stock in first-hands at Amsterdam on November 14 consisted of 2,429 packages Government bark, and 9,059 packages private bark, including the quantity to be offered at auction.

The shipments from Ceylon for the week ending October 31 were 17,949 lbs.; and from January 1 to October 31 they were:—

	1899.	1898.	1897.	1896.
Lbs.	552,589	764,408	611,926	1,231,359

QUININE.

QUININE.—Has been in little inquiry, and second-hand prices in consequence have receded quite ¼d. to ¾d. for December delivery since last week. On Wednesday there were sellers at 1s. 1¾d. for December delivery, and March at 1s. 2¼d.

(AVERAGE FOR ALL INDIA 8·19d.), November 24th.

GARDEN.	Total.	Average.	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted.		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings, Dust, and Various.	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.
Neilgherry ...														
Pykara Falls ...	122½c	7	...	...	122½c	†7	...	...	...	...	...	...	...	...
Travancore	**761**	**6·72**												
Bison Valley ...	60	6¼	...	...	34	†6½	26	†6½	...	...	...	...	...	...
Bon Accord ...	105 p	6¾	...	...	36	6¼	35	7	17	6¼	2	6½	15½c	5 6½
Braemore ...	91 p	6½	...	...	36	6¼	28	7	...	...	19	5 6¼	8½c	5 7¼
CMR ...	40	6½	...	...	18	6¼	20	7	...	...	2	5½	...	
Home ...	138½c	6½	...	...	59½c	6½	64½c	6½	...	...	11½c	5½	4½c	5½
Invercauld ...	86 p	6¾	...	...	25	6½	47½c	7½	9	6	5	6	...	...
Sth Trav Co Ven ...	139	6¾	...	...	57	6¾	50	†6½ †7½	27	6½	...	...	5	6
Vembenard ...	102	7¼	...	...	37	7	47	7¾	...	...	10	7	8	6½
Wynaad														
Rechmond ...	30 p	7¾	13½c	10½	6	7	...	...	11	6½	...	...	...	...

PLANTING OPINION.

A WEEKLY JOURNAL.

WRITTEN BY PLANTERS FOR PLANTERS.

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DOMESTIC OCCURRENCE.—The fee for inserting a domestic occurrence will be *One Rupee* for each insertion, payable in advance.

N.B.—Remittance should be sent to E. C. Duff & Co., Proprietors, "Planting Opinion," Agra Bank Buildings, Madras.

SEASON REPORTS.

TO OUR SEASON REPORTERS.

Please post your next reports to reach Madras on Friday, the 5th proximo. Season reports should be sent direct to the Printers, Messrs. HIGGINBOTHAM & Co.

Coorg.

POLLI BETTA, 18th December.—*Weather.*—It is cloudy, dull and chill to-day. Previously it had been bright and chill, and the East wind blowing strongly. There is a cessation of wind to-day. *Crops*—nearly all gathered; mostly under estimates. Pruning is progressing. Some estates have paid off. Others will be doing the same by the end of the month and first week in January. *Plant Diseases.*—There is still some leaf-disease present. *Labour*—has been very plentiful this season. Prices of grain continue high. *General Health.*—Good.

THE CHRISTMAS HOLIDAYS.

In consequence of the Christmas and New Year Holidays, there will be no issue of this paper on Saturday, the 30th instant. The next number will appear on the 6th January, 1900. The Editor takes this opportunity to wish readers, one and all,

A Happy Christmas

. . AND . .

A very Prosperous New Year,

with good crops, higher prices, reduced cost, enhanced Exchange in Brazil, fewer subscription lists, and an abundance of all other things good, an absence of all others unwelcome.

COFFEE AND THE PLAGUE SCARE IN BRAZIL.

Out of evil sometimes springs good, and there appears to be no doubt that coffee-planters are indebted in some measure to plague and rumours of plague for the partial recovery lately noticed in prices. The papers that reach us from Brazil are freely interspersed with references to the bubonic pest, and allusions to the plague may be said to pervade all their remarks. There seems to have been no outbreak of a dangerous character, and Santos has perhaps been the head-centre. There has, we are informed, been no hurry or panic. Nevertheless, there certainly was a scare that helped speculation if it did not disorganize trade, and the very precautions meditated with regard to the pest, must have exercised a deterrent influence on trade. The good people of Santos have been very reluctant to admit that the plague was amongst them. It was, however, merely the *name* they quarrelled with. That some frightful disease was at work in their midst, was readily admitted. Despite denials, reports spread that it was impossible for coffee to be received and shipped at Santos. There was no truth in these reports; yet, doubtless, some portion of them would be credited, and the "bulls" would take advantage of this. On 28th October last, the Rio exchange market was, according to the *Brazilian Review*, "ripe for a rise," which was only kept back by fear of eventualities. A week later the same paper remarked: "The coffee situation is looking wonderfully better than only a month or two ago, and, if Brazilian planters will only put their shoulder to the wheel and give up Paris and such luxuries, we have no doubt that they can make it pay very well indeed at prices such as are ruling at present without monopolies or any nonsense of the kind."

Natural trade conditions being favourable to a rise, rumours of plague have, so to speak, been seed cast upon fertile soil; though they have yielded profit, not plague. Again, even in distant Brazil the effect of the Transvaal War has been felt, and has exercised some effect on exchange. Helpful to the Brazilian coffee-planter this is indirectly harmful to his rival in India. These, however, are but minor matters, after all. The great factors of consumption and production are still the most potent forces in the field, and upon them will depend the future of prices. In regard to these matters we may quote a few remarks. Planters in Minas are said to be feeling the pinch more than others, and when they are invited to accept an increase of direct taxation in the form of a land-tax with a view to an ultimate reduction of the indirect export duty on coffee, they naturally enter a strong protest. They are protesting just now. Perhaps they have been somewhat pampered in the past, for the *Review* says: "What planters want in reality is not mere fair treatment but favours in the shape of loans, exemption from taxation and other privileges that they cannot get. If they would all unite and form a party to cut down expenditure, provincial and federal, they would soon see their taxes diminish; but so long as expenditure is kept up on the present scale the taxes must be paid, and, as there is nothing else to pay with but coffee, out of it it must come in some form or other, direct or indirect. The key of the situation is in this, that you cannot eat your cake and have it too."

Now as regards prospects of production. It appears that labour troubles are not so great as was asserted some little time ago. Statistics of passengers leaving the port of Santos show a decrease rather than an increase in 1899 as compared with 1896–98. The extraordinary exodus of Italian labour that we heard about not long ago cannot, therefore, be taking place. Again, crop reports dated 28th October state that receipts have been liberal for this time of the year, especially considering the enormous arrivals of the previous months. Reports from the interior are favourable, "as it has rained all over the country for some time, and we hear that a third flowering has very well taken. From some districts, like the North line, reports are spread of a very large yield for next year, whilst this year's is small. Other districts report a medium or regular crop only, but nothing decidedly bad or unfavourable has so far transpired." Advices of the 7th ultimo refer to a revival of the much-debated project of a coffee trust on a big scale, but matters have not yet assumed a definite shape. The general tenor of advices is to the effect that production on a very large scale must continue for some years at least, so that consumption must lag behind a little unless some great change occurs. There has been an apparent gain on the part of consumption of late, and many of our readers have had their hopes revived by stimulating reports of deliveries. There is a good deal to be said, however, on the side that Messrs. W. H. Crossman & Co. have taken in the letters recently published in our columns. We would recommend coffee-planters to prepare for the worst while hoping for the best, and to bear in mind that the key to success, if success is to be attained at all, is most likely to be found in Economy.

RAILWAY CARRIAGE OF TEA AND COFFEE IN THE UNITED KINGDOM.

The agitation regarding the 1-lb. draft has caused men's minds to turn to a consideration of methods of effecting economies with respect to the delivery of both tea and coffee as between estates and consumer. At a recent meeting, the Birmingham Grocers' Association resolved that a deputation be appointed to wait on the railway companies with the view of obtaining a revision of the rates for the carriage on tea and coffee. The mover said the time was ripe for them to approach the railway companies to see if they could not get some concession in the matter of the charges made for the carriage of tea and coffee. The present rates had been in existence, he believed, for about fifty years, and when they came into force no doubt they were fixed at the rate charged now, namely, 34s. for tea, which was then sold at the enormous price of 4s. to 6s. per lb. Coffee was carried at 22s. 6d. now, and this had not varied notwithstanding the great alteration in price. The risk connected with the conveyance of tea was much less than formerly, because it was sent in much more substantial packages than at the time when the rates were fixed. Besides, they must remember in this connection the low prices at which the tea could be obtained. He thought the railway companies might meet them by reducing the charges because of the enormous quantity of tea which was now sold as compared with years ago. There were many other articles on which the railway companies charged what he considered to be excessive rates. Tea was one of the chief articles which a grocer brought to the front and disposed of, and he thought they might approach the various companies and bring before them some of the arguments he had cited to show the need for some concession.

In the course of the discussion that was followed, it was

observed that years ago tea was sold at 4s. to 6s. per lb., whereas the present price was from 1s. to 2s. There was much more sold than in times past when the rates were high. One speaker remarked upon the very small risk which the companies ran in carrying tea now as compared with the time when he was a young man. There was then an immense lot of green tea sold, and it often came in flimsy packages. Now, however, tea was securely packed. The carriage on coffee from Liverpool was 1s. 1½d., and on tea 1s. 8½d. per cwt. Although the charge on tea was above that of coffee there was less risk in carrying the one than the other. It was further argued that in every chest of tea there was 33 per cent. of wood and lead, and they had to pay at the rate of 1s. 1½d. and 1s. 8½d. per cwt. for the carriage of this.

TOBACCO.

III.

OLD TIME METHODS OF CULTIVATION IN INDIA.

In the years 1800-1801 Dr. Francis Buchanan, M.D., visited Mysore, by order of the Viceroy of India, to investigate the state of Agriculture, &c. The following extracts from his report contain a good deal of information as to native methods of cultivating tobacco :—

IN MYSORE.

"In the neighbouring districts of Garuda-giri, Banawara, Gaduru, Harana-hully, Honawully, and Chin-raya-pattana, the cultivation of tobacco is very considerable. It is exported in large quantities to all the countries towards the North and West. It is sown in the dry field, cultivated for ragi and other similar grains, of which a crop must intervene between every two crops of tobacco. When the season proves very wet, it cannot be cultivated, and it requires a good ragi soil. A few small stones do not harm, but it will not grow on the hard soil called *Darray*; and, in fact, the soil of the first quality is that usually employed, though sometimes the tobacco is planted on the best fields of the second quality. In the three months following the vernal equinox, the field ought, if possible, to be ploughed ten times ; but some of these ploughings are often neglected. After the fourth or fifth time, sheep and cattle must for some nights be kept on the field for manure. During the last fifteen days of the second month after midsummer, small holes are made throughout the field. They are formed with the hand, and disposed in rows distant from each other 1½ cubit; and in every hole a young tobacco plant is set. This being the rainy season, the tobacco requires, no watering, unless during the first ten days from its having been transplanted, there should happen to be two successive fair days. In this case, on the second fair day, water must be given with a pot, on the fifteen day a little dung is put into each hole, and the field is hoed with the *Cuntay*. Every fourth or fifth day, until the tobacco is cut, this is repeated, so as to keep the soil open and well pulverised. At the end of a month and a half, the top shoots of the plants are pinched off, and every eight or ten days this is repeated ; so that six or seven leaves only are permitted to remain on each stem. In the month preceding the shortest day, it is fit for cutting. The stems are cut about four or five inches from the ground, and are then split lengthwise ; so that each portion has three or four leaves. These half stems are strung upon a line, which is passed through their root ends ; and then for twenty days they are spread out to the sun and air ; every third day they are turned, and they must be covered with mats should there happen to be rain ; but at this season that seldom comes. The tobacco is then taken into the house, put into a heap, and turned four or five times, with an interval of three days between each time. It is then fit for sale, and by the merchants is made up into bundles, which include the stems. It is sold by weight ; and on an average the farmer gets one Sultany pagoda for every four maunds, each containing 40 seers of 24 rupees weight. This is at the rate of very nearly a penny a pound, being 9s. 3½d. a cwt. In order to prepare the seedlings, a plot of ground must be dug in the month which precedes the longest day. It must be then cleared from stones, and separated by little banks into squares for watering, in the same manner as in this country is done to kitchen gardens. The tobacco seed is then mixed with dung and sown in the squares, which are smoothed with the hand, sprinkled with water, and then covered with branches of the wild date. Every third day it must be watered. On the eighth day the plants come up, and then the palm branches must be removed. If the plants be wanted soon, they ought to have more dung, and to be kept clear from weeds. With this management they are fit for transplanting in from a month to six weeks. If they are not wanted for two months, or ten weeks, the second dunging is omitted, and the growth of the plants is checked by giving them no water for eight days after they come up."

"A Wocula of ragi land plants four thousand tobacco stems, and in a good crop produces 16 maunds, worth four Sultany pagodas. This ground would sow one Colaga of ragi, and produce two Candacas, or forty-fold, worth two pagodas. The Colaga or Wocula-land, of the first quality used for tobacco, pays a tax of one pagoda ; of the second quality, it pays three-fourths of a pagoda ; of the third or worst quality, it pays half a pagoda. I measured a field said to require one and half Colaga of ragi for seed, and found it to contain 15,000 square feet. The Wocula land, therefore, should contain 100,000 square feet ; but, if a Wocula plants 4,000 tobacco stems at 1½ cubit distance, which I found to be the actual thickness, more than one-fourth of this extent cannot be allowed for it. The number of 4,000 plants, that can be put in a Wocula of land, was afterwards confirmed to me at Jamagullu. I am quite uncertain, however, whether the actual measurement, or a calculation founded on the number of plants, ought to be preferred. By the former the acre of the first quality of land would pay a little more than 3s. 6d. as land tax, and would produce 169 lbs. of dried tobacco worth 14s. 0½d. ; or it would sow almost two gallons of ragi seed, and produce almost 10 bushels worth 7s. 0¼d. On the other suposition, the rent, seed, and produce would be four times as great ; but that would render this land almost as valuable as rice ground, which cannot be the case."

Of another part of the country, Dr. Buchanan remarks that a crop of grain is always procured in the course of the year from the same ground as that on which a crop of tobacco is raised.

IN COIMBATORE DISTRICT.

Passing through the Coimbatore District, Dr Buchanan says of one locality :—

"Tobacco is cultivated not only in gardens, but also in rice-land and dry-field. In the first and last cases, the cultivator pays the usual rent. When it is cultivated on rice-land, the State gets one-half of the produce. When raised on dry field, the water must be brought in pots from the nearest well. In the month preceding the summer solstice, the field

is ploughed fourteen or fifteen times. In the month following, furrows at the distance of 2 cubits are drawn throughout the field, and are filled with water. In these, young tobacco plants from the seed-bed are placed, at 9 inches distance, and a little dung is put at their roots. The young plants are then covered with broad leaves, and for four times are watered once a day. The leaves having been removed, the plants for three times gets water once in four days ; and even again on the twentieth day, should the rainy season not have then commenced. At the end of the month the whole field is hoed, and the earth is thrown towards the plants in ridges. At the end of the second month this is repeated, and at the same time all the leaves, except from six to nine, are pinched from every plant ; and all new leaves, that afterwards shoot from the centre, are once in eight or ten days removed. When it begins to whiten, the tobacco is fit for cutting. After having been cut by the ground, the stems are allowed to lie on the field until next day, when they are spread on a dry place nine nights. On the tenth morning some grass is spread on the ground ; on this heaps of the tobacco are placed, and the roots are turned towards the circumference. The heap is covered with straw, and pressed down with a large stone. In these heaps the tobacco remains for nine days. The stems are then removed from the leaves, of which from six to ten, according to their size, are made up into a small bundle. These bundles are again placed in a heap, covered with straw, and pressed with a large stone. Every evening the heap is taken down ; and, each bundle having been squeezed with the hand to make it soft, the whole is again replaced as before. On the fifth evening the tobacco is spread out all night to receive the dew. Next day the heap is rebuilt, and this process of heaping, squeezing, and spreading out to the dew, must be in all performed three times ; the tobacco is then fit for sale. The larger leaves of this tobacco seems to me to be well cured for the European market, being not so dry as usual with that cured in India, but moist and flexible: of the flavour I am no judge. A Wocula land in a Tarkari garden produces 20 maunds of cured tobacco, worth according to the merchants, 140 fanams. According to this, an acre produces about 6 cwt. 2 qrs. 25 lbs. worth £61 15s. 8½d. The cultivators, however, only value their tobacco at 5 fanams a maund. The tobacco is cut in the first and second months after the autumnal equinox. For three successive years, three crops of tobacco may be taken from the same field : but, before a fourth crop, some other article must intervene for at least one year ; and after this plant, even in gardens, no second crop is admitted.

NOTES.

The Indian Tea Association (Calcutta). The Proceedings that we publish to-day are full of interest to South Indian Planters—coffee as well as tea men—and should be perused attentively.

Systematic Botany. Anatomists and students of development are beginning to find out, says the *Gardeners' Chronicle*, that no one set of characters is sufficient for classificatory purposes, but that all must, so far as circumstances allow, be taken into consideration.

Tempting Customers! A novel departure has been made by Alderman Duckworth, M. P., Grocer, Rochdale. To every customer in exchange for 5s worth of tea checks is given a coupon entitling the holder to a free cup of tea and plate of bread and butter at the firm's restaurant.

The Liquoring Merits of Coffee. A correspondent suggests that a topic of interest would be the liquoring qualities of the Liberica-Arabica Hybrid. Coffees are now bought more on their liquoring merits than on mere appearance ; and the point is therefore an important one.

Orange Hill Estate, Ragama. The auction sale advertised for 15th instant was not a success. Mr. Somerville, the Colombo auctioneer, announced at the beginning of the sale that no bids under Rs.65,000 would be accepted, and in the event no bid was made, so that the estate was bought in at that figure.

The London Tea Market. Cabling on the 15th instant, Messrs. Gow, Wilson and Stanton reported that competition was general and well distributed ; Fair liquoring Ceylon Pekoe Souchong was quoted 6¾d. and the average of Ceylon Tea for the week 7¾d. (⅛d.up). Of 22,000 packages Ceylons offered 19,000 were sold, while of Indians 41,000 changed hands out of 46,000 offered. The average of Indian Tea for the week was 8⅜d. (⅜d.up).

Calcutta Tea Sales. For the sale on 16th instant, 15,600 packages were catalogued. Nearly all found buyers. Quality remains about the same. There was brisk bidding throughout, except for broken pekoes which were still inclined to be a little neglected. Common and medium pekoe souchongs close about two pies dearer. Other grades and good liquoring kinds were fully firm.

Agricultural Bulletins (Madras). Vol. II. Bulletion No. 36 deals with "A Sugarcane Pest" in Madras, and is principally a resumé of reports by Dr. Bourne and Mr. Barber. Vol. II. No. 37 touches upon the Ground-nut (*Arachis hypogea*) and gives in compact form a great deal of information about this commodity. Both bulletins are from the pen of Mr. C. Benson, Deputy Director of Land Records and Agriculture, Madras.

Cocoa. On another page we give an interesting report on the analysis of some Commercial Cocoas by Mr. John Hughes, F.I.C. From this it appears that the amount of fat allowed to remain in the principal makes varies from 25 to 37 per cent., while Dr. Tibble's Vi-Cocoa is found to contain less nitrogen and more indigestible fibre, in spite of its restorative power, than ordinary cocoas. Mr. Hughes adds remarks on the fineness of granulation as well as on the solubility of cocoas ; he finds none soluble to more than 30 per cent. of the whole !

Trade on Economic Principles. A wholesale Tea and Coffee firm in England has, as a "new experiment in commerce," opened a retail stores department in order to "appeal to individuals to help us in our experiment . . . in the working out in industrial life of these principles of mutual helpfulness between all classes which modern Economists tell us make for the true wealth of the community, rather than the false prosperity of a few at

the expense of the rest." Enterprising planters will be trying next to book *the cooly* on co-operative principles, in a spirit of "mutual helpfulness."

The Tea Plant. From a note we learn that Professor Krassnow, a Russian, expressed the opinion that the tea plant must be indigenous, not only to Assam, but to the whole monsoon region of Eastern Asia, where it grows wild as far as north the islands of Southern Japan. In his book on the "Tea Producing Districts of Asia," he brings out the conclusion that the tea-plant, since the remotest times, formed two varieties, Assam and China; the first growing wild in India and the other occurring still wild in Southern Japan, where it was discovered by the aborigines after the introduction of the cultivated form from the south-west.

Colombo Tea Sales. At Colombo on the 13th instant about 11,196 pkgs. = 856,488 lbs. were offered, of which about 9,106 pkgs. = 669,958 lbs. were sold. Despite the quality of teas offered this week, showing a further falling off, prices remain firm for all grades, especially for leaf teas, which are in strong demand. There were very few good invoices offered this week, says the *Times of Ceylon*. We note, however, that 3 boxes of Bargandy silver tips were offered among the small breaks by Mr. Barber, of Messrs. Forbes & Walker, and were all bought by Mr. C. S. Antony. Of the three boxes the 1st weighing 7 lbs. was sold for R2·50 a lb. and the other two marked *A* and *B*, each weighing 4 lbs., were sold for R4·25 and R4. The total amount realised by the 3 boxes was R50·50.

Ceylon and the Paris Exhibition. The following is a list of coffee, cacao, vanilla, and cinchona exhibits received up to the 16th instant:—*Coffee.*—One bushel parchment from Cabaragalla estate, through Mr. R. Coombe; one bushel parchment from Golaba and Kelburne estates, Haputale, through Mr. A. C. Chamberlain; and one case Liberian coffee from North Matale. *Cacao.*—Two cases from the Anglo-Ceylon and General Estates Company, through the Chamber of Commerce; and one case from North Matale. *Vanilla.*—One sample from the Anglo-Ceylon and General Estates Company, through the Chamber of Commerce. *Cinchona.*—From Blair Athol estate, through Mr. F. G. A. Lane; from Ohio estate, through Mr. G. S. Anderson; and from Kanapediwatte, through Mr. G. Christie.

Tea for the Troops. The *Ceylon Observer* holds that "there is nothing gained by talking vaguely of sending tea to the troops in South Africa; *one* regiment should be selected, and surely the most fitting recipient is that one which was most recently stationed here, more especially as it has not been amongst the least serviceable right from the earliest stages of the war." The allusion is to the 1st Loyal North Lancashires. Our contemporary adds:—"Let the gift be coupled with larger ones of 50 or 100 lbs. to Mr. Rhodes and to Colonel Kekewich himself; and the same amount to Sir Geo. White—the whole being topped with a quantity of 250 or 500 lbs. for Sir Redvers Buller, the foremost of them all. Now, however, it will be necessary to add, say, 1,000 lbs. for Lord Kitchner and 2,000 lbs. for Lord Roberts, and perhaps expedient to have 5,000 lbs. in readiness for Lord Wolseley!

Brazilian Exchange. We publish to-day some very interesting remarks of the *Brazilian Review* on "Brazilian Finance," in which a good deal is said about Exchange in Brazil. In its Exchange market report, dated 31st October last, the same paper says that "it seems more likely profit is to be made out of a 'bull' than a bear deal, always bar accidents like pestilence or war that upset the best of calculations." Our contemporary persists in its opinion that "the factors of exchange are favourable and are likely to be still more so before the close of the year"; but admits, "still, the situation is delicate and liable at any moment to be upset by panic." It is stated that "dear gold (in London) is always a bear factor of Exchange in Brazil. Fluctuations of late have been sufficiently rapid: $7\frac{1}{16}$ on 23rd October, $7\frac{9}{32}$ on 24th idem and again $7\frac{1}{16}$ on 28th idem.

A new Fibre. A correspondent of the *Jornal do Commercio* of Rio draws attention to the fibre of the Guaxima, a plant of the family of "malvaceas" which grows wild everywhere, but is found in largest quantities on the low-lands near the sea. It is believed that this fibre would prove an excellent substitute for jute, which is all imported, and when cultivated prove the basis of an important industry. The threads are long and very strong and will resist the action of water; the fibre being used by fishermen on the coast for their nets, which last for years if soaked in a tincture of aroeira bark. The process of elaboration of the guaxima fibre does not require long maceration in vessels, as is the case with jute; immersion for a few days in running water being sufficient to loosen the green outer bark with the hands after which the rods should be exposed to the sun in order to dry, the woody part which then contracts and allows the fibres to be easily separated. A sample is to be sent to England to be spun and woven, and its uses and application thoroughly investigated.

Piper Nigrum in Trinidad. Some few years ago an attempt was made to grow and fruit *Piper nigrum*, which was partially successful, and ripe berries in fair quantity were produced. Many of the vines planted did not assume the fruiting stage. The Trinidad Botanical Department's Bulletin for October says:—It was observed that during the vegetation period the leaves of the vines were *cordate* in form, but that when fruiting is about to commence it may be known by the difference in the shape of the leaves, as the plant is then clothed with leaves which are decidedly *lanceolate* in form. As soon as the latter appear the flowers follow. Grown as we now grow it, the crop sets and ripens readily, and we are able to obtain yearly supplies of well ripened berries. These have been in some demand for seed purposes with European seedsmen, our vines being the most easily available, and probably the only source of supply in his hemisphere. The vines are planted at the foot of trees of *Erythrina corollodendron* which are in rows 10 feet apart and 6 feet in the row. There appears to be no special difficulty in growing regular crops, as we have had them under these conditions for the past four years. Much has been said about male and female forms of vine, but it has been observed here that when planted in a proper place and under suitable conditions, all the forms of *Piper nigrum* will seed freely. There is a form, however, which if propagated will fruit when in a diminutive state and does not climb, which produces berries at one foot from the ground.

"Mixed" Coffee. At a recent meeting of the Metropolitan Grocers' and Provision Dealers' Association, Mr. F. W. Beck, Solicitor to the Federation of Grocers' Association, delivered an address on 'New Legislation on Adulteration,' and explained the new Food and Drugs Act. In the course of a discussion that ensued he was asked if it had not been decided in the courts under Section 8, with regard to coffee and chicory mixtures, that where such mixture had been turned out in a cup, and the words had not been in the view of the customer, a person might be convicted. Mr. Beck said with regard to the notice of mixture it was quite true that in some cases there had been convictions where coffee mixture was wrapped in a screw or cup, and the notice was obscured, but a part of the section said, "The magistrate is entitled to find whether or not the mixture is intended fraudulently to increase the value," and magistrates would sometimes say it was clear that a fraud was intended, and would convict. In reply to another question, Mr. Beck said that, as long as the wrapper was properly marked, there was no need to give verbal information, but he thought it was advisable to print on coffee-mixture wrappers not only that it was a mixture of chicory and coffee, but also the words "French coffee," as it had been held in the High Court that that was a sufficient disclosure.

The United States and Brazil. A Washington report, dated October 16th says :—The firm attitude of the Administration in the matter of tariff concessions from Brazil is bearing fruit. It will probably not be necessary to impose a retaliatory duty upon coffee imported from Brazil, as was proposed if that Government continued to discriminate in favour of the millers of the Argentine Republic. Word has been received at the State Department that a report has been made by a committee of the Brazilian Congress in favour of some concessions upon the natural products of the United States and some manufactured products, which will be very satisfactory to our Government if the report is adopted by Congress and becomes a law. . . The two years allowed by that law after its passage on July 24, 1897, for the completiom of reciprocity, arrangements have already elapsed, but this is not of real moment, since the President has the power without special enactment to submit reciprocity arrangements to Congress. He is not limited by the two-year clause, moreover, in his authority to impose discriminating duties on coffee, tea, tonca beans and vanilla beans from countries which impose duties or other exactions upon the agricultural, manufactured, or other products of the United States, which, in view of the introduction of such coffee, tea and beans into the United States he may deem to be "reciprocally unequal and unreasonable." Action was taken by President Harrison under a similar provision of the McKinley law against Venezuela, Colombia and Hayti, and President McKinley was prepared to take similar action against coffee from Brazil if the Brazilian Government had shown no spirit of concession. The United States is one of the chief markets for Brazilian coffee and the imposition of a duty would have seriously injured the trade.

American Tea—Again. A report on the results of the experiment at Pinehurst has been prepared by Dr. Charles U. Shepard, special agent in charge of tea culture investigations, and will soon be issued by the United States Department of Agriculture as Report 61, entitled "The Culture: Tea Experiment in South Carolina." The report states that, from the results obtained on the Pinehurst plantation, it seems probable that the cultivation of tea can be made profitable in the warmer portions of the United States in two ways. One is by establishing a plantation on the scale of the experiment at Summerville, with capital sufficient to carry the work to a point where the product can be offered on equal terms with teas holding an established place in the markets of the United States. The other is to grow tea for home use in the farm garden. In either case tea-growing can be undertaken safely only where the temperature rarely goes below zero, and where a liberal supply of water can be depended upon. There is probably no place in the United States where the rainfall is sufficient for the best results with the tea plant, and irrigation should, where possible, be provided for in growing tea. The Summerville experiment was begun on a small scale, but the planting has been gradually increased, until now over fifty acres are planted in tea. When the plants arrive at full bearing, the yield should be at least 10,000 pounds. The problem of providing labour for plucking tea leaf has been solved, so far as a steady and skilful band of nimble-fingered children goes ; but its cost is inordinately high, as compared with the Orient. It was indispensable to secure a reliable corps of pickers. To meet this condition a comfortable schoolhouse was built and a competent teacher engaged. The colored families of the neighbourhood were then invited to send their children to the school free of charge. They would be taught the ordinary branches, and would also be taught to pick tea, and so earn money to buy food and clothing. The offer was accepted, and now there is a good list of pupils to draw from.

LETTERS TO THE EDITOR.

ERYTHRINA LITHOSPERMA.

DEAR SIR,—I enclose letter from Mr. Oliver of Mysore *re* growths of *E. Lithosperma*, as he authorises me to do so. You will probably be interested in his remarks, as *Planting Opinion* will always be honourably associated in the introduction of a shade tree, that is certain to do away in future with expenditure on nitrogen. This alone would mean a vast saving to the coffee industry. I think you are wrong in assuming in your issue that mineral manures will be found necessary for *E. Lithosperma*. It is a forest tree and there is no *crop removal*, as is the case with leguminous crops, which need mineral manures to compensate for crop removal. Kindly return Mr. Oliver's letter when you have done with it.

B. NELSON.

P.S.—Mr. Oliver's experience of *Erythina Indica* agrees with mine, and his remarks about *Albizzia Moluccana* go to show that there is great difference in the value of leguminous shade.

B. N.

(INCLOSURE.)

DEAR SIR,—Just a line about the *E. Lithosperma* grown from your seeds. The first plants that were planted out here were planted in 1897 in a clearing planted in 1896. I measured one of these trees about 10 days ago and it measured 2 ft. 5½ ins. in circumference, a foot from the ground. I planted thousands of *E. L's* in 1898 and left for Home in May last, returning at the beginning of this month, and was

quite astonished to find what were open patches, a jungle of *E. L's* and the coffee looking very well under them, and, as far as I can judge, so far I think *E. L.* the very best tree for temporary shade that I have ever come across. As to its manurial properties, I cannot speak, as I haven't had the trees long enough, but I hope to make a three or four acres clearing with nothing but *E. L's* as shade trees by way of an experiment.

I planted thousands of *Albizzia Moluccanas*, thinking that they would make an ideal shade, but the sambur grazed on them and hammered them to pieces, killing most of them. The survivors, however, throve amazingly, but I have now found that coffee dwindles and becomes beautifully less under them, and I think them one of the most inimical shade trees, although beauties to look at. I am getting rid of the survivors and have to thank the sambur for their work. I trust that the *E. L.* may not turn out like the *A. M.* as it grows older, but it does not look like it at present.

I shall not require any more seed as my 1897 trees are seeding, but I thought it might interest you to know how these had done here and you are quite at liberty to publish this letter in *Planting Opinion* if you like. I tried some *E. I's*, but they don't grow like *E. L's* here ; there is no comparison between the two. Have you had any other planter's experiences of *E. L's?* Most of mine are planted at an elevation of from 3,400 to 3,900 feet.

G. R. Oliver.

THE FUTURE OF COFFEE.

No. III.

I promised last week to try and show how Indian coffee planters might increase their profits by taking a lesson from their Sao Paolo rivals. We shall benefit as much by reducing the cost of our production, as by an increase in its price ; and I cannot resist once more drawing attention to the fact that what we want *at present* is **not** an increase in the gold value of coffee. The only thing that will really check over-production in Brazil is the rehabilitation of the milreis ; which would mean, to the Brazilian planter, a further fall in the price of his coffee. Only let the milreis go up to a shilling, or a little higher, and Brazil production will receive such a check that the gold price of coffee will very soon rise. That the milreis is bound to go up, as I said in my last, I myself firmly believe ; and this conviction is gaining ground, as may be seen from the well chosen quotations in the *Planting Opinion* of the 9th instant :—First from the Brazilian Minister of Finance, who thinks that the milreis will rise to 15d., as soon as the volume of the currency is reduced to 390 or 400 thousand contos and secondly from the writer of the article in the *Moniteur des Interêts Materiels*, where the figures given seem to prove that Brazil "independently of the effect that the withdrawal of paper money. .. . . . may produce, has entered upon the period of rising exchange. As regards the effect of the withdrawal of paper money, this can only be very gradual, in view of the comparative insignificance of the notes destroyed." Without going into their arguments the fact remains that here are two men of very different opinions, coming to the same conclusion, *viz.*, that the value of the milreis is bound to rise, though they arrive at it by very different routes.

To return, however, to the Brazilian coffee planter, Monsieur Conty tells us that the average yield—generally—is 3·3 lbs. per tree, or about 1½ tons per 1,000 trees, and that this yield is maintained, in most cases, and for many years, without any manure, save the skins and husks of the coffee, which is prepared for market on the estates. There is also, though he does not allude to it, the green manure resulting from the roots, stalk sand leaves of the shrubs and cereals grown between the rows of coffee, to which I shall presently refer. He mentions one planter (manager ?) who has more than two million trees. Estates seem to be, generally, larger in Sao Paolo than is usual in India ; and, when it is remembered that the trees are planted from 12 to 16 feet apart each way (from 170 to 302 to the acre), the size of this property may be imagined. At 200 trees per acre two million trees would cover 10,000 acres, or more than 15 square miles. On this huge property the *average yield* of trees from 6 to 16 years old is said to be 5,000 lbs. of cleaned coffee per 1,000 trees (!) ; from 16 to 20 years old it is 3,300 lbs. per 1,000 trees ; and from 20 to 90 (!) years old it varies from 1,650 to 2,540 lbs. per 1,000 trees.

The trees, as I have said, are placed from 12 to 16 feet apart ; and, as soon as they are planted, they are handed over to European labourers, principally Italians, though comprising a few German and Portuguese, who take a contract to maintain them for four years. They are paid from 60 to 150 milreis per 1,000 trees per annum, the salary increasing as they go inland and farther from the town of Sao Paolo. Each man or family is also provided with a cottage, surrounded by a plot of land, on which they are encouraged to raise poultry, pigs, &c., and they are allowed to grow beans, &c., between the rows of coffee, *and to take whatever crop they can get from the coffee itself, till it is fully four years old.*

A single man looks after about 3,000 trees (12 or 15 acres); and, if he has a wife to help him, about 5,000 : and Monsieur Conty says he saw several men, who had large families, who looked after 15,000 trees, or from 50 to 75 acres ! From this it is clear that, besides the value of the secondary produce, and whatever crop he can get from the coffee till it is four years old, a single man gets 37½ milreis per month as pay ; and a family man who can look after 15,000 trees, 187½ milreis per month. As monsieur Conty says that the labourers who take these contracts are usually experienced men, who understand the business, and who have managed to save something out of their previous earnings (and often employ day-labourers to assist them), it is probable that they are able to live almost entirely on the value of the secondary produce, and to save nearly all of their pay. For it must be remembered that, although the milreis is at present greatly depreciated with reference to gold, the intrinsic value of the silver milreis is something greater than that of the rupee. The purchasing power—locally—even of the paper milreis, must be about the same as it was when it was worth 20d. in gold ; otherwise, local wages must have risen enormously (some 250%) ; but this is not the case.

Now here are two things which the Indian coffee-planter might, I think, with great advantage, copy from his Brazilian rival. The first is to plant his trees from 12 to 16 feet apart (and, where they are already planted, to cut some of them out), so that he may grow beans or other leguminous plants in between, in hopes of getting, as they do at Sao Paolo, 5½ cwts. per acre (3 to 5 lbs. of clean coffee per tree) without using manure, or at least without using nitrogen ; and the second is by giving the coolies the secondary produce (and the crop till the coffee is four years old ?), in order to secure their hearty co-operation and to give them an interest in working it to the

best advantage. It would certainly be difficult, at first, to find men amongst the coolies who would appreciate and justify such liberal treatment, but no doubt some few might be found; and, a beginning once made, all difficulty in continuing it would disappear. Monsieur Conty does not give a very detailed estimate of the working expenses of an estate, when once it comes into bearing; but he states it roughly as follows, taking the arroba (33 lbs.) of clean coffee as the unit.

	Milreis.
Cost of cultivation per arroba of clean coffee ...	2·000
Do. picking " " ...	1·600
Do. pulping and curing " " ...	·800
Do. transport to coast, including brokers' commission and export duty	2·000
Octroi dues	·060
Total cost of producing and putting on the market 33 lbs. of clean coffee	6·460

As for manure, he scarcely mentions it. He says, in one place, that they do employ it, but apparently most of them use nothing but the refuse (skins, husks, &c.,) remaining when the coffee is pulped and cleaned: and he states that one particularly go-ahead planter (an Engineer by profession and educated in France) has procured a chemical mixture from Europe, composed principally of phosphate of lime (superphosphate ?), and that the Government of the State of Rio de Janeiro, imported something of the same sort, which it sold to planters at cost price. But though superphosphate would no doubt be useful, and even a little potash on worn-out soils, it is clear that, by planting beans, &c., between the rows of coffee, they are able—at least in Brazil—to do pretty well without it.

There is a leguminous shrub very common in South India, called in Tamil *Thuggera poondoo*. It grows to nearly the size of a coffee tree. For certain reasons I fancied that it contained a good deal of potash; so—fourteen or fifteen years ago—I sent samples of the ashes of this plant and of ferns to be analysed in England. The result was as follows:—

Potash and Soda.

Fern ashes ... ... 20·76 per cent.
Thuggera poondoo ashes ... 19·97 " (besides magnesia, 6·75%), phosphoric acid, 4·90, and lime, 22·26 per cent.

As this plant is a true collector of atmospheric nitrogen (its roots being covered with nodules), and as it is also rich in potash, it would be a most valuable shrub to place between the rows of coffee, the only objection to it being that it is useless as a catch crop, the pea or seed which it yields being of no economic value.

But my letter has grown too long, so I must, rather abruptly, now bring it to a close.

COFFEE-PLANTER.

PEPPER: BLACK AND WHITE.

A correspondent, signing himself "Diogenes." goes out of his way, in the number of *Planting Opinion* for July 22, to make an attack on a paper published by me in the *Agricultural Journal of Queensland*, in which I very briefly touched upon the subject of the popular belief that black and white peppers are the products of different plants, and pointed out, necessarily briefly, that they are produced from the same plant.

When in 1887 I had the pleasure to visit your city of Madras, inquiring, amongst other things, into the culture and manufacture of pepper, I had such a favourable experience of the hospitality of the Madras people that I have every confidence in asking you, as a matter of ordinary fairplay, to insert the few remarks I have to offer on that production of "Diogenes."

In the first place, it will occur to you that this article which your correspondent endeavours to ridicule was published in a Queensland journal, and that your correspondent writes also from that country. The Queensland Press, in common with that of the rest of the world, is only too glad to give all facilities for a free discussion upon all topics of public or scientific interest, and it is only here on the spot that the true value of your correspondent's remarks about "departmental wiseacres," "longwinded screeds," &c., can be accurately estimated. But Queensland editors have a habit of asking questions, and the questions they would probably ask are, Who is Diogenes? What has he done to entitle his views to credit on this subject? Is his experience of the growth and manufacture of tropical products such as was exemplified in the career of the ill-fated Queensland Coffee Company?

It is highly probable that the answers to these questions would have very largely discounted the notice taken of the strictures of "Diogenes," and of the information supplied by him relative to his "discoveries" of species of the genus *Piper* in the scrubs of Queensland.

This kind of "discoveries" is very familiar to us. The person who is constantly discovering things well-known for generations, is the cause of a great waste of time, and can hardly complain if he is not always taken seriously, and does not meet with that prompt recognition of his valuable "discoveries" which he considers his due, and which your correspondent complains was not extended to him. "Diogenes" goes on to say that I know nothing of the existence of the wild peppers of our scrubs. Oh, yes! I have known them for a long time. My friend, the late Dr. Bancroft, of Brisbane, used *Piper Novæ-Hollandiæ* as a drug in the treatment of mucous discharges nearly twenty years ago. He describes it as "having a warm aromatic taste, rather pleasant and a benumbing effect on the tongue when applied in minute quantity."

This, and the other species of *Piper*, referred to by your correspondent were fully described by Mr. F. M. Baily in his *Synopsis of the Queensland Flora*, published in 1883. The economic features of these plants have been ably discussed, by Mr. Maiden of the Sydney Botanic Gardens, in his "*Useful Plants of Australia*," published in 1889. There are, as you doubtless know, about six hundred species of *Piper* known to botanists, but of course it is a great mistake to suppose, as is often done by imperfectly informed people, that because a plant bears a certain generic name, it must necessarily possess the properties of some other member of the same genus.

The *Pipers* of our scrubs are, in two instances, very tall climbers, flowering away on the tops of very high trees. The stem of one *Piper Novæ Hollandiæ*, is frequently three feet in girth, and has been exhibited at the Colonial and Indian Exhibition as a timber. None of them can compare for a moment, from an economic point of view, with *Piper Nigrum*. At a pinch the fruits might serve as a substitute, but would hardly pay to gather, to say nothing of cultivating.

Your correspondent complains of my "longwinded screed" about the antiquity of pepper, and its exaction from the Romans as a war tribute. This reference will be found in the *Encyclopædia Britannica, Vol. XVIII*, an authority not much given to "longwinded screeds." It is also mentioned

in that classic, *Watt's Dictionary of the Economic Plants of India*, and by the well-known authority, Dr. Dymock in a paper on *The Narcotics and Spices of India*, read before the Anthropological Society, Bombay, in 1889.

With regard to your correspondent's criticism which you print in italics, "Fancy, making white pepper out of black by simply letting it ripen before it is picked!" Of course no one fancied anything of the sort. The brief reference I made (fourteen words) was intended to show that the two kinds were made from the same plant, and not as an exposition of pepper curing, the papers being intended as a popular account of the plants in our Gardens, to evoke public interest in them and promote a more general desire to study their properties. White pepper has been made in London in considerable quantity from the black as imported from the East, by simply removing the outer coat by machinery. As I pointed out, the methods differ in different places, and the methods of "sweating," &c., are not capable of being conducted according to hard and fast lines, but like all such processes, must be regulated by local needs, experience, and limitations; but in all cases of which I have any knowledge, white pepper is made from the ripe, and black pepper from the less advanced, fruit. Surely, either yourself or one of your planter neighbours can settle this in a moment. *The Encyclopædia Britannica* says "white pepper is obtained from the same plant as the black, and differs only in being prepared from the ripe fruits." *Spon's Encyclopædia says*:—"White pepper.—This is produced by the same plant as black and is prepared by allowing the berries to ripen," and then goes on to describe one of the processes used in sweating the ripe berries. *Simmond's Products of the Vegetable Kingdom* states—"that the berry is allowed to ripen, and when gathered, immersed in boiling water, and subjected to friction." In *Simmond's Tropical Agriculture* we read, "The finest berries, in the second stage towards maturity, are selected for making white pepper." *The Weekly Drug News*, speaking of the Straits Settlements, says,—"black and white pepper grow on the same vine; the green pepper-berries, just before maturity, after gathering, turn black and make black pepper, while white pepper is obtained by gathering the berries (fire-red in colour) when fully ripe, and through long soaking in water and subsequent stirring and shaking, relieving the berries of the outer skin; after which on being dried they become 'white.'" Mr. Dobree, whose utterances on tropical products I prefer to those of your anonymous correspondent, in writing of the methods employed by the Chinese in Singapore, says—"white pepper is made from the best and ripest berries."

I may say that in 1888, I visited Singapore, and under the scientific guidance of my friend Mr. Fox, then of the Botanic Gardens there, and now of the Botanic Gardens of Pinang, I had an opportunity of noting several ways of decorticating pepper there. In a capital article which appeared at that time by a local planter in the *Singapore Free Press*, the writer says—"white pepper is made by fermenting, or more properly speaking, soaking for several days, the berries that have turned or are on the point of turning, red."

Consul A. G. Struder, of Singapore, in a Consular Report to the Imperial Government, writes "as I have been reporting on white pepper, I would briefly say that it is produced from fully ripe berries (light crimson in colour, and in size about the same as an average currant) from the same vine that yields black pepper, the latter being plucked green, before maturity."

It may be mentioned, in passing, that *Piper betel* is the plant which bears the betel-leaf or pán of India, and not *Piper "fragrans,"* as stated by your correspondent. It is not quite clear that your correspondent has the correct names of the discoveries he has made and communicated to you, because, when they were sent to the Colonial Botanist, the specimens were so meagre, and so badly prepared, that, although these *Pipers* are quite common, it was not possible to give the names with any great certainty, and your correspondent was so informed by letter at the time.

If you chose to give to the world, through the medium of your journal, these "discoveries" of plants long ago described in every flora of Australia, that is of course your own business, and no one has a right to complain. But I have a higher opinion of journalism generally, and of your paper in particular, than to think that you would willingly open your columns to ill-digested ridicule of any earnest work, and that from a correspondent who carefully conceals his identity, obviously writes under a strong sense of disappointment at the neglect shown to his transcendent abilities, and whose scorn of official sources of information is attributable to the feeling which prompted the fox to regard the grapes with such serene contempt.

Brisbane, *11th November 1899.* Philip MacMahon.

[Note.—We have to express our regret that personal remarks, such as those alluded to, should have been allowed to appear. Until their offensive character was brought to notice by Mr. MacMahon, however, we had not connected the animadversions of "Diogenes" with any particular individual. Had he attacked some one nearer Madras, we should no doubt have been more on the alert.—Ed., *P. O.*]

NITROGEN HUNGER AND COFFEE DISEASE.

It is with some hesitation and some apologies, being no other than a very interested observer and that during the last six years, that I wish to state reasons for saying that there seems every fact existing for stating that the coffee plant in East India to-day is living under one almost continual struggle for its principal food, nitrogen, producing a very high loss indeed of such important bodies as the hydrocarbons and albumenoids throughout the entire *active* system of the plant; this loss of these bodies casting it into an entirely weakened or enervated state, thereby giving a fitting soil for the germs of disease to effect an entrance and complete the further ruin of the plant on those very same bodies whose original paucity first gave invitation and allowed ingress to the disease. In no way is it wished to take no, or little notice even of the mineral matters; their also great value is recognised as affording a hardening and therefore protective value to the attacks of the disease germs on the leaf should the germs alight upon the leaf. Necessarily, the correct *balance* between the organic and mineral constituents of a system has to be maintained, and one cannot neglect either one, to suffer *too big* a deficiency, or the system may become weakened. No one would refute this. Nevertheless, you cannot but recognise, it is thought, the almost overwhelming value of the very large volume of fluid bodies, the

hydrocarbons and the albumenoids existing in the plant, since these, it will not be gainsaid, are the very *energy and strength* givers of either the animal or vegetable world, and if one may not quite legitimately call them the "fuels" of the system, as in the animal world, you certainly may call them, essentially the energy and strength givers. To deprive a system of those would leave the system in extreme weakness, or predisposition to disease. It is precisely these "fuels," so to speak, that it is believed it is possible to show are very highly deficient indeed in the sap and soluble tissue—in the blood of the tree, where the whole of the life and energy is centered therefore—not in the insoluble parts or framework, as it were, but in that portion of the tree where the real life is. I do not wish to delay on this but merely to say that those materials of such importance to plant life can be traced up as not being capable of formation within the plant on account of a non-sufficiency of *assimilable* nitrogen at the roots and a great non-continuity of this at certain times of the year and causing at those times a great lack of those essentials for plant life and imperilling the plant in these carbon bodies. At least, it is thought that these matters can be traced; and I will ask the indulgence of your readers to see if one may not prove these matters to the hilt. It is wished to lay especial stress on *assimilable nitrogen*, apart from simply nitrogen, on, that is, nitric acid, the digestible form of this constituent arising from decay of organic matter, whether it be of soil or of manure—for it is clear the digestible nitrogen is the only form one can take cognisance of and one has to enquire therefore the *rate of formation* of this and the *powers of retention* of the same in the soil. Both of which powers it is wished to show are seriously deficient when one is producing one of the most nitrogenous crops extant and under the difficulties a surface feeder experiences in a tropical climate.

If any claim exists for my writing on the subject of *Hemeleia vastatrix*, the fungus attacking the leaves of the coffee plant, it is that not only have I conferred with many authorities during several years on matters relative to this disease but direct help has been held out to me in investigating the cause and cure of disease by such authorities still further, and there seem to me now such interesting investigations on foot that *may* throw much light on the original cause of the outbreak in East India that it is scarcely thought it would not be of interest to your readers. Moreover having spent some five or six years in certain chemical manure works, allows one an extra chance of viewing the theoretical side of the question with a little more competency than would otherwise be the case. While, on the practical side, I have spent very continuously indeed every endeavour to watch the plant carefully in many various districts, under rainfalls of extreme variety and carefully noted the different behaviour of the plant on different soils or under the various manures, asking the why or wherefore of certain things.

These are my excuses, and perhaps if several authorities had not at various times offered me assistance, the subject would not be ventured on by me. I leave the whole thing open to criticism and if it cannot be shown in every way that leaf-disease *is not* a concomitant evil of nitrogen-hunger, then I take the criticisms it deserves; but I am certain it can be proved, with nothing missing theoretical or practical to accomplish it.

A part of the subject of far more interest to me, however, is the question of whether the coffee plant has not the powers of acting like the order of Leguminosiæ and some four or five other plants outside this order, in the capabilities of taking its nitrogen diet. There seems much indeed to show that this very variable plant has, on favourable conditions existing, the extremely useful powers of feeding off both atmospheric nitrogen in the pores of the soil—or off nitric nitrogen—or off both at the same time, such powers being held by not only the Leguminosiæ, but such as *Alnus*, *Elæagnus angustifolius*, *Hippophäe* and *Podocarpus*, all of which are able to thrive in soils destitute of nitrogen. See "Technical Mycology," Dr. Lafar, 1898. The subject is in its infancy, *quite*, and, contrary to my critics in the *Madras Mail* who wished to show that there was nothing for resting this belief upon, I wish to show that there is everything nearly demanding that this vegetation has these powers, and moreover that it was the sudden failure of the excrescences on the roots or their bacterial contents, which threw the plant as dependent, or nearly entirely dependent, on the nitric of the soil or of manure.

Scarcely could any plant be more capable of changing its character under changes of environment than the coffee tree, perhaps. There is no constancy in the composition of the coffee bean, either in total mineral matters, in proportion of one mineral constituent to another, or, if one comes to the organic materials, there is in them, if possible, more variability than in the mineral or ash constituents. There would be nothing contrary to reason for believing that this plant *has* that exceedingly useful power of obtaining most of its nitrogen diet from the atmospheric nitrogen in the pores of the soil. On the contrary much seems to prove that such powers *can exist* in the plant, and that these fungi on the roots, after a lapse of living in uncongenial soils for years, can fail, driving the plant to a dependence on that at all times very frail and fugitive source of nitrogen—nitric acid. Nor can it be doubted that the application of artificial manures, especially such perhaps as superphosphate, nitrates, sulphate of ammonia, would help the soils to hasten the failure and extinction of the root fungi and drive the tree to a sole dependence, or nearly sole dependence, on that fugitive source of nitrogen—nitric acid, by, I mean, the showers of concentrated acids more or less, which would pour upon the fungi, or their bacterial contents, and which once the unhealthiness of these was once started, and once therefore the source of atmospheric nitrogen began to fail thereby, there would naturally arise thereby a certain necessity of the more constant and continued applications of manures rapidly yielding nitric acid for the plant, again in its turn injuring the root fungi and again in the further failure of these calling for more nitrogenous manure, in time therefore becoming, perhaps, entirely a depender on soil or manure nitrogen, *i.e.*, nitric acid. This is entirely in accord with the well known ways of Leguminous and the other plants before mentioned, and it is obvious to anyone who will consider for a moment how distasteful and finally disastrous would be the slow and steady flow of various acids on the root fungi arising from the decay of a forest soil's organic matter or again from the far more concentrated acids arising from the decay of artificial manures. I may be entering a little too much into detail here on a portion of this subject which necessarily should come after first proving the first point, *i.e.*, the depend-

ence of leaf-disease on a state of nitrogen-hunger at the roots; nevertheless it is interesting to notice that coffee after existing and healthily flourishing in Ceylon for a hundred or more years in Ceylon, fed practically by no manures whatever, producing those yearly crops of 5 cwts, 7 cwts. and 10 cwts. per acre, was in the year 1863 beginning to be treated with certain amounts of artificial manures. In the year 1860 the importation of manure to the Island of Ceylon was valued at £4,050; in 1863 it rose to a value of £20,280; in 1870 £73,866. This latter date was just about the date of the first outbreak of disease. It is strange, if it is not significant, that coffee healthily flourishing in the Island for, perhaps, a century or more should be attacked by disease at a date so very nearly coincident with the introduction of artificials. Neither would one anticipate the quite immediate extinction or unhealthiness of these bacteria in the excrescences by manures giving strong acidity by their decay, but after a short series of years their reverse of beneficial result on the bacteria would be felt, and one would not be surprised at their suppression by the evil effects on them of strong acid-giving manures, especially when you come to forest soils weak in alkalies and further again in dealing with a surface feeder. I may have laid too much stress on the coincidence of leaf-disease appearing so soon comparatively after the introduction of artificials, and, though not wishing to touch upon matters of soil here, *it is to this*, more than to artificials, it is wished to attribute the perhaps gradual declining strength and health of the proposed bacillus in the excrescences, and that the climax was reached only after the introduction of artificials. The bacillus radiciola, the bacillus inhabitating excrescences or nodules, is a lover of oxygen existing as much in the atmosphere above as in the pores of the soil. Anything therefore retarding the oxygen, or the presence of acid traces or the absence of a sufficiency of lime carbonate, all of which I am certain may be very distinctly visible in these forest soils, then one does not obtain the suitable and congenial home for this useful species of bacillus, the bacillus requiring certain features in the soil for its health.

I may be placing the cart before the horse in so entering into detail. It should first of all be shown the reasons for stating that coffee to-day *is* existing under this state of nitrogen starvation. As before stated, this, I believe, may be traced up to the hilt, in every way possible, and that disease is merely a resident on the plant when there is any abnormal state of nitrogen starvation at the roots causing in the channels, ducts or arteries of the tree, an enormous loss of those soluble fluid bodies the hydrocarbons and albumenoids which nitrogen has the all-powerful means of controlling their presence or absence.

It is certain that to-day coffee is a feeder principally, if not entirely, upon nitric acid. With us—the way most plants take their nitrogen—this is known by the immediate taking on of certain characteristics by the plant on giving nitrogenous manure and which are unmistakable. Let me, however, urge the extremest difficulty which would exist for a surface feeder—producing one of the most highly nitrogenous crops extant outside the order of Leguminosiæ—subject to tropical and incessant deluges often amounting to 100 and 150 inches in three months—growing not in soils active or in soils accustomed to many years of tillage but in *heavy, forest soils*, weak in alkalies and oxygen, where therefore exists, not only two impedimenta for the necessary quick formation of assimilable nitrogen but the pretty well assurance that this nitrate or nitric acid formation stops after a certain point is reached and at an early date. Take this slow action of forest soils in this producing assimilable nitrogen, the surface feeding nature of the roots, the highly nitrogenous nature of the crop grown, the incessant tropical deluges rapidly denuding the soil of its nitric acid (2 inches rain being sometimes sufficient to take nearly the whole of the nitric acid below the roots) and ask oneself the question, how, in such incessant rains of day and night and weeks, is it possible to expect coffee to find assimilable nitrogen, and therefore to find it capable of producing that large volume of organic bodies throughout its system? Again, one has to take into consideration the very limited sphere of action for the roots, that is, the small amount of food presented to it, and still again the small size of the tree in proportion to the amount of crop, it being clear that all such matters must be taken into consideration if one is to show insufficient feeding in nitrogen and a severe loss of soluble carbon bodies in consequence. Again, in consequence of that loss of these strength and energy givers—the attacks of *Hemeleia vastatrix*, causing a still further loss of those important sap constituents.

It seems to me far too difficult to believe, and I think will be so to any fair unbiassed person who will at all consider the subject that coffee ever fed purely on a nitrogen diet arising from the nitric acid of soil or of manure—there is everything against this crop doing so under conditions it experiences in a climate subject to tropical rains and tropical droughts and I must repeat what was said in the *Madras Mail* that "under favourable conditions existing, one may not only prevent the occurrence of leaf-disease but cure it even, if taken in quite its early stages, by nitric acid treatment alone" It is the severity of the factors in tropical rains, in droughts, insufficient care in even spreading of this constituent over the roots, high amounts of organic matter in soils, too late an application in the same, etc., which often mar the results—it is not the fault of nitrogen but the factors against this nitrogenous feeder which must exist as long as it feeds off nitric acid for its source of nitrogen. I do not wish to be dogmatic but will remain firm to that point, that under favourable conditions the prevention and even cure of leaf-disease may be met by permitting the constant flow of these viscid, adhesive fluid bodies throughout the plant to continue uninterrupted—the sugars, gums, starches, and viscid nitrogen bodies must not be allowed to be lowered; otherwise you obtain, and very naturally, the entirely weakened, enfeebled state when the plant becomes a prey of disease—little better than quite dead organic matter which gets fed upon and decayed by a thousand other germs.

Consider for a moment how different would be the case if the plant were feeding chiefly off the nitrogen air existing in the soil for the supply of these bodies. The excrescences being firmly affixed to the roots, having symbiotic action with the plant, being part and parcel of the plant, so to speak—the bacterial contents busy collecting the atmospheric nitrogen of the soil of which no lack exists, no tropical rains however lengthily protracted would or could denude the plant of its nitrogen. This source of nitrogen feeding would, too, better take the tree through protracted droughts, where again nitric acid would fail both times of the year

being precisely the times of disease. In fact were coffee dependent on a never-failing source of nitrogen—on that very strong and efficient source of atmospheric nitrogen—then the plant would unfailingly form, and in abundance, these bodies.

There were the times when none of these rich nitrogen-giving manures were used—this fruit tree taking the most insignificant amounts of mineral matters possible from the soil, such small amounts indeed that one would think it possible for the soil to itself naturally form these inassimilable form for the plant with little cultivation and without giving any manure as was the case for years and years with most prolific crops. Such, it is believed, would be the case to-day were this essentially nitrogenous tree depending on those root fungi which Dr. Janse thought fit and worth while to cultivate but on gelatine, unfortunately for only a short space of time and such matters needing much patience and bringing often many failures before the looked-for results are arrived at.

No one will deny that since the use of artificials, or in other words more readily assimilable foods where nitrogen predominates, those periods during rainfall and during the prolonged droughts when the tree more formerly than now, took the appearance of wintering, has, since the custom of giving nitrogen (and richly in assimilable form), been greatly over come. The tree where this is practised is not so typically the deciduous tree it was, nitrogen carrying it through such periods and this giving rich nitrogenous manures, which are capable of yielding nitric acid to the plant, certainly does give the tree far more the appearance of its old evergreen nature and it is natural it should. Not only is nitrogen the all-powerful means of supplying such materials as gums, sugars, albumenoids but it destroys wintering effects and keeps vegetation ever active. However poor and slight may be the effect of giving nitrogenous manure in overcoming this deciduousness (though in many cases this is not so) it is incomplete, often very ineffective and at all times most expensive but it shows the capabilities coffee would have of returning to its old nature of an evergreen if one could depend on a constant and uninterrupted supply of nitrogen at the roots—*i.e.*, if it fed on atmospheric nitrogen.

Already I have spent too long over a portion of the subject which seems to me extremely interesting and there seem to me very many questions connected with it and I have merely touched on the fringe of the subject. Briefly, it must be said here, that through the courtesy of Sir John Lawes an interesting investigation is proceeding which may throw much light on the question of whether our plants have changed the form of taking their nitrogen diet and whether we are still gradually changing it. I cannot forbear just entering into this here and hazarding a remark. The investigation is the comparative analysis of the very best Costa Rica obtainable against a sample of East India treated 12 years on artificials, and regularly so each year. My firm belief is, that Costa Rica, a young country comparatively for coffee, is producing this magnificent bean, without manure, without disease, with little expense in cultivation, as the result of feeding off *chiefly* atmospheric nitrogen, while we produce an inferior bean, with costly manures, with a vast deal of turning the soil to induce nitrate formation (principally). The usual result of plants feeding off atmospheric nitrogen is the presence of legumin as the nitrogenous principle in the seed. The usual result of plants feeding off nitric acid is albumen in the seed.

Will the Costa Rica show a great predominance of legumin while we show the nitrogen material as principally albumen? I believe it will be found to be so. While possibly Costa Rica may show 10% legumin out of its total say, 15 % nitrogen material, I believe that our total nitrogen products may not amount to more than 4 % to 5 % (of this particular sample of course) and that the albumen even exceeds the legumin possibly. If this be so, then there is the more urgent need of continuing and persevering till successful with Dr. Janse's cultivations.

I am quite aware I have laid myself out to criticism and ridicule first in stating that coffee is existing under a state of nitrogen hunger, second that it has under favourable conditions the power of feeding off atmospheric nitrogen such as the Leguminosæ and the other plants named. I mean to stick to my guns and show that this tree *is* to-day existing in this semi-starved state and that there is every reason for believing that these excrescences on the roots are merely the counterparts of the legumin in the bean and *vice versâ*.

Again I may lay myself open to blame if, in the following letters on the subject, I bring forward a statement *re* the coffee soils, though possibly not if in the end the statement proves correct. It is on the extremely low state of oxidation of the coffee soils believed to exist and a stubbornness to oxidise even when oxygen is freely presented to them, but if this is shown and proved as existing as a peculiar trait of these coffee soils it greatly enhances indeed the difficulty coffee would have of feeding off nitric acid source for its nitrogen.

Practical reasons by observation as well as analyses allow me to say that this very low state of oxidation exists and is general throughout perhaps all the coffee soils. It is bound to affect both the formation and retention of nitric acid, and I bring this forward as again a difficulty in believing this plant ever existed purely on nitric acid.

H. B. Evans.

COFFEE.

Sir,—In your issue of the 16th instant, "W" complains that, in my précis of Monsieur Conty's description of the coffee industry in Brazil, published in February, March and April last, I have put the value of the crop too high; because in 1898, grade No. 7 Brazil coffee was never worth more than 26s. per cwt in Santos, and often much less, whereas I quoted it at 31s. and 6d.

But I beg to point out that *I* only took Monsieur Conty's figures; and that Monsieur Conty did not say that the price *of grade No. 7* was 31s. 6d., but that the *average value of the coffee he was writing about* was 31s. and 6d. per cwt. at Santos. Probably a good deal of it was grade Nos. 1, 2, and 3, and very little of it as low as No. 7.

I do not vouch for the accuracy of Monsieur Conty's figures, but I do maintain that he is clearly a very painstaking man, and that his paper is a most able and interesting one. I think therefore that his opinions are entitled to a good deal of respect; and I would strongly advise all coffee-planters who can read French easily, carefully to peruse his article, in the original, that they may be able to form their own conclusions.

Coffee-Planter.

GENERAL ARTICLES.

THE POSITION OF COFFEE.

During the past few weeks there has been a considerable improvement in the Coffee Market, and for a short time prices practically reached 7 shillings per cwt. advance above the lowest point.

As we write, the market has a very steady appearance, after having fallen back about 18 pence per cwt.

We have pointed out to our readers and correspondents that, so far as we can judge, there is no stability in this advance. It was quite evident that the market was in such a state, rock bottom prices had been touched, and that in such a state of the market very little was needed to bring about a reaction.

When this reaction would take place and by what means it was impossible to conceive, but when the lever was supplied by those who were anxious to commence the running first by reported short receipts, and then by the news of the outbreak of plague in Santos, we saw that it was very probable that an advance of 10 shillings per cwt. was not at all unlikely.

So far, results have fully realised our expectations, and though the market is a little below the highest point reached, yet it will not come as a surprise to see at an early date this slight set back more than covered by a further improvement, as we cannot think that the prevailing feeling, which was the cause of the rise, has done with the market.

Be this as it will, the rise, although beneficial to many, will prove disadvantageous in the long run, for it will give a stimulus to those planters in the interior of Brazil who had come to the conclusion that the best thing to be done in face of such disastrous prices was to close down estates, and so the evil day will be put off —the brake which was to stay production on such a large scale will be left only to be applied at a later date.

How such reports could materially affect the market it is difficult to imagine. Had the crop estimate been given on reliable information as "much below last year," that would have been another thing, but it is well known that such is not the case, and that as large an outturn is expected, so far as Brazil is concerned. Our readers therefore must not think that the turn of the tide has commenced, although there has undoubtedly been a decided change for the better.

Consumption has been steadily increasing of late, no doubt helped by the more reasonable prices at which consumers have been enabled to make purchases, this is backed up by figures, but it must not be overlooked that in this respect a very wide margin remains to be consumed.

The chief cause of the improvement has been large speculation by those "in and out of the ring" (it is as well to mention that the slight set back reported above was caused by sudden selling on the part of certain speculators, and when this fictitious element has been withdrawn, prices will gradually return, we think, to the same unsatisfactory level of past months, in fact, we expect almost a repetition of last season).—*The Produce World.*

BRAZILIAN FINANCE.

Turning to the Treasury Blue-book just issued, it will be found that, although the service of the foreign debt and guarantees has been suspended to the amount of over £3,000,000 per annum, there is in reality no such relief for the treasury compared with the previous year; as from 1st July 1898 to 30th March 1899 treasury remittances to agents in Europe amounted to £1,717,669 as against £2,073,335 for the same period during the previous year.

In point of fact, although the service has been suspended and the £3,000,000, previously paid in specie, are now paid in bonds, foreign remittances still sum up to some £2,000,000 per annum, including: the repayment of the £2,000,000 issue of London treasury bills at the rate of £1,000,000 per annum, to be completed in January of the coming year; other guarantees not included in the funding agreement and the maintenance of the diplomatic corps, etc.

The fact is, as we have several times pointed out, the funding loan did not relieve us entirely from foreign payments on account of the debt, nor did it even very materially reduce the amount to be remitted compared with the year before (1897—1898), because the greater part of the service of the debt and guarantees was previously provided out of foreign loans and the sale of property, such as the issue of £2,000,000 treasury bills, a small balance from the 1895 foreign loan, the sale of Leopoldina debentures for some £700,000 and that of two cruisers to the American Government.

Had there been no funding agreement, in lieu of about £2,000,000, it would have been necessary to remit £5,000,000; the state of the exchange market at this moment clearly showing how impossible such a task must have proved!

In point of fact we are remitting almost the same amount today as we did in 1897.

Too much was expected of the funding agreement, which in reality served more to restore confidence and stop the unceasing fall of exchange than anything else. It did not relieve the market from supplying bills of exchange to Government, because within £100,000 the same amount was remitted in the nine months, July-March, 1898-99 as in 1897-98.

Very little of the improvement can, therefore, be attributed to the effects of the funding loan, except in a moral sense.

No doubt in that way it was a tremendous relief, but the real factors of improvement from 5 11/16d. in May 1898 to 6 27/32d. on 31st March 1899 must be sought rather in the feeling of greater confidence, created by the knowledge that Government was no longer obliged to remit the £3,000,000 for the service of its foreign debt; the very considerable reduction of imposts during the last two years and, consequently, of liabilities on this account; and perhaps, to a very small degree, to the initiation of the policy of withdrawal of currency and its destruction, which commenced in February of this year. . . . . .

As we explained in a previous number, it was unreasonable and contradictory for those who maintained that revenue was steadily decreasing to expect Government to meet current expenditure, burn notes, pay off old debts and convert internal gold issues into currency loans, all out of revenue without any recourse to credit at all. . . . . .

The Brazilian Government and people have undertaken a definite task and are overtaxing themselves, perhaps unwisely, and straining every nerve to carry out their engagement under most difficult and untoward circumstances.

They have nothing further to expect from their creditors.

Bonds may go up, or may go down; it can only have a sentimental interest here: nor will the opinion of the whole London press make very much difference in the long run.

But, when the country is so evidently doing its best, it may be fairly enquired whether it is wise or generous to not only minimize such efforts but to cast reflections on their honesty? . . .

As we have always maintained, the probability of renewing specie payment of the service of our foreign debt and guarantees depends principally on exchange.

With exchange at, or in the neighbourhood of, 12d. the task would be comparatively easy, as the cost of remittances for the service of the foreign debt would then be reduced from nearly 140,000:000$ in 1897 (including amortisations) to about 60,000:000$, which the collection of 15 % of import duties in gold would supply.

At present, however, the chance of exchange going to 12d. or anywhere near it, within a year and a half seems remote indeed. On the contrary the unassisted resources of the country seem scarcely able to maintain the ground already gained or to keep the rate from falling again.

Should exchange not improve before 1901, though specie payments may be renewed they cannot be long maintained, it being a proof that our economy is unable to support such an addition to the burden of foreign payments and, consequently, of the demand for bills without exchange giving way. If, whilst foreign remittances on account of the debt amount to less than £2,000,000, exchange can scarcely be kept from slumping, what will be the prospect in 1901, when they will have increased to nearly £4,000,000 per annum, should exchange be the same? Clearly, the market could not stand such an addition to the demand for bills.

It is true that S. America is a continent of surprises, and that it is *possible* that coffee may go up sky high and drag exchange with it. But is it wise or prudent to trust to mere eventualities in so serious a matter?

Government relies upon its policy of burning paper money to put matters right.

But, again, in face of late experience we must ask, is it safe to trust entirely to this expedient?

Unquestionably the continuous withdrawal of paper money must affect the value of what remains in circulation sooner or later, so long as no other factor is acting in a precisely contrary direction. But such action must be necessarily slow and gradual, whilst time is short and fleeting.

Circumstances are untoward; the sterling price of coffee is almost stationary; whilst speculation is rampant and now comes the bubonic pest to add an unexpected difficulty.

It seems to us that the time has come when measures of a more positive character should be taken to put the country in an unquestionable position to meet its engagements in 1901, by raising the value of the currency.

In the Central Railway there seems to exist a resource that properly utilized would not only serve to raise the value of the currency, and consequently of revenue, but to prevent it from falling again when raised.

It is requisite before 1901 to have not only furnished Government with the indispensable resources to meet its engagements without adding, if possible, further to taxation, but also to have so redressed the economical balance as to ensure foreign exchanges being, at least not unfavourable.

That can only be done by raising the value of the currency and exchange; and, unless it be done, 1901 will, we fear, come round and find us unprepared!—*Brazilian Review.*

ANALYSES OF SAMPLES OF COCOA.

The following Report on samples of Cocoa analysed has been submitted to the Planters' Association of Ceylon by Mr. Hughes in terms of recommendation made by the Cocoa Committee of that Association, that analyses should be made of the principal brands of Cacao in order to ascertain if any adulteration exists, which might prejudice the interests of Cacao Planters :—

Analytical Laboratory,
79 Mark Lane, London E. C.,
November 9th, 1899.

W. M. LEAKE, Esq.,
Ceylon Association in London,
61 & 62 Gracechurch Street, E. C.

DEAR SIR,—I have now the pleasure of sending you the results of my analyses of the nine samples of Cocoa sent me respectively on the 12th and 18th October. According to your letter of the former date samples marked:

			s.	d.
Cadbury's	9½ ozs.	for	1	4½
Army and Navy	8 „	„	1	3
Van Houten	8 „	„	1	3
Taylor's Condensed	8 „	„	1	6
Fry's Extract	8 „	„	1	5
Vi-Cocoa	6 „	„	0	9½
	8 „	„	1	4½

were purchased at the Army and Navy Co-operative Association at the prices abovenamed.

Samples Suchard's	8 ozs.	for	1	4½
„ Rowntree's	8 „	„	1	4½
„ Epp's Homeopathic	8 „	„	0	7

were purchased at the Civil Service Stores.

The analyses have been carried out fully according to your instructions, the results being insufficient in detail to determine to what extent adulteration and admixture with other ingredients prevailed.

I have added a few remarks which the results suggested and I trust the analyses will be of practical use both to producers and consumers of Cocoa.

Believe me, yours faithfully,
JOHN HUGHES.

ANALYSES OF SAMPLES OF COCOA.

Purchased respectively at the Army and Navy Co-operative Society, Limited, and the Civil Service Supply Association. By Mr. W. M. Leake, Secretary to the Ceylon Association in London:—

TABLE I.

Samples of Cocoa Essence consisting of pure Cocoa from which about two-thirds of the original fat has been removed :—

	No. 1.	No. 2.	No. 3.
	Cadbury's.	Fry's.	Army and Navy.
Price per lb.	s. d. 2 4	s. d. 2 1	s. d. 2 6
Water (lost at 212° F.)	3·99	4·30	3·10
Fat (Cocoa Butter)	25·01	30·70	37·20
Albuminoids and Theobromine	22·15	20.38	17·53
Mucilage, Gum, &c.	9·70	10·64	7·73
Glucose and Dextrine	4·10	1·36	5·47
Natural Starch and Digestible Fibre	25·91	23·76	19·04
Indigestible Fibre (Cellulose)	4·13	4·46	4·03
Ash or Mineral matter	5·06	4·40	5·90
	100·00	100·00	100·00
Melting point of Fat	84°F	85°F	83°F
Containing Nitrogen	3·50	3·22	2·77
Containing Potash	1·66	1·56	1.50

Mechanical Condition: Fineness and state of granulation :—

Powder passed through sieve having 10,000 holes to the square inch	72·59	81·78	76 44
Residue left on sieve	27·41	18·22	23·56
	100·00	100·00	100·00

TABLE II.

Samples of Cocoa Essence consisting of Cocoa from which about two-thirds of the original fat has been removed and some potash salts added :—

	No. 4.	No. 5.	No. 6.	No. 7.
	Van Houten's	Suchard's	Rountree's	Taylor's
Price per lb.	3s.	2s 9d.	2s 9d.	2s 10d.
Water (lost at 212°F.)	2·94	5·04	3·82	5·12
Fat (Cocoa Butter)	30·10	33·40	32·50	31·70
Albuminoids and Theobromine	21·64	20·00	19·30	18·23
Mucilage, Gum, &c.	10·03	8·25	9·04	10·05
Glucose and Dextrine	·97	1·75	1 76	2·15
Natural Starch and Digestible Fibre	21·44	19·47	21·83	21·29
Indigestible Fibre (Cellulose)	4·26	4·93	3·83	4·26
Ash or Mineral matter	8·62	7·16	7·92	7·20
	100·00	100·00	100·00	100·00
Melting point of Fat	84°F	82°F	85°F	84°F
Containing Nitrogen	3·42	3·16	3·05	2·88
Containing Potash	4·49	3·35	4·24	3·41

Mechanical condition : Fineness and state of granulation :—

Powder passed through sieve having 10,000 holes to the square inch	5·705	81·04	62·51	95·10
Residue left on sieve	42·95	18·96	37·49	4·90
	100·00	100·00	100·00	100·00

TABLE III.

Samples of Cocoa mixed with other materials :—

	No. 8 Tibble's	No. 9 Epp's
	s. d.	s. d.
Price per lb.	2 9	1 2
Water (lost at 212°F.) ...	5·04	4·58
Fat (Cocoa Butter) ...	27·10	26·40
Albuminoids and Theobromine...	17·53	7·27
Mucilage, Gum, &c. ...	11·86	11·82
Sugar, Glucose and Dextrine ...	2·34	18·58
Starch and Digestible Fibre ...	27·10	28·45
Indigestible Fibre (Cellulose) ...	5·33	1·40
Ash or Mineral Matter ...	6·50	1·50
	100·00	100·00
Melting point of Fat ...	80°F	83°F
Containing Nitrogen ...	1 77	1 15
Containing Potash ...	2·68	·54

Mechanical condition: Fineness and state of granulation :—

Powder passed through sieve having 10,000 holes to the square inch	76·35	42·74
Residue left on sieve ...	23·65	57·26
	100·00	100·00

REMARKS.

From the above results it will be seen that in Table I. the chief variation in quality depends upon the amount of fat removed from the original cocoa, Cadbury's containing only 25·01 per cent. while the sample of the Army and Navy Stores contained as much as 37·20 of fat.

Pure cocoa contains originally from 50 to 52 per cent. of fat and from 2·20 to 2 35 per cent. of Nitrogen.

The removal of the fat renders the essence or residue richer in Nitrogen and in the other constituents of cocoa.

How far the removal of the fat should be carried is naturally an important point to be considered with a view of rendering the material digestible and palatable.

Doubtless some person will prefer cocoa rich in fat while other persons will prefer a quality from which more of the fat has been removed, consequently the selection must be a personal matter.

In Table II, the samples consist of cocoa with a slight addition of potash salts. Why potash salts should have been added is not quite apparent, as the quantity present cannot very materially affect the solubility of the cocoa, though possibly the digestibility may be somewhat improved thereby.

The figures show that there is not very much variation in the general composition of the four samples.

Table III, represents the composition of two well-known mixture consisting of cocoa and other materials.

No. 8. Dr. Tibble's Vi-cocoa contains 27·10 per cent. of fat and 2·77 per cent. of Nitrogen. Microscopical examination shows that the bulk of the material consists of cocoa to which small quantities of ground kola nut, malt and hops have been added.

Whatever may be claimed for it as "a restorative and stimulating food" by the makers the actul figures brought out in the analysis indicate that there is less nitrogen and more indigestible fibre than exists in well-known brands of pure cocoa.

No. 9. The last of these samples contains very much less original cocoa than any of the others. The figures for fat name 26·40 per cent. are very similar to those found in the previous samples, but the exceptionally low figures for Nitrogen 1·15 at once indicate that other materials must be present in the mixture.

On making a microscopical examination it is seen that consilerable quantities of arrowroot and coarsely crushed white sugar are present.

Probably one-half of the mixture consists of pure cocoa with the whole of its original fat left in, whilst the other half consists of the abovenamed ingredients.

MECHANICAL CONDITION.

The figures given under the heading of fineness and state of granulation represent the readiness with which the respective powders can be passed through a sieve having a mesh of 10,000 holes to the square inch.

GENERAL SOLUBILITY.

The claim so frequently set up by certain makers that their cocoas are soluble cannot be in any way supported by practical tests.

From a number of experiments recently made it was clearly demonstrated that the actual amount of cocoa rendered soluble by the action of boiling water continued for half an hour in no case exceeded 30 per cent; so that it is most undesirable that manufacturers should continue to put forth claims of superiority on the grounds of solubility. Cocoa is mixible, but certainly not completely soluble in hot water.

JOHN HUGHES, F.I.C.,
Agricultural Analyst.

Analytical Laboratory,
79 Mark Lane, London, E. C.,
November 9th 1899.

PRODUCE AND PLANTING.

Russian Tea.—The attempt at tea cultivation in the Trans-Caucasus has demonstrated that the tea-plant can be successfully grown in the country under existing climatic conditions, and, further, that it is only necessary to surmount certain difficulties at present experienced in respect to the question of obtaining cheap labour in order to make tea-growing an industry of the district. A large Moscow firm erected a factory on its plantations last year, and the authorities on the estate belonging to the Imperial domains at Chakva have followed this example, and have set up a tea-making establishment of considerable dimensions. The yield of the tea crop has been good, and, comparatively speaking, fairly abundant. But the Russians like good tea, and this Trans-Caucasian tea is far below the standard of Indian, Ceylon, or China. Seeing, however, that tea can now be successfully grown in this region, writes our Consul at Batoum, in a report on Trans-Caucasian agriculture, "the Imperial domain authorities propose to encourage the cultivation of this plant among the peasantry, and with this object in view would gladly split up the area on their estates now planted with tea into small plots for distribution, on certain conditions, to the surrounding inhabitants to cultivate under their supervision. It is considered that a measure of this kind would induce a considerable proportion of the peasantry to cultivate tea, and as soon as it is known that fairly remunerative wages can be obtained for the collection of the leaf, a large number of women and children would willingly come forward and assist in gathering the harvest, and by this means an important reduction in the price of labour would be likely to follow." So for the present, and for some time to come, Russia will want the usual supply from elsewhere, for our Consul takes care to point out that in the present difficult position of the labour market, owing to the absence of a good supply of labourers, it is evident that the expenses incumbent on the cultivation of tea in the Caucasus are so excessive that, if the production were to attain such figures as would enable even a small proportion of the demand to be satisfied, it could, nevertheless, not be sold at prices much below those which teas imported from abroad, and paying a heavy rate of duty, fetch in the markets of the Russian Empire.

Mincing Lane and the War Fund.—Mincing Lane has made a noble response to the Lord Mayor's Transvaal War Fund. In connection with the formal closing of the "Special Mincing Lane List" a meeting was held on Monday afternoon, in the London Commercial Sale Rooms, Mincing Lane. Mr. A. H. Rolls presided, and there was a large attendance of subscribers. The chairman remarked that, although that was the nominal closing day, it was proposed to keep the list open a little longer because it was believed that a number of firms who had not yet contributed were desirous of doing so. He thought they had reason to be proud of the total amount received—£11,060. During his long experience, he had never known a similar appeal which had evoked so much enthusiasm. He thought that the liberal way in which their foreign friends had opened their purse-strings was worthy of recognition. The success of the movement, he added, was mainly due to the valuable services rendered by Mr. H. Price, Mr. W. W. Green, and Mr. Andrew Devitt, and to the zealous manner in which they had been backed up by members of the tea trade, including Mr. W. T. Wilson, (Messrs. Gow, Wilson, and Stanton), Mr. F. S. Long, and Mr. J. Lloyd (Messrs. Lloyd and Carter). Mr. Price (hon. treasurer)

remarked that it was proposed to keep the clerks' list open for the present, as it was understood that at the end of the month a good many additional subscriptions might be expected from that source. There were between 20 or 30 cards still out. Several cheques had been received that day, including one for £100 from Mr. T Pink. The committee had so far sent £8,892 to the Lord Mayor's Fund. and they expected to forward a further £2,000 in a few days. No begging had been needed; the money had come in an unprecedented manner, thus showing that every one was of the same opinion with regard to the merits of the fund. We give on page II the list of contributions from merchants, growers and brokers. The tea dealers' names are not included, but the following were the principal subscribers:—John Lane Densham, Esq. (chairman of the Mazawattee Tea Co.,) £500, the Home and Colonial Stores £105, B. Densham, Esq., £100, Messrs. Brooke, Bond and Co. £105, Messrs. Appleton, Machin and Smiles, £52 10s., Messrs. Reinachs, Nephews and Co., £52 10s., and Messrs. Joseph Tetley and Co., £52 10s. A few firms have subscribed to the Mansion House Fund direct before the tea trade branch of that fund was opened; these included Messrs. W. J. and H. Thompson, £105, Messrs. George Williamson and Co., £52 10s, and Messrs. Shepard and Co., £50. It is expected that the list of tea-producing concerns will shortly be augmented, as we understand that the question of contributing to the fund is to be underthe consideration of the boards of a number of companies when next they meet.—*H. & C. Mail*

LOCUSTS.

The Government of India (Department of Revenue and Agriculture) lately addressed Secretaries to the Governments of Bombay and Punjab, and to the Chief Commissioner, Ajmere-Mhairwara, forwarding a copy of correspondence noted in the margin, regarding Dr. Edington's method of exterminating locusts in South Africa by means of a fungus disease, together with directions for using it, and remarked that if it was considered advisable to carry out any experiments, district and other officers might be informed that cultures of the fungus could be obtained from the Imperial Bacteriologist to the Government of India at Muktesar. A copy of this correspondence was forwarded to the Government of Madras "for information and any action that may be considered necessary." We extract the following for the information of our readers:—

From Surgeon-General L. D. SPENCER, M. D., Officiating Director-General, Indian Medical Service, to the Secretary to the Government of India, Department of Revenue and Agriculture, dated Simla, the 28th June 1899, No. 3471.

I have the honour to submit, for information and for any action which may be deemed desirable, copy of a letter from the Officiating Imperial Bacteriologist, No. 174, dated the 19th June 1899, regarding a South African fungus, which is said to have been found very efficacious in destroying swarms of locusts.

From the Officiating Imperial Bacteriologist, Muktesar, to the Secretary to the Director-General, Indian Medical Service, No. 174, dated the 19th June 1899.

I have the honour to report that I have recently obtained from South Africa a culture of the fungus, which is said to have been found very efficacious in destroying swarms of locusts in that country. I would therefore suggest that steps should be taken to bring to the knowledge of district and other officers in such parts of India as are liable to visitations of these destructive insects that cultures will be sent out together with instructions as to their use to any districts that may be invaded by them on receipt of a telegram asking for the same.

From the Imperial Bacteriologist to the Government of India, Muktesar, to the Director-General, Indian Medical Service, No. 262, dated the 18th July 1899.

With reference to your No. 3697, dated 10th July 1899, asking for further information on the subject of the locust-destroying fungus recently received from South Africa, I have the honour to enclose a note on the subject embodying such information as has yet been published, together with the instructions I propose to issue in regard to the use of the fungus, the latter being a copy of those issued by the Cape Bacteriologist, who first cultivated the fungus.

2. It will be seen from these that the fungus is a mould and is not pathogenic to any form of animal life other than insects, and that it has been already widely used in South Africa and other countries for the past three years without any deleterious results having been reported and is moreover easily used by natives with the best results. Further, it appears to have already been introduced into India, although by whom and with what results I am unable to say.

3. I stopped sending out the fungus for the present, on receipt of your letter, but as this is the best season for testing its value, I would request that early orders may be sent on the subject.

NOTE ON THE LOCUST-DESTROYING FUNGUS.

In 1896 a fungus, which had been observed to destroy locusts in large numbers, was cultivated on an artificial media by Dr. Edington, Bacteriologist to the Cape Government, and has for the last three years been used to destroy swarms of locusts in various parts of South Africa with great success during the last three years. It belongs to the entomoobthorea, a group of fungi, which for the most part live in the bodies of insects, but is not known to be harmful to any other class of animal life. The fungus stated by Dr. Edington in his last report to have been introduced into various parts of South Africa, North America, India, Australia and Buenos Ayres, and to have given most satisfactory results in various places. The fungus is sent out in culture in test tubes, and it is recommended to make the infection during moist weather, if possible, and in the evening This is accomplished by mixing the contents of the tube with two teaspoonsful of sugar and then add this to a tumbler of water in which small pieces of cork have been placed, and when the fungus grows use it to smear on some of the locusts or on the ground where they are swarming. Large quantities of the fungus may be obtained by keeping some of the locusts which have died of the effects of the fungus in a heap or in a pit for a few days and then powdering them up and using the meal thus obtained, which may be kept for a long time dry, by mixing it in the same way as the original culture was used. In Buluwayo 95 per cent. of the locusts are said to have been destroyed in one year while it has been even more successful in the native reserves than among European farmers, owing to the thoroughness with which the natives spread the fungus over the affected parts. During the three years it has been used in South Africa, no ill results have been observed from its use. It is most successful on the young non-flying locusts, but has also been of very great service among the flying swarms. Although it is stated to have been sent to India some time ago, I am not aware of any results of its use having been recorded. The method of using it is so simple that a native agency will be amply sufficient for using it.

Finally, I have recently fed both cattle and rabbits on it with no ill-effect whatever and there is no reason for believing that it is dangerous to any form of animal life other than insects as it belongs to the class of moulds and not to the bacteria.

(Signed) LEONARD ROGERS, M.D., I.M.S.,
Offg. Imperial Bacteriologist.

LOCUST DISEASE FUNGUS.

Instructions for use as advised by Dr. Edington, of Cape Colony.

Small tubes containing this fungus are prepared at this laboratory and supplied on receipt of a telegram reporting the presence of locusts in any district.

The methods mentioned below should be followed and the result carefully watched and reported to me.

During dry weather it is difficult to get the disease to spread and hence it is advisable to use it in moist or wet weather, and to make the infection of the swarms just before sun-set.

Directions for preparing the Fungus previous to use.

Open a tube and take out the contents entire; add it to two teaspoonsful of sugar, and rub the whole together with a spoon or flat knife so as to break up the material and mix it thoroughly. Then dissolve this in three-quarters of a tumblerful of water, which has previously been boiled and allowed to cool. Float in this a few pieces of cork, which have been previously steeped in boiling water and cooled.

Now cover the tumbler with a piece of paper, and let it stand during the day in a warm corner of the house or until the fungus is seen to be growing around the pieces of cork.

Method of Distribution.

(1) Catch some locusts, and after dipping them into the fungus let them go into the swarm again.

(2) Smear patches of damp ground, where the locusts alight to feed with the fungus.

(3) Confine some locusts in a box which contains some favourite food moistened with the fungus, and, after the food has been eaten, return the locusts to the swarms.

(4) Collect a large number of locusts which have died from the fungus. Dig a hole in the ground about 18 inches deep and one foot wide.

Strew some locusts over the bottom, then sprinkle some water over them. Repeat with locusts and again sprinkle until the hole is full. Do not press the locusts into the hole, but leave them lightly packed. Then cover over with a piece of tin or board and keep the hole thus carefully covered for four or five days. If very warm weather, four days will be sufficient, but if colder, a longer time will be required.

At the end of this time remove the locusts and spread them out in the sun for an hour or two or until thoroughly dry. Now grind them into a meal.

Of this meal, which may be kept dry for a long time until wanted, take two tablespoonsful, and add it to a large tumblerful of water, into which some sugar has been placed. Leave this in a warm place for 12 to 48 hours, and then treat live locusts by dipping, &c., just as one does in using the fungus when supplied in tubes.

Method of Application for young non-flying Locusts.

Take about one pound of white bread; dry it, and then grate it down into coarse powder. Put a cupful into a bowl and add enough water to make a watery paste. Add to this the contents of one tube of fungus and keep it in a warm place until the fungus is seen to be growing over it. Now place small portions where the young locusts are appearing and take care to see that where not eaten up the small portions are kept moist from day to day until they have been eaten.

(Signed) Leonard Rogers, M.D., I.M.S.,
Offg. Imperial Bacteriologist.

AMERICAN TEA.

Mr. Max Bennett Thrasher contributes to the *Hawaiian Planters' Monthly*, under the head of "Fifty Acres in Tea—The Experiment at the Pinehurst Tea Gardens," the most lucid account we have yet seen of Dr. Shepard's attempt to grow and prepare tea in the United States. A good deal has been written about this subject of late; yet we cannot but think that the following comprehensive paper will have a special interest for many of our readers. Mr. Thrasher writes:—

The only tea gardens in the United States are at Pinehurst, S. C. These gardens are the property of Dr. Charles U. Shepard, who for the last ten years has been experimenting with tea culture on a scale, and with a degree of thoroughness, neverbefore attempted in this country. Tea culture has been undertaken in a small way in the South at various times during the last one hundred years; the Department of Agriculture having frequently furnished seeds and plants for this purpose, but Dr. Shepard is the first person who can be said to have been successful in the business, and even he told me, when I visited his place recently, that although he had been in the work for so long it was not until the crop of 1898 was being harvested that he felt justified in saying that he had been successful.

Dr. Shepard's estate comprises about seven hundred acres, of which between fifty acres and one hundred acres are now planted to tea. This acreage is increased each year by the setting out of new gardens. It might be thought that so large an amount of land devoted to one crop would be spoken of as a tea farm or a tea plantation; but I have the authority of the Department of Agriculture for saying, that in all tea-growing countries the plantations are called tea gardens. "Whether the area under cultivation is one acre or one thousand acres, it is recognized as a garden, and in all features of this industry, this appellation is universally employed." Parts of the estate which differ in the variety of the plant, or in the date of setting out, are spoken of as different gardens. One of the oldest and most flourishing at Pinehurst is known as the "Rose Garden." It takes the bushes in a garden four or five years, from the time of planting, to grow large enough to be picked regularly. Once established, though, Dr. Shepard says, he sees no practical limit to their productiveness, since some of the best gardens in China have been picked regularly for two hundred years. After a bush has reached maturity it can be picked once in ten days during the time of harvest which, in South Carolina, extends over the six months from May to October. Only the tips and first leaves are picked. Each new growth which admits of picking in this way is spoken of as a "flush," and the word "crop" applies only to the yield of the entire season. The bushes, when in good condition, are about three feet tall, and look like well-pruned willows, although the leaves are a little darker and more glossy. The green leaves when chewed have a pleasant aromatic taste, not unlike that of the little New England plant known as "pipsisseway."

Pinehurst is two miles from Summerville, and Summerville is twenty miles inland from Charleston, on the line of railroad which connects that city with Columbia. When I rang the bell at Pinehurst and asked for Dr. Shepard, word was brought me from that gentleman that he was busy at the tea-house at work which he could not leave, and would I not come out to him there. I found the tea-house to be a neat two-storey wooden cottage, standing, like all the buildings of the place, beneath superb Southern pines. The tall, straight trunks of these trees, branchless, until far above the houses, and the softened light which their interlacing boughs sent down to the ground, made me feel all of the time that I was at Pinehurst, as if I was walking between the pillars of some vast old English cathedral.

Dr. Shepard was just weighing a pick of green leaves. He stood inside an open window of the tea-house, with a set of scoop scales on a table before him. On the veranda outside the window, or on the ground in front of the tea-house, were some thirty negro boys and girls of various ages. The boys, were small; some of the girls might have been sixteen or seventeen years old. Each one had an ordinary trout basket slung by a strap over one shoulder. The docter would call out "Jinny" or "Sam" or "Hannibal," and the owner of the name would step to the window, unsling his or her basket and hand it in. The contents would be turned into the scood of the scales, weighed, and the amount credited to the owner's name on a check-list which lay on the table beside the scales. Some of the older pickers tallied over two pounds: others had only a few ounces of green leaf. While the green tea leaves are being picked they must not be packed tightly or allowed to lie long in a mass, because, if they do, fermentation or a process very similar to it, quickly sets in. On this account the pickers are not allowed to stay out longer than two hours at the most before bringing their pick to the tea-house to be taken care of. Trout baskets have been found convenient receptacles because the tips or leaves can be dropped one by one through the square hole in the cover and lie lightly in the basket until removed. The children are paid at the rate of so many cents a pound for the green leaves, and are supplied with a wholesome lunch. A good picker will make from 30 to 50 cents a day. They are all neat, both in dress and in person, a fact which is pleasant to remember when one is drinking Pinehurst tea.

The question of how the tea should be picked, was one of the most serious problems which Dr. Shepard had to consider. This part of the work must be done by hand, and the difference is the price of labour in the United States, and in Asiatic countries will always increase the cost of tea grown here. The cost of picking in India or Ceylon is only a fraction of a cent for a pound of dry tea. In South Carolina the cost is from six to ten cents. Experience has shown that a bright boy, or a grown girl, can pick from a good flush about twenty pounds of green leaf in ten hours. This quantity ought to make about five pounds of dry tea. Even with the question of wages put one side, Dr. Shepard found himself embarrassed for pickers. If he was able to get enough hands for one flush, there was no certainty that they would be available when the next flush was ready.

Dr. Shepard finally evolved a scheme which has worked excellently, and which has seemed to me to be, in itself, a worthy piece of philanthrophy. He built a comfortable school-house and equipped it with all the requisites for successful teaching. Then he hired a competent teacher and invited all the coloured families to send their

children to school, and they would also be taught all the branches usually taught in a primary school, and they would also be taught to pick up tea, and given an opportunity to earn money to help buying food and clothing. The offer was favourably received, and the school has a large number of scholars from whom such pickers as are required are drawn. Many of the children when they first come to the school are too small to work, but they soon acquire the strength necessary. At first they have to be very carefully taught. While I was watching the children at the tea house, one boy turned in a basket in which there were so many coarse leaves that he was severely reprimanded by the doctor. The other children hung their heads as if they were ashamed for him.

After the leaves were weighed they were collected in large tin tubs. When a tub was filled it was carried into one of the upper rooms in the tea-house and the leaves spread thinly on the floor to be "wilted" As soon as the leaves have been sufficiently softened in this way, they are put into a hopper worked with a peculiar oscillatory motion which rolls the tender leaves into the tight little cylinders of commercial tea, and at the same time breaks the oily cells so as to make the contents readily extracted when boiling water is poured on them. The hopper, which is run by steam power, is of copper-burnished outside and in, until it shines like gold, and the floors where the leaves are spread to wilt are clean enough to eat from The rolling by copper machinery, too, is certainly preferable to hand rolling. After the tea comes from the hopper, it is still damp; and before being dried, is set in shallow pans in a room where the temperature can be delicately adjusted to moderately high degree. A few hours here accomplished a change, once thought to be simply that of fermentation, but now more accurately described as oxidation. This changes the colour of tea, darkens it, and makes it what is known as "black" tea.

Most people suppose, unless they have visited a tea garden, and have seen the process of manufacture, that "black" tea and "green" tea differ, because made from different species of the tea plant. This is not so Certain varieties of the plant have been found better adapted for making one kind than the other, but the real difference comes wholly from the process of manufacture. Leaves which are to be made into "green" tea are not wilted, nor are they subjected to the process of oxidation. As yet the Pinehurst house makes only "black" tea, but Dr. Shepard told me that he hoped at some time to introduce the processes necessary for making "green" tea. After the process of oxidation is completed, the tea is dried and packed. Dr. Shepard packs much of his in neat tin boxes, holding pounds, or fractions of a pound. Tea made from the contents of boxes which he gave me has been greatly liked by persons to whom I have given it. The flavour is much like that of English breakfast tea.

In picking the tea only the tip of the shoot and the most tender leaves are taken. The number of leaves picked with the tips, gives us certain other familiar terms, associated with tea, but the real meaning of which I had never understood. If only the tender, unexpanded leaf-bud at the end of the shoot is taken the tea is called "Flowery Pekoe." If the first leaf, almost as tender as the bud, is included, it makes "Orange Pekoe." If the second leaf, slightly firmer, goes in, it becomes simply "Pekae tea." The addition of the next two leaves, in the same way, makes first and second "Souchong." At Pinehurst never more than the second Souchong leaf is included.

In order to insure a vigorous fresh growth, from which a succession of pickings can be had it is necessary to prune the bushes freely. The pruning is done in the winter. The native home of tea plant was in the dark and sickly swamps along the Brahmapootra River. In the moist forests there, unpruned, the plants attain a height of thirty feet. The botanical name of the tea plant is *camelliathea*. It is a near relative of the familiar hot-house plant. *camellia Japonica*. It is probable that the tea plant was introduced in China and Japan, as much as fifteen hundred years ago. In those colder climates varieties have been developed which are much dwarfed. The two best-known varieties now are the Chinese and the Assamese. Dr. Shepard has experimented with seed from many countries, often brought here at very great expense. The seed comes packed in dry, powdered charcoal, in a hermetically sealed metallic case, the latter enclosed in an iron-bound wooden-box. Eighty pounds of tea seed is called a "maund," and should contain about 30,000 seeds, but the life of the embryo is so delicate that only a small proportion of these will germinate.

The seeds are planted in the fall When they begin to come up it is necessary to protect them from the direct rays of the sun. and at Pinehurst one sees, what looks from a distance like gre villages of South Sea Island houses. These prove to be platform thatched with palmetto leaves, built over the beds of seedlings.

Dr. Shepard tried innumerable experiments in drainage, fe tilizers, cultivation and curing, before he arrived at the degree success which he now enjoys. A brief resumé of the history of th "Rose Garden" will given the best idea of the methods and result employed at present. The site of the "Rose Garden" was an ol piney wood pond. The ground was thoroughly drained, sweetene with burnt marl and deeply plowed. One thousand plants Assam-hybrid tea were set out, six by six feet apart. The area not quite an acre. The garden was planted in 1890. At presen the garden contains about 800 vigorous plants and 200 younge plants which have been set out to take the place of those whic have died The crop has risen from 150 pounds of green leaf i 1894 to 1,200 pounds in 1898, the equivalent of very nearly 300 standard Pinehurst dry black tea. This year's crop will be muc larger Dr. Shepard calculates that the cost of this was 27½ cent a pound, but thinks increased acreage will lower the cost of pro duction a little. Two other large gardens planted with Darjeelin seedlings promise to rival the "Rose Garden" in a few years . . Dr. Shepard has summed up his conclusions as follows:—"The Ros Garden has apparently demonstrated that commercial tea can b successfully grown in South Carolina. The utilization of thi knowledge may be along several lines, but they all involve th erection of a suitable factory, costing from a few thousand dollar upward, according to the proposed scale of operations. In som countries the bulk of the tea leaf is raised by small farmers who at the most, only prepare it sufficiently to insure its safe delivery at the factories in the larger and often distant towns. In othe countries the large estates erect factories which will handle thei own output and that of the small producers.

"There is a large class of people who might profitably add th cultivation of tea to that of fruit, flowers and vegetables, filling out the corners of their garden with tea bushes, as they do i China, or substituting useful as well as ornamental evergreen hedge of that plant for the present unsightly and costly and frequently unreliable fences Cultivated in this way, the outlay of time, labou and money, could not be burdensome; and, as one result, the house hold would be able to supply its own tea, pure, strong and whole some, instead of the 'wishy-washy' stuff, often far from cheap generally sold throughout the country.

"As these little tea gardens are extended and multiply, factories will be established in each neighbourhood for the larger manu facture of commercial tea, whether the products of the surrounding gardens can be brought and sold, precisely as canning factories and dairies consume the surplus production of fruit and milk."

CACAO CULTURE IN ECUADOR.

The following information relative to cacao culture i Ecuador is a translation by Consul-General DeLeon, Guaya quil, of a paper prepared by Señor Gonzalez Bazo (Secretar of the Guyaquil Chamber of Commerce) a prominent busi ness man of that city:—

Cacao pertains to the botanical family of the *Malvacius bictner ces;* it is the *Theobroma cacao* of Linnæus, of which various specie are found in Ecuador.

It is believed that cacao came originally from Mexico, where i was cultivated by the Aztecs long prior to the Spanish conquest The history of Ecuador does not record when the plant was intro duced here. It is stated that the annual production in 1741 wa from 35,000 to 40,000 cargas of 81 pounds each.

Cacao in Mexico was called "cacari" or cascara quahuitl, an the product was called "chocolatl," from which the word chocolat is derived.

EXTENT OF PRODUCT.

Cacao is produced in five provinces of the coast:

Province.	Number of Trees.	Yield.
		Quintals 101·61 lbs.
Los Rios	30,000,000	210,000
El Oro ...	6,500,000	60,000
Guayas	6,000,000	50,000
Manavi ...	4,000,000	30,000 to 35,000
Esmeraldas	700,000	8,000 to 10,000

CLIMATIC CONDITIONS.

Cacao requires a very warm and humid climate—26 to 30 degrees C. (77 to 86 degress F.)—and copious rain. Rainfall and heat generally determine the annual productivity; but in some years, despite favorable seasons, crops are poor, and *vice versâ*. Strong winds cause damage, and large trees are planted to protect the cacao trees.

HOW PLANTED.

Cacao is planted from fresh seed. Four or five are put in each hole, which are 5 yards apart, in rows.

MATURITY.

In the sixth or seventh year, the tree commences to bear, but the pods at this time are very small and scarcely repay the effort to gather them. In the tenth year, the tree reaches full maturity. It then produces on an average 1 pound of dry cocoa of good quality. There are many trees which produce more, especially those which are isolated, some of which have yielded at one picking as much as 7 or 8 pounds. In the province of Oro (Machala), 1½ to 2 pounds per tree is the estimated yield The tree is in bloom during the entire year, but most of the blossoms fall before fructification, which occurs twice a year, the time varying with the locality

DESCRIPTION OF TREE, FLOWER AND FRUIT.

The cacao tree grows to a height of 20 or 30 feet; its leaves are evergreen and lanceolated in form; the base of the main trunk attains a thickness of 8 to 10 inches; the bark is hard and of greenish coffee color. The blossom is very small, pinkish white, and waxlike in appearance. It grows directly out of the main trunk and branches. If it fructifies, the petals fall off, and from the stamens, in the course of from fifty to seventy days, an oblong pod is developed. This pod is of golden color, and contains some twenty to thirty-five grains of cacao, enveloped in a gummy liquid, which coagulates on exposure to air. The outer rind of this pod is dark or golden yellow in color and very hard, a sharp instrument being necessary to cut it open. Its size varies, according to the kind of cacao, from 8 to 15 inches long by from 2 to 6 inches thick The outer rind is marked by longitudinal furrows, more or less pronounced, which indicate the interior arrangement of the seeds. Both the outer rind and the gummy contents of the pod are porous and blacken in color as soon as picked, and in Ecuador are of use only to fertilize the soil upon which they are cast.

The seed or bean of the cacao is about the size and shape of a large almond. It contains the active principles of theobromine, albumen, phosphates, fatty matter and water. When dry, it is vitreous in appearance, covered with a skin more or less delicate which is easily removed and which contains a distinct pellicle. The color varies from dark coffee to violet, the latter indicating an inferior grade.

HOW GATHERED.

As soon as the pods begin to ripen, they are removed with pruning knives, very sharp, and attached to the ends of long poles, which are lengthened by joints as often as required. As the twigs are very tough, the blow with this instrument must be strong and well aimed, and the laborers must be experienced on account of the particular skill that is required and the fatigue that attends handling heavy poles sometimes 30 feet long, with the face continually upturned.

Wherever they can be reached, the pods are cut off with a machete. Considerable cacao is lost by the carelessness of the laborer and his dislike to bother with the pods in the upper branches.

HOW PREPARED.

The pods are heaped in piles by one set of laborers, while another cuts them open and extracts the contents. A sharp pruning knife is used, and the seeds are often damaged through carelessness. For extracting the gummy substance and the seeds, an instrument made of a beef rib is used.

The drying is done on open platforms made of split bamboo and palms, where the cacao is exposed to the sun during three or four days, and, in order that it may dry uniformly and well, laborers are employed to tread it out with bare feet. If not well dried, the bean is apt to ferment, and if excessively dried it shrinks and finally turns black. The driers are provided with covers for protection against rain.

Attempts have been made to introduce drying machinery (steam), but at present not one plantation in Ecuador uses it.

HOW MARKETED.

When dried in the primitive fashion stated, considerable pulp yet adhering to the grain, the cacao is sacked and sent to Guayaquil to be sold in its natural state. Some merchants attempt to deceive the buyer by washing an inferior bean in achiote, which gives the skin the appearance of first-class cacao; but this practice is severely condemned by honest merchants and is seldom followed; nor is reddish earth used here, as it is elsewhere, for the purpose of preserving the grain from decomposition and of increasing its weight.

Reaching Guayaquil, the cacao is subjected to the cleaning process. Splinters, dirt, and defective beans are eliminated, and the adhering clusters of beans broken apart and dried several times before shipment. During this process, the cacao loses 4 to 5 per cent. in weight. The sacks for foreign shipment contain from 60 to 70 kilograms (132 to 154 pounds) net. The largest portion of the crop is bought in advance by Guayaquil merchants engaged in this business, who loan considerable sums of money during the year for current expenses of cacao estates. Large capital is necessary, and the number of merchants engaged in the business is limited. Formerly 12 per cent. interest and 2 to 5 per cent. commission were charged on advances; but now, owing to competition, commissions are no longer asked and interest has been reduced to 8 per cent. to planters.

COST OF CULTIVATION.

The cost of cultivation is small, not exceeding 6 to 7 *sucres* ($3.000 to $3.50) per 100 pounds, delivered in Guayaquil. This includes management, cleaning, weeding, harvesting, drying, transporting, and every possible contingency, except interest on the capital invested.

CACAO PRODUCTION OF THE WORLD, 1897.

	Tons.
Ecuador	22,000
Trinidad	10,000
Other British West Indies	9,000
Portuguese Africa	7,700
Brazil	7,500
Venezuela	6,000
Dutch Guiana	4,500
Haiti	4,000
Colombia	3,000
Ceylon	1,650
Java	1,000
Guadeloupe and Martinique	800
Santo Domingo	150
Niger Coast	55
French Guiana	30
Kongo	5
Total	75,680

Mexico and Central American republics produce only enough for local requirements. Ecuador's production for 1899 is estimated at nearly 30,000 tons.

CONSUMPTION.

The consumption has increased notably, and at a rate exceeding that of coffee. Prices will remain firm for an indefinite time, by reason of the long period necessary to bring new trees to maturity. The consumption in four leading countries is as follows:—

	Germany. Tons.	France. Tons.	England. Tons.	United States. Tons.
1894	10,000	...	...	8,800
1895	13,758	15,243	10,397	16,800
1896	17,123	15,280	10,984	11,600
1897	20,196	16,234	12,135	15,700
1898	...	...	14,325	14,200

USES OF CACAO.

Cacao is the principal element in chocolate and various kinds of confectionery. As an article of food, it is very nutritious, healthful, and stimulating. The "butter" of cacao is well known in medicine, and is used in the cure of skin diseases of all kinds with good results. The shells of the seed, roasted and ground, are used for "cocoa," a drink well known in the countries of the temperate zone, but used here only by the poorer classes. The pulp of the pod is used as fodder for animals The popularity of cacao rapidly increases wherever it is once introduced, and neither fluctuations in prices nor attempts to substitute other products supposed to have the same or better qualities have affected its use in localities

it is once well known. The active principle of cacao is "theobroma," a powerful organic re-agent.

FIELD FOR ENTERPRISE.

The possibilities of the cacao market are vast. The consumption has not yet begun, or at least made any headway in the Asiatic countries, among which Japan, Persia, and British India may some day become important consumers. Chocolate is scarcely known in Oceanica, the British colonies, or Hawaii. Even in Europe, Russia, Turkey, and Greece are but recently becoming familiar with the product. As there has always been a ready market, no special effort has been made to extend the demand to new countries.

While some progress has been made in the utilization of the shell and pulp, no attempt of importance has been made to manufacture the product for export, although there is plenty of vanilla and sugar available for the preparation, and the profits would be considerable. Ecuadorian cacao, being somewhat bitter, has an advantage over that of other countries in assimilating a larger amount of sugar in the manufacture of chocolate, thereby reducing the cost of the product.

The consumption of cacao is increasing at the rate of 5 or 6 per cent. annually, and inside of eight or ten years the demand will be greater than the supply. The attempts to introduce cacao on a large scale in various other tropical countries has not been attended with favorable results. In no other part of the world can its cultivation be brought to the flourishing condition which prevails in Ecuador, where there is still a vast extent of land suitable for new and productive estates. All that is necessary is capital and energy, which will be welcomed, and which will surely come when the railway to Quito is built, for no line of agriculture shows such tempting returns.

WASTE IN NATURE.

In former days Nature was supposed to be "absolutely perfect" in all her ways, and everything had its use, and was used. Anything like waste was thought to be impossible, as unworthy of her methods of procedure. A more careful investigation shows that waste is really enormous. By waste, I mean loss of structures which evince some definite purpose, are produced in profusion, but yet in innumerable instances they have no opportunity of being put to their uses, and perish.

The cases most evident are connected with the reproductive organs; roots and leaves are put forth in response to stimuli arising within or without the plant, and scarcely fall under this category; but regarding flowers, fruit and seed, as the means of propagation, it is among these that probably few persons realise the vast amount of energy displayed in their production compared with the feeble results which often ensue.

It was on the assumed superabundance of offspring produced, that the theory of natural selection, as a means in the origin of species, was based; but few statistics were forthcoming to test the truth of the hypothesis—or if it were true in some cases, whether it was true in all. Let us consider a few instances, and first, with regard to the quantity of pollen produced. It is believed that the nucleus of a single pollen-grain can impregnate a germ-cell, and so give rise to an embryo in a seed. But numerous flowers bear but one seed in the ovary-cell, as of the largest families, Compositæ and grasses. In each floret of the former there are five stamens, and each of which produces an abundance of pollen-grains. Labiatæ and Borragineæ produce at most four seeds in each flower, accompanied by four or five stamens respectively; the Spurge-Laurel bears one seed and has eight stamens; and so all through the flowering world, numerous other examples may be mentioned, especially perhaps, among the Coniferæ, the pollen of which is often wafted away, as from a Fir-tree, like a cloud of sulphur, and is lost in the breeze.

Again, although a plant, herb or tree, may bear a profusion of flowers, the proportion of fruit is often almost infinitesimally small compared with it. Take our horse-chestnuts, lilacs, elms, and limes, what a wealth of blossom they bear, yet on each spike or cluster of the first two, one or two fruits remain to bear witness to their former glory, while the half-formed fruits of the last two fall without perfecting a seed. Especially is this the case with orchids. Mr Fitzgerald records the observation that in a particular plant of *Dendrobium speciosum* (the "Brisbane Lily") there were no less than 10,000 flowers open at the same time on that plant, [illegible] the plant was growing in the open air, and was [illegible] of insects, only one flower produced a seed-pod.* Mr [illegible] Mr. Ridley both observed that it was the self-fertilising orchids which alone can be trusted to set any quantity [illegible]

Few of us were aware of the great preponderance of fruits and seeds borne by many plants, and Dr. J W. Harv has done good service in calling our attention to this m correcting our erroneous and preconceived notions on th During several summers he has taken statistical observ order to determine what was the successful termination of fertilisation. He did not take into account all of t concerned, such as the weather, which, of course, influe production, nor how far the plants were shaded, which reduces the flowering process; nor, again, the number visitors, &c. Still, his tables possess much value.

Taking a perfect fruit as one well matured, and an abo as more or less shrivelled and seedless, he found that in *Ar phyllum*, Torr., of 13 plants there were 144 perfect, but 53 fruits, or only 20 per cent. of the former.

Of *Rhododendron* (Azalea) *nudiflorum*., Torr., there 4 perfect, fruits on plants, but there were 90 abortive.

Of *Cornus florida*, L., of 34 clusters on one bush there perfect, and 453 or a little over 32 per cent. of good seed.

Of *Yucca filamentosa*, L. (Adam's Needle), the auth ves:—"This liliaceous plant is of considerable interes biological standpoint, owing to its dependence upon *Pronuba yuccasella*, Riley, which passes part of its larval in the capsule of the plant, feeding upon the seeds. previous to depositing its eggs in the soft ovary, polli stigma by placing a ball of pollen from the same flowe the three stigmatic lobes. This insures the production seeds, on which the larvæ feed." In the tabulation of the which, besides the numbers of good and aborted seeds the number devoured, &c., the final result of observat eight capsules, each of which contains six rows of seeds, is t 35 per cent. remain good for propagation.

Of *Pimpinella integerrima*, Benth. & Hook., 6 plants amined, carrying 174 umbels. Of these, about 80 per cen seed was the result. Lastly, of *Hibiscus moschatus*, L. last instance the preponderance was in favour of good s about 75 per cent.—*The Gardeners' Chronicle.*

CARDAMOMS (ELLATARIA CARDAMOM

Mr. John Dansey writes in the *Queensland Agr Journal*:—

The cardamoms of commerce are of two varieties, Malabar and Mysore; the former bearing capsules of from long, the latter of about 1 inch in length. In appearance much resembles ginger, but, unlike the latter, the flowerin spring from the roots. These yield the fruit, which co triangular three-celled capsules, enclosing number of sma seeds possessing a very strong aromatic odour and a pungen

Cardamoms are in much request throughout the East I amongst chemists, all over the world, command a ready For years past, the principal supplies of cardamoms h obtained from Southern India, but latterly from several Ceylon, where, with usual energy and perseverance, plant taken up their cultivation on a large scale, and with con benefit to themselves. In Ceylon, cardamoms grow well tions of from 1,500 to 4,000 feet. Slightly undulating la the banks of streams, the soil of which is a rich and must l be found most suitable to their growth.

For the propagation of this plant nursery beds should be in the usual manner, and the seed sown in drills from 6 t apart. These seeds are slow of germination, from two months elapsing before they show above ground. When t are of about 12 months' growth, and about 12 to 15 inc they may be said to be fit for transplanting. Having cut undergrowth and all small trees growing on the land on w

* *Journ. Hort. Soc.*, vol. vii., p. 47.

† *Origin of Floral Structures*, p. 318.

‡ *Publications of the University of Pennsylvania*, new ser., 5; *tions from the Bot. Lab.*, vol. ii., p. 100.

intention to plant—leaving only sufficient standing timber to ord a moderate shade—holes, 1 foot 6 inches deep and two feet le, should then be dug at distances of about 5 feet apart, in ch, after being filled in the usual manner the young seedlings planted, care being taken that they are not put in too deep for, o, they are likely to rot and die off. The second year after nting out they will yield their maiden crop, and in the third be said to be in full bearing, when an acre should yield on an rage from 200 lbs. to 270 lbs. per annum, though 350 lbs. are not nown. The crop itself should be gathered when still green, and before turning to a yellowish straw colour, for, should the sules be allowed to ripen, they will at once "pop," and the seed lost.

he fruit when fit for gathering resembles as nearly as possible reen gooseberry, only that, instead of growing away from the n as gooseberries do, these spring from a thin long vine as pés do, but growing always along the ground, and for this rea- mulching of any kind, after the plants have attained maturity, uld be avoided.

n harvesting cardamoms of either variety, it is necessary to go r the field at least twice a week and pick off the full capsules . These, when gathered, should be carefully washed in two ers, so as to remove all sand and inpurities, which, from the ure of the fruit growing along the ground, are bound more or to adhere to it; this having been done place them in the sun dry, turning them carefully once or twice in the meantime. e should here be taken only to allow just sufficient time to dry; much exposure to the sun will cause the capsules to split and their contents. When quite dry, spread the fruit out in a loft w it to wither for from 12 to 15 hours.

ardamoms to be made marketable require to be bleached. s, though seemingly ridiculously easy, requires nevertheless a l deal of watching, for should the fruit be too long exposed to process, the seeds will attain a light brownish colour, instead eir natural black, and lose much in value. For the purpose of ching, it will be necessary to have ready, by the time the ering has been completed, a wooden box, much resembling a ry box (as airtight as possible), with slides so as to admit a ber of trays, bottomed with thin Hessian, to be inserted therein istances from 8 to 10 inches apart. The withering being com- ed, dip the cardamoms in water for a few moments; then place on the trays to the depth of from 2 to 3 inches the box. When he trays have been treated alike, place on the ground inside box, and not within less than 2 feet of the lowest tray, a bucket me such receptacle containing burning charcoal, over which, n all is ready, throw a full handful of powdered sulphur. Then the door quickly and as tightly as possible, and allow the ching to go on for from 15 to 20 minutes, when the door may pened, and the trays emptied out on the same clean Hessian, the contents allowed to dry thoroughly in the sun. When dry, lends of the capsules are taken off with the aid of a sharp ors; they are then sized and packed for market, preferably ad-lined boxes, as many shipping companies object strongly rry cardamoms, unless so packed, on account of their strong matic odour.

AGENCY CHARGES OF TEA COMPANIES.

e following criticism of our articles upon "London Charges of Companies," dealing chiefly with the last article, has reached We give prominence to the remarks of the writer, because by g acquaintance with the tea industry, yet neither interested tly as a producer or dealer in the article, he has enjoyed ex- onal opportunities for noting with impartiality the effects of vils complained of. Regarding his point about the difficulty ding enough planters capable and willing to go upon London ls, we would ask: How often have companies tried to find men? Has it not, in fact, been the last resort instead of rst?

ave read with considerable interest the articles contained in t numbers of your paper regarding the London and other ges paid by the Indian tea-planting companies, and I now have e me your article No. 4.

ving devoted the last fifteen years specially to Indian tea anies as investments for British capital, I feel constrained to ssue with you.

Firstly, while admitting that there may be a large measure of truth in what you say regarding the superfluity of Calcutta agents, I believe that there is still room, under certain restrictions, for their employment. Of course, no one can deny that on the condition that a London board of directors is able to attract to its ranks at least one practical planter, having recent experience of planting, in the district where the company's property or properties are situated, and that that gentleman's services can be obtained to periodically visit the estates, and thus keep in close touch with the garden management, and the garden expenditure and arrangements generally. Then the intervention of Calcutta agents, except in the capacity of mere forwarding agents on a nominal remuneration, is wholly unnecessary But it must not be overlooked that the number of men willing or capable of giving such service is strictly limited. It is in default of such service that the rôle of the Calcutta agent—whether an individual or a firm of good repute—comes in, and his services may be of considerable value and command a fair remuneration. But I am quite at one with you in your contention that in that event his office should be strictly subordinate to the London board of direction, which should occupy the controlling position, with own secretary or manager; while the aboard and their home staff, and they alone, should be responsible to the shareholder.

What has no doubt aroused your suspicions, Mr. Editor, and not without some cause is, that in the accounts of so many of the companies—accounts which are otherwise, so far as garden expenditure is concerned, given in great detail, the amounts of commission are rarely shown separately in the revenue account. There are some notable exceptions, I am aware, where every charge is given separately in detail, whether in India or London.

Where, however, the system of Calcutta agency supervision has, of recent years, in many cases broken down, is in such supervision having become a matter of form, relegated to subordinates, without a sufficient or an intelligent knowledge of local conditions, and this remark applies also in certain cases to London agency and supervision.

I cordially confirm your opinion—we *must* admit it—that the excessive extensions, which have well-nigh ruined the industry, of recent years have in many cases been pushed on by agents and others desirous of increasing commissions, which as frequently (and quite seriously) calculated on gross proceeds instead of by fixed allowances or by commission on profits. At the same time, we must admit, in fairness to agency firms, that a similar policy has also been followed, in many cases, by boards which were entirely independent of agents.

Dealing finally with your proposed remedies:—

1. A planter to be on the board.—This I have fully dealt with above.

2. Superintendent at garden to have wide powers.—Yes; provided he has proved himself fully worthy of this trust. It must not, however, be overlooked that some of the most disastrous failures have been the result of a blind faith in a superintendent or manager who has been "given his head" too confidently over a long series of years. This evil can only be prevented by *close touch* being kept between either the London board or Calcutta agent and the local management.

3. Calcutta agency remuneration certainly should be by a fixed allowance, and *not* by a commission on gross value of tea—this latter system being a most pernicious one; and the same as regards agency, if any, in London.

4. Of course, there should be no secret commissions. If agents or others consider that the *above-board* allowances granted them is insufficient, and if they can show that good service is rendered, shareholders or directors, as the case may be, can always be appealed to, to set this right, and doubtless would do so.

I can only conclude by thanking you for your appeal to shareholders to bestir themselves, to look after their interests in these matters. This advice is well merited. When I remember the numberless annual meetings of tea companies (many of them with long lists of shareholders) which I have attended, at which often merely a poor half-dozen members have been present, the reflection occurs to one. "How marvellous that abuses are not much more flagrant!" It is not only that few shareholders ever attend or give tongue to complaint or adverse criticism; it is that they rarely take the trouble to give a word of thanks or praise to the administration, even when that is well deserved.—*Investors' Review.*

THE MALARIAL MOSQUITO.

Malaria has formerly been associated with low-lying moist districts, and the means taken, up till quite recently, to stamp out the disease, have usually been in the direction of draining and cultivating the land on which the disease has been prevalent. This method of treatment has proved effective in England and America, but in tropical countries the scourge has remained in spite of the application of the above means for its prevention and cure.

The disease was supposed to be dependent upon moisture for its being, and it has been found impossible, for financial reasons, to throughly drain all the malarious land in tropical countries.

Malaria has, for many years, been known to be due to a parasite in the blood, but until very recently little had been done in the way of scientifically investigating the manner in which the infection obtains admission to the body. For about a century we have been told that malaria is carried by insects.

In 1884, Laveran and Flügge accepted the insect-theory, as did also Koch, but it is to the brilliant deductions of Dr. Patrick Manson, foreshadowed in the Gouldstonian Lectures of 1894, that we owe the classical researches which have led Ross to thoroughly establish the true relations between man and the malaria-bearing mosquito. In 1895 Major Ronald Ross, of the Indian Medical Service, commenced his investigations on the lines laid down by Manson and in 1897 he succeeded in cultivating the parasite of malaria in two species of mosquito. In August of last year the development of the parasites of birds in the mosquito had been worked out and healthy birds had been infected by bites of malarial mosquitoes. The experiments of Ross have been confirmed by Dr. Daniels, of the Malaria Commission sent to Calcutta by the Royal Society and Colonial Office,* Professors Grassi, Bignani, and Bastianella of Rome, Koch of Berlin, and accepted by Manson and Ray Lankester in England, Laveran and Metchnikoff in Paris.

The writer had the pleasure of listening to the inaugural lecture by Major Ross "On the Possibility of Extirpating Malaria from certain Localities by a New Method," delivered in University College, Liverpool, soon after the opening of the School of Tropical Diseases there. The newly-appointed Lecturer in Tropical Medicine showed how the species of mosquito, by which malaria is spread, might be exterminated at a nominal cost.

The commonest kind of mosquito which swarms in Indian towns belongs to the genus *Culex*. These mosquitoes have plain unspotted wings, and usually are found sitting on walls, their bodies hanging down. They have bodies either striped or unstriped, and prefer to lay their eggs in artificial collections of water, as cisterns, water-pots, &c. around houses, and may be described as domestic mosquitoes. They bite birds as well as mankind.

The dangerous mosquitoes belong to the genus *Anopheles*, and may be called rural mosquitoes, as they do not breed in domestic water-pots, but prefer the natural ponds and puddles of the country. They have wings spotted on the anterior edge, and, when resting, the body points right out from the wall. They bite cattle as well as men, but "could not be persuaded to bite birds." Their eggs can be affixed to hard substances, and their larvæ float flat on the water like sticks, and not head downwards as do the same stage of *Culex*. Although the adult mosquitoes were common, Major Ross experienced much difficulty in finding the grubs of *Anopheles*, owing to the scarcity of their breeding-pools. This he ascribed to the fact that the puddles (*a*) must be large enough to be permanent for a few days to allow the larvæ to mature; (*b*) must not be so large as to contain minnows, which devour the larvæ; and (*c*) must not be liable to be scoured out by any shower of rain.

During several years in India Major Ross failed to cultivate human malaria in several species of *Culex*. Out of five species of *Anopheles*, on the other hand, he succeeded in cultivating the disease in two.

The above-mentioned Italian investigators have cultivated human malaria in three species of mosquitoes all of the particular genus *Anopheles*. We, therefore, feel sure that five species can carry the disease, and all belong to the genus *Anopheles*.

The genus *Culex*, and, in fact, all mosquitoes which breed in domestic vessels in proximity to dwellings, may thus apparently be exonerated from carrying malaria, whereas *Anopheles*, which is essentially a genus breeding in pools in rural districts, is found in localities where the disease abounds. *Anopheles* also is common with rainfall, as is malaria. Again, malaria is never uniformly distributed: isolated spots, even single dwellings, are known to be more malarious than the surrounding district. Major Ross concluded his lecture as follows:—

"It will be observed that the practicability of eradicating malaria in a locality by the extermination of the dangerous mosquitoes upon it depends on a single question—do these mosquitoes breed in spots sufficiently isolated and rare to be dealt with by public measures of repression? I am afraid that it is impossible to give a final answer to this question as yet; we do not yet know all the dangerous species of mosquito, much less are we acquainted with all their habits. But I have addressed you at such length on the subject to-night because I am inclined towards giving an answer in the affirmative to the question. At any rate, in view of the mischief wrought by the disease in warm countries, I certainly think that we should make every effort to ascertain whether or not we can give an affirmative answer to it. For a concrete example, suppose we were to discover by accurate investigation that all the malaria in a large town—say, on the coast of Africa—arises from a few small puddles which can be obliterated at the expense of a pound or two, would not this discovery repay our exertions, and, further, if we could next extend our operations to other towns—to numerous towns—in the tropics, should we not be more than repaid for our exertions? At all events, the question can be decided only by experiment, and the experiment is well worth making."—*The Chemist and Druggist.*

*Daniels, *Proc. Roy. Soc.*, vol. lxiv.

DISTRICT ASSOCIATIONS.

INDIAN TEA ASSOCIATION (CALCUTTA).

Extracts from abstract of Proceedings of a meeting of the General Committee held on 5th instant. *Present*:—Messrs. H. S. Ashton (*Chairman*), H. C. Begg (*Vice-Chairman*), W. Brown, R. Magor, M. K. Quin, A. Tocher, R. R. Toynbee and T. Traill. Mr. A. J. G. Cresswell, (*Honorary Secretary*) Cachar Branch, also attended by invitation. Mr. G. Ormiston was absent from Calcutta.

The proceedings of the last meeting of the Committee, held on 31st October, having been approved in circulation, were confirmed.

Letters dated 20th and 27th October, and 2nd, 10th and 17th November, from Mr. Ernest Tye, Secretary, Indian Tea Association, London, came up for final consideration after circulation. The principal subjects dealt with in these letters were:—

(*a*) *American and Foreign Market Fund.*—In his letter of 27th October, Mr. Tye recorded the result of a meeting of the London Committee held on the 17th idem, at which the disposition of the funds raised for the new levy was discussed. It had been decided at the meeting to obtain certain information in regard to the operations of the Ceylon Association; and in the letter, dated 10th November, it was stated that the latter Association were prepared to spend £6,000 in America in the course of next year. Mr. Mackenzie, the Ceylon representative, had also expressed his willingness, subject to the sanction of his Committee, to work conjointly with the Indian Association for the year 1900. He proposed to spend £4,000 during the first five months of the year on behalf of Ceylon and suggested that India should spend £1,500 in the same period. Of this sum, £60 would be allotted to a Food Show to be held in Philadelphia. A similar amount would also be set apart by Ceylon for the same purpose. These arrangements were subject to the approval of the Committee of the Indian Association. In the meantime the joint advertisements were being continued in the American newspapers. The question of operations being started in Russia, Germany and Turkey had also been before the London Committee. Messrs. James Finlay & Co. had been approached in regard to Russia, and a reply had been received giving their views on the question. This reply had still to come before the London Committee who were desirous of making arrangements, if possible, whereby the Continental markets might be worked jointly with the Ceylon Association.

letter, dated 24th November, from the Secretary, United Planters' Association of Southern India, upon the subject of the Foreign Market Fund was also considered. With the letter was forwarded copy of a speech made by Mr. G. L. Acworth, of Travancore, at the last Annual Meeting of the Association; and also copy of a resolution passed on the same occasion. The letter was to the effect that the Indian Tea Association should be asked to approach the Supreme Government, with a request to take into consideration the advisability of passing an Act under which a tax would be levied upon the exports of tea. It was proposed that the proceeds of the tax should be handed over to the representatives of the tea industry and devoted to the exploitation of foreign markets. It was also pointed out that an Act by which these objects were effected had been in force in Ceylon since 1894.

Similar proposals had been before the General Committee on previous occasions, when they had been exhaustively considered. In 189× the whole question of the possibility of such a tax being levied had been considered by the Association both in London and in Calcutta; and judging from the result of the enquiries then made there appeared to be no likelihood of its being imposed. A reply was to be sent to the United Planters' Association stating this, and pointing out that the remarks made by Mr. Acworth in which he regretted that the Association had not previously moved in the same lines as Ceylon had evidently been made under a misapprehension.

The Chairman reported that a sum of Rs.96,000 had been received on account of the Market Fund, and he thought it might perhaps be as well if a portion of it were invested until required by the London Committee.

It was decided to arrange, if possible, for the deposit of Rs. 75,000 with a first-class Bank, and the Secretary was instructed accordingly.

(*b*) *Bonded Warehouse Charges.*—Mr. Tye detailed in his letters the various steps taken by the Special Sub-Committee of the London Tea Association in regard to this matter. They had met the Tea Clearing House Committee on the 23rd October, and that body had to place had the question of the reduction under consideration. No reply had been received from them up to the date of his last letter but in the meantime Mr. Tye had seen the Secretary to the Clearing House Committee, but had been unable to elicit any information as to their intentions in the matter.

With his letter of 2nd November Mr Tye enclosed copy of a letter of 27th October from Mr. G. W. Christison on the subject of the Warehouse charges. Mr. Christison had been selected to serve on the Sub-Committee of the London Association appointed to investigate the question, but had to resign his seat on leaving for India. In the letter he expressed the opinion that a searching investigation into the methods of handling teas at the Warehouses in London was most essential; and suggested several lines of action which he thought the Sub-Committee might follow up.

The Secretary was directed, when writing to the Committee in London, to enquire what steps were being taken in regard to Mr. Christison's suggestions. The General Committee agreed with Mr. Christison in thinking that a thorough investigation into the whole subject was most essential, and they hoped this was in progress.

(*c*) *Paris Exhibition.*—In his letter of 20th October Mr. Tye stated that Mr. Langdale, who had charge of the arrangements for the sale of the tea in the cup at the Exhibition, had been unable to obtain the permission of the French authorities to sell tea in packets. Free distribution of sample packets would, however, be permitted, and it was proposed that this should be done. The packets would probably contain one ounce of tea each. The question of accommodation for the service of coffee in the cup was also dealt with in the letter of 2nd November. It had been found impossible to arrange for a separate room for the sale of coffee, and it was had, therefore, been decided that it should be served in the same room with tea. Arrangements were accordingly being made with the United Planters' Association of Southern India to effect this.

The Chairman stated that about 100 samples of tea had been received from various members of the Association for display at the Exhibition, together with samples of tea seed, dried tea leaves, &c. Sets of photographs illustrative of the tea districts, estates, labourers, factories, machinery, etc., had already been sent to London for transmission to Paris.

(*d*) *Crop Estimates.*—In his letter of 10th November Mr. Tye asked if it were intended to issue a revised estimate of the figures issued in the General Committee's Circular No. 460-O of 12th September. He also stated that there was a feeling in London that figures from Travancore should be included in the Crop Circulars, seeing that the exports to Great Britain were likely to be increased by some three millions of pounds of tea grown in that part of India.

It was agreed to point out in regard to the first point that, according to the resolution passed at the Annual Meeting held on the 16th August 1898, no revised estimate of the crop was to be issued. Two Circulars only were to be published, the first one being based on the quantity of tea manufactured to 15th August, and an estimate of the quantity to be manufactured from that date to the end of the season; and the second giving the actual outturn. It was decided to include, if possible, statistics from Travancore in future Circulars.

Considered file of papers in regard to the question of the appointment of a scientific expert for the investigation of questions connected with the cultivation and manufacture of tea. On the 23rd November the Committee had received a telegram from the Committee of the Association, in London, stating that Dr. Aug. Voelcker, Ph. D., Consulting Chemist to the Royal Agricultural Society of England, who had been approached in the matter, had recommended the engagement of a gentleman who was an experienced Agricultural Chemist, and was willing to come to India to take up the work. The Committee replied to the effect that this gentleman might be offered an engagement on the terms indicated, with the option of its being terminated at the end of the third year.

A considerable majority of the Local Associations interested in the matter had previously expressed an opinion in favour of the appointment of an Agricultural Chemist. This view was also shared by the Committee of the Association in London and by the General Committee. The Government of Bengal and the Administration of Assam had been informed of the action being taken in London; and the various Planters' Associations interested had also been communicated with.

No further action was to be taken pending a further communication from the London Committee.

Considered file of correspondence with the United Planters' Association of Southern India, the Central Travancore Planters' Association, and the Director-General of Statistics in regard to the question of obtaining accurate information as to the area of land under tea. This information was required for the Annual Report upon the tea crop published by the Government of India. The question was referred to in the proceedings of the last meeting of the Committee, held on 31st October, and they now discussed Mr. O'Conor's letter No. 496 of 29th November which had been received in reply to their No. 671-O of 4th idem. With his letter Mr. O'Conor enclosed a proof of the Report for 1898, and asked that the figures should be verified by the Committee as had been suggested by them. He also stated that he was endeavouring to obtain the names of the 84 Assam Tea Gardens from which no information was forthcoming last year.

The statistics were carefully examined by the Committee, and it was decided to submit for verification the totals of area of land under tea cultivation in the several districts to each of the Local Associations interested. Stress was to be laid upon the urgency of the matter, and a reply was to be asked for by telegram. The special attention of the Associations in Travancore was to be drawn to the need of careful verification.

The Director-General of Statistics was also to be addressed on the subject. It was to be pointed out to Mr. O'Conor that, in the opinion of the Committee, the figures of outturn from Travancore were undoubtedly inaccurate. It was also to be stated that steps were being taken to have the various totals verified by the several District Associations; and that a special effort would be made to obtain correct returns from Southern India.

Considered file of replies to the Committee's Circular No. 643-O of 25th October, in reference to the proposed regulation of offerings for the auction sales of tea in Calcutta. In the Circular, members and sellers and brokers generally were asked to state definitely—

(1) Whether they agreed that the General Committee should now proceed to formulate a scheme for the election by sellers of a Sub-Committee; and

(2) Whether when such a Sub-Committee had been formed, they would consent to accept, and be bound by their decisions.

A large number of replies had been received to the Circular, and they were carefully examined and discussed. It was evident that some difference of opinion existed as to the extent of the support required to make any scheme a success; and as it seemed most improbable that unanimity would be arrived at in regard to this

point, the Committee decided to take no further action in the matter for the present.

Considered letter of 14th November from the Honorary Secretary, to the Central Recruiting Association, in which the General Committee were asked to submit to Government a letter (which was enclosed) in which it was stated that it had been decided to abandon the scheme to establish the Association. The General Committee were also asked if the expenses (Rs.2,100) incurred during the past four years. could be defrayed from the funds of the Indian Tea Association.

After discussion it was agreed to bring this latter request before the next ensuing Annual General Meeting of the Association. The letter to the Government of Bengal had already been submitted, and a reply dated 29th November had been received to the effect that the matter had been placed before the Government of India.

Considered file of papers in connection with thefts of tea in transit from the garden to London The matter had arisen with a letter of 13th November from the Manager of the Planters' Stores and Agency Co., Ld., from which it appeared that an oragnised system of theft was in force in regard to the teas of the Doom Dooma Tea Co., Ld. The Committee addressed the Inland Steamer Companies on the subject on the 18th November, asking if any system of inspection was in force on their steamers. From the reply, dated 23rd idem, it appeared that a system of surprise checks by special Inspectors on Despatch steamers at Goalundo had been recently started. The efficiency of the check was, however, impaired by the absence of particulars of the gross weights of the teas. The Steamer Companies suggested that the gross weight, as well as the nett, should be stencilled on each package. If this were agreed to, they were prepared to place a special Inspector at Goalundo next season to make check weighments.

In the course of the discussion on the matter it was stated that some objection had formerly been taken in London to the marking of packages with the gross weight. It was accordingly agreed to ask the Committee of the Association in London whether this objection really existed at present and if it was of any importance. In the meantime a copy of the letter from the Inland Steamer Companies was to be sent to the Planters' Stores and Agency Co., Ld., for their views upon the suggestions made in it. They were also to be informed of the further action taken by the Committee.

THE BIG PRIZE TURKEY.

"A Merry Christmas, Bob," said Scrooge, with an earnestness that could not be mistaken, as he clapped him on the back. "A merrier Christmas, my good fellow, than I have given you for many a year. I'll raise your salary, and we will discuss your affairs this afternoon over a bowl of smoking bishop. Make up the fires and buy another coal scuttle, Bob Cratchit."

And as to the big prize turkey which the regenerated Scrooge sent to Camden Town, do we not all know what sort of bird it was? That turkey never could have stood upon its legs, Mr. Dickens says. They must have snapped short off like sticks of sealing wax. How they managed to cook and eat that phenomenon the author dosen't say, as it was twice the size of Tiny Tim. Yet they did it somehow, and it was a mercy if the family (previously half starved) didn't all fall ill of the unwonted gorging of that wonderful Christmas day.

Even assuming (as we easily may) that the transmutation of an old skinflint like Scrooge into a high priest of charity was quite beyond the common run of modern miracles, and that dinners from such sources are as rare as they are welcome, it still remains true that human nature is apt to be at its best at Christmas, especially in England, where, of all countries in Christendom, most is made of that gentle and kindly holiday.

Yet, sad to tell, the very jollity and generosity of Christmas leads to regretable excesses. People eat and drink too much, and suffer accordingly. The roast and the boiled, the mince pies, the plum puddings, the tremendous flushings of wine, beer, and other beverages, these things overload the stomach and give the digestion more work than it can do, and punishment follows. For Nature has no favourites; she treats those who violate her laws on the 25th December exactly as though they had committed the offence on the first Monday in August.

And as to the chronic dyspeptics, of whom there are enough in this old island to cram all the parks in London, *they* catch it fearfully about Christmastime. For, in spite of all warnings, they *will* go in for heavy meals and take the chances. Often the penalty is an acute attack which may threaten life, and nearly always weeks of pain and digestive disorders, whereof there are as many kinds as the body has organs and functions.

To them Christmas may be "merry" for an hour or two; then their merriment turns into misery, as October fogs and rains succeed a hot summer.

Now the writer is far from advising a free indulgence in the gustatory and bibulous festivities of the country's most popular holiday, but there is no use protesting against the fixed resolution of the people to enjoy themselves on that occasion. The customs and traditions of centuries are behind it, and you might as well whistle in the teeth of a north-east gale.

As a prophylactic and a cure for the evils alluded to, I can only recommend the universal use of Mother Seigel's Syrup, known to all as the best stimulant and digestant in the world.

In a letter dated January 10, 1899, a gentleman of Birmingham, who loves the pleasures of the table, and has money enough to buy whatever he wants, writes thus: "It is only fair that I should thank you, as I do with all my heart, for the good done me by Mother Seigel's Syrup For years I have been vexed with indigestion, and always had a tormenting spell of it after any public banquet or uncommon intake of rich food. Still, I was seldom able to resist temptation, although I understood perfectly well what yielding to it was sure to cost me. I have sought a preventive or a cure in vain at the hands of the best physicians, all of whom assured me that there was but one way, namely, to live on a low diet, and let luxuries alone.

"But this did not suit me, and I broke through the regulations frequently, with the inevitable results. However, when I began to use Mother Seigel's Syrup I had (almost) a license to do as to pleased. After an inviting but most risky dinner last Christmas I took a double dose of 'Mother Seigel,' and scarcely suffered at all. I told my experience, and a dozen friends adopted this amazing remedy right off I am convinced that, with a little caution, and a dose of Mother Seigel's Syrup now and then, *one may bid defiance to dyspepsia* and the abominable ailments it sets up. Thanking you a thousand times. I am, yours truly, JOHN MACFARLANE."

With these facts we wish a merry (and a *healthy*) Christmas to the British people.

MARKET REPORT.

[*Per Mail Advices of 3rd December* 1899.]

COFFEE.

A firm tone continues to prevail in this article, the supplies catalogued being chiefly disposed of at fully the advance quoted last week. A good business has also been done privately. Brazil markets continue very firm, and close dearer, good average Santos being now quoted 34s 6d, cost and freight.

Daily receipts averaged 11,000 bags in Rio, and 19,000 bags in Santos.

Futures have fluctuated considerably, closing value shewing an advance of 6d to 1/3d per cwt., *viz.*:—Good average Santos in Havre, December delivery, fcs. 40.75, in Hamburg pf. 33, and No. 7 low ordinary Rio in New York $5.90.

To-day's London official quotations are:—

	Dec.	March	May	July	Sept.	Dec.
SANTOS ...	33-0	34-0	34-9	35-3	36-0	36-6

We quote:—

Ceylon, mid. to good mid. ...	...	86 @ 95
Do. small to low mid. ...	...	55 „ 80
East India, mid. to good mid.	...	51 „ 73
Do. small to low mid.	...	37 „ 48
Guatemala, mid. to fine ...	...	50 „ 80
Do. good ord. to low mid.	...	35 „ 48
Salvador, good ord. foxy greenish	...	35 „ 37
Costa Rica, mid. to fine ...	...	55 „ 101
Do. ord. to low middling	...	36 „ 52
Jamaica, good to fine ord. ...	...	30 „ 34
Do. greenish to fine colory	...	50 „ 120
African	...	28 „ 29
Columbian, ordinary ...	...	32 „ 34
Do. good ord. to low mid.	...	35 „ 46
Do. mid. to fine ...	...	47 „ 104

...9, compare as follows with

		1898-99.	1897-98.
		Bags.	Bags.
Rio	...	568,000	2,358,000
Santos	...	298,000	3,972,000
		866,000	6,330,000

...uctions—

23 casks and tierces, 18 barrels, 1 bag Plation Ceylon
small part sold ... ... 98 @ —

866 bags East India
- 76 bags Naidoobatum partly ... 34 „ 71
- 890 bags Coorg nearly all sold ... 35 „ 70
- 538 bags Neilgherry chiefly sold ... 40 „ 65
- 25 bags Wynaad partly sold ... 29 „ —
- 45 bags Pulneys ... ... 46 „ 53
- 292 bags Mysore chiefly sold ... 42 „ 67

94 bags Costa Rica partly sold ... 40 „ 46-6
789 bags Guatemala good part sold ... 32-6 „ 56
75 bags Nicaragua good part sold ... 37 „ 46
005 bags Salvador good part sold ... 42-6 „ 58-6
384 bags Columbian chiefly sold ... 27 „ 100
40 bags Mexican bought in.
112 bags Nyasaland pea-berry chiefly sold ... 51 „ 56
14 bags East India Liberian ... 20 „ 34
8 bags Liberian bought in
1 barrel St. Helena ... 40 „ —
48 barrels 11 bags Jamaica ... ... 32 „ 42
17 packages Mocha bought in.
175 bags Washed Santos bought in.
On Quay Terms:—
30 bags Santos chiefly sold ... ... 30-6 „ 34

...es realized at auctions for some of the principal marks of East India:

NEILGHERRY.

			B	C	PP	T
...good	...	64	49-0	43-0	65-0	37-0
...& Co Rookery	...	65	49-0	42-6	65-0	36-0
...Do. do.	...	55	45-6	40-0	63-6	34-6

COORG.

			1	2	3	PB	T
...theson's Coorg Cotta Betta	...	70	51-0	—	77-6	37-6
Do. Savira Butty	...	55	44-6	37-6	56-6	35-6
Do. Woshully	...	67	49-6	41-0	77-6	40-0
...heson's Coorg Clutha	...	54	45-0	38-6	57-0	31-0
Do. Cherry	...	55	51-0	—	50-0	34-0
			51-6		50-6	34-6

MYSORE.

		0	A	B	C	PB	T
...likhan Mysore	...	67-0	48-6	42-0	—	63-0	37-6
		66-0	bid			bid	
... Mysore	...		no bid	47-6	42-0	60-0	35-6
				bid		bid	

...nded last week 541 *tons.* *Deliveries* 1,0... *tons.* *Stock* 17,060 *tons.*
...o. *last year* 253 „ „ 7... „ „ 16,501 „

TEA.

...ssrs. Gow, Wilson & Stanton's Indian, Ceylon, and Java Tea Report, dated December 1st, 1...99, says:—

QUANTITY BROUGHT TO AUCTION IN LONDON FROM 1ST JUNE TO DATE.

	Indian. Pkgs.	Ceylon. Pkgs.	Java. Pkgs.
1900	839,023	626,902	30,646
1899	831,590	606,690	23,460

...0 pkgs. In... Total 69,101 packages were offered in public auction
...6 „ ... this week.
...5 „

...e Cu... ...or taring Tea to the half pound, which was ...ed to ...lar of 17th ultimo, and was to have come ...ce on ...mber (instant), has, we understand, been ...oned ... representations made to the Custom ...e Autho...

...AVA.—A ... reduction was made in the quantity ...ght forward ... *viz.*, 47,160 packages against 52,689 ...week. No further fall has taken place in the market, and ...ugh Monday's sale passed somewhat irregularly a steadier tone was noticeable in later auctions. Now that we are getting near to Christmas, buyers are not likely to wish to increase their stocks materially, and the market may in consequence prove very sensitive and easily affected by heavy supplies. The following averages are worthy of note:—"Amal. T Est. Co. Dooteriah," 1/4¼; "Beheating," 1/2¼; "Budla Beta," 1/1¼.

Week's av. of Tea sold on Garden Account 1899, 38,429 pkgs., av. 8·22d. 1898, 36,454 pkgs., av. 8·05d.

Total Tea sold on Garden Account 1st June to date 1899, 616,698 pkgs., av. 8·55d. 1898, 586,840 pkgs., av. 8·53d.

CEYLON.—The sale this week was comparatively small, only 20,206 packages being brought forward. At the lower range of prices noticed last week competition was good and buyers showed more inclination to operate, resulting in a steady market for all descriptions.

Avge. for week 7·69d., against 8·20d. in 1898.

Ceylon Tea sold on Garden Account 1st Jan. to date 1899, 1,000,623 pkgs., av. 7·97d. 1898, 1,028,366 pkgs., av. 7·75d.

Comparative Prices of Ceylon Tea in London.

		1899.	1898.	1897.	1896.
Pekoe Soug.	(Ordinary leaf; fair liquor)	6¾d.	6½d.	6½d.	6¼d.
Pekoe	(Ordinary leaf, little twist; fair liquor)	7¼d.	7¾d.	7½d.	7¾d.
Pekoe Soug.	(Rather bold leaf; indifferent liquor)	6¼d.	5¼d.	5d.	5d.
Pekoe	(Somewhat bold leaf; indifferent liquor)	6½d.	5¾d.	5¾d.	5¾d.

JAVA.—Eight estates were brought forward, the selection on the whole being a fair average representation. There was fair competition and last week's rates were about maintained. 5,859 packages are to be offered in Amsterdam on the 8th instant.

COCOA.

We have no change to report in this article which has been very quiet throughout the past week. No auctions were held yesterday.

We quote—Trinidad, middling to fine red 74s 6d to 77s, gray and mixed red 68s to 72s; Guayaquil, Caraquez 64s 0d to 68s 6d, Arriba 67s to 72s; Ceylon, middling to fine 70s to 90s. Stock 91,194 bags, against 102,200 bags last year.

PEPPER.

Pepper quiet, and rather easier for distant positions, Singapore black having been done at 6 1/32d. for February-April shipment. White Singapore has been sold at 8 1/16d. per lb. for near position. Spot values are unaltered, at 8½d. for Penang and 8⅞d. for Singapore.

GINGER.

At auction on Wednesday cut qualities of Cochin *Ginger* were dearer, good bold selling at 92s 6d. per cwt., medium and bold at 67s 6d., small and medium at 48s. 6d., and small at 37s. to 38s.; common small native cut sold at 30s per cwt., and dull unassorted at 44s. per cwt. Rough kinds brought only steady prices, dull to good cuttings, 18s. 6d. to 19s.; bright small washed, 23s.; and Calicut brown rough. 26s. to 26s. 6d. per cwt. Japan is dearer, with small sales at 24s. 6d. per cwt. Bengal steady, at 23s. 6d. to 24s. per cwt.

CINCHONA.

The cinchona auctions to be held in Amsterdam on December 7 will consist of 6,343 bales, 49 bales and 694 cases, total 7,087 packages (606,704 kilos.). Java bark containing a total of 28,715 kilos. quinine sulphate. The average percentage of quinine is 5 14 per cent. against 5·32 per cent. in November, whereas the average percentage for the ten auctions of 1898 was 5·21 per cent. The exports from Ceylon for the week ending November 7 were 13,588 lbs., and from January 1 to November 7 they were:—

	1899.	1898.	1897.	1896.
Lbs.	566,177	776,475	611,926	1,231,359

QUININE.

QUININE is quiet and lower on the week in second hands, there being sellers on Wednesday of good German brands at 1s. 1¾d. per oz. for spot, and 1s. 2d. for March delivery. Makers' prices are unaltered at 1s. 2d. for 1,000 oz. lots.

The exports from Java during September were 130 cases, all of which were shipped to Holland. From July 1 to September 30, 1899. 562 cases have been shipped, against 396 cases for the corresponding period of 1898.

EXPORTS OF INDIAN TEA FROM CALCUTTA, FOR NINE MONTHS ENDING SEPTEMBER, AS SHOWN BY FIGURES.

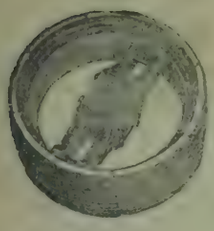
	1899.	1898.	1897.	1896.		
Australia and New Zealand	4,723,917	3,691,538	3,838,259	[illegible]		22
America ...	2,542,226	1,496,966	1,302,124	699,080		2.33
Other Places	5,465,146	5,496,648	3,927,154	764,691		
Total outside the U.K.	12,731,671	10,685,152	9,067,537	367,107	6.943	6,24
United Kingdom ...	87,959,925	80,622,110	80,020,341	7,749,911	72.617,54[illegible]	71.12
Total lbs. ...	100,691,596	91,307,262	89,087,878	8,117,018	79,561,079	77,3[illegible]

For, in spite of all warnings, t[illegible] take the chances. [illegible]an may threaten life, [illegible] waters, wherever [illegible] tions.

(AVERAGE FOR ALL INDIA 8·22d.), December 1st.

GARDEN.	Total.	Average	Broken Org. Pek. or Flowery Pekoe.		Pekoe and Unassorted		Broken Pekoe.		Pekoe Souchong.		Broken and Souchong.		Fannings and Vario	
	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price.	Quantity	Price	Quantity	P
Neilgherry ...														
Tudor Hall ..	98 p	7	...	....	20	7	35½c	7¾	43	6½	....	...	...	
Travancore ...	1072	6·88												
Bon Ami ..	363 p	6¾	..	...	80	6½	201	6¾+7	14	6½	.	...	68½c	
Ellangy ..	216	6½	...	...	101	6½	52	6¾ 7	48	6	2	5½	13	5
Isfield TC Isfield .	81 p	6¼	28 p	†6½†6¾	43	†6¼	...	...	...	...	...	...	10½c	
Kanan Dev Hil A...	158½c	7¾	...	...	41½c	7¼	59½c	8¾	27½c	6¾	2½c	6¼	29½c	6½
„ Munaar ..	254½c	7½	67½c	8	84½c	7¼	46½c	†8½	57½c	6¾	...	...	...	
Wynaad ...	314	7·35												
Chulika ...	35 p	7½	30½c	9½	40½c	8½	...	...	46	6½	.	...	19 p	
Erramaculla ...	179 p	7¼	42½c	7½	56½c	7	48½c	7¾	32	6½	...	...	10½c	

A SPECIAL LINE TO PLANTERS.



S. P. A. C. Hard-wood Pulleys to fit any size of Shafting, Bus being interchangeable. Lighter, Stronger, Cheaper than Iron or St 6 to 60 inches diameter.

PLANTERS' STORES & AGENCY CO., LD., CALCUTT

Price List on Application.

[w 15-4-99—t.f.o.]

Agents for LEA & PERRINS' WORCESTERSHIRE SAUCE.

CROSSE & BLACKWELL'S LTI

By Special Warrant Purveyors to The Queen AND Empress of Indi

CELEBRATED OILMAN'S ST[illegible]S.

[w. 1-10-98—t.f.o.]